

Printed February 29, 2024

This Manual applies to Release 5
Modification 7 or later of Spool Organizer/400™

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INTRODUCTION

SpoolOrganizer/400 is a product that will automatically manage your installation's spool entries. Its main functions are:

- Spool Processing**
- Archiving**
- Report Distribution (Bundling)**
- Indexing**
- E-Mail/E-Commerce**

Spool Processing Features

Banner Pages

SpoolOrganizer can wrap desired spool entries with Banner pages for printing. Large block letters for Job name, User name, Spool File name, etc. can be printed, allowing easy separation by operations and users. Users can define different Banner page layouts for different spool entries. A leading page(s), trailing page(s), or both can be specified. The fields printed in big block letters, and other tailoring options can be specified. Leading and trailing pages can be defined differently.

Archive Spool Entries to Tape or Optical

Spool entries can be archived from the Online Database or an outq to Tape or Optical. For more information, refer to "Archiving Features" below.

Duplicate Spool Entries

Specified spool entries can be duplicated and routed to different locations. Unique Banner Page descriptions and other options can be specified for each copy of the spool entry.

Online Database

Spool entries can be placed into the Online Database and kept for a specified amount of time. Spool entries in the Online Database can be queried, displayed, reprinted, and archived. The Online Database can be saved or restored using OS/400 commands. Spool entries in the Online Database are not managed by OS/400 work management, which lowers overall system overhead.

Microfiche

SpoolOrganizer can create a microfiche tape. User Exit programs are provided to customize the tape to your needs. **BDS** shipped Exit programs produce a tape that is accepted without modification by most microfiche companies.

Attribute Change

SpoolOrganizer can change certain spool entry attributes (copies, HOLD, etc.) during processing. SpoolOrganizer will not change the spool entry's data. Thus a spool entry can be tailored to varying printer device requirements, and other requirements.

Send via E-mail

SpoolOrganizer can send spool entries via OS/400 E-mail facilities to remote addresses. For example a

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Monitor can send a reports to a user whose E-mail address is *user@company.com*.

Totally Automatic

No user intervention is required to perform SpoolOrganizer functions. The administrator will set up tasks called Monitors that will monitor specified outqs waiting for spool entries to process. When defining the Monitors the administrator specifies which spool entries to process what operations to perform on them. While waiting for output the Monitors sit in a wait state using no CPU. When output is placed into an outq, the Monitor is awakened by OS/400 instantly and quickly processes the spool entry.

Search for Spool Entries

End users can Query the Online Database or Archive Catalog or Optical Catalog, searching for desired spool entries. Once located, users can display, print, or display/change attributes of matching spool entries. The user can also print part of a spool entry. Query criteria can be saved and then specified on future search commands, and can be requested directly from user applications, displaying the desired spool entries with no intervention.

Global Search for Text

End users can search multiple spool entries, looking for a desired character string. If located, the spool entry identifier, page, line, and print line are printed. Stored Query criteria can be used to specify the spool entries to search. Wild characters, upper/lower case translate, and from/to column options can be specified.

Security

SpoolOrganizer provides operational classes to limit the functions users can perform. Data classes are available which can limit a users ability to display a spool entry's data or change/delete it. Generic classes and a user *PUBLIC are provided to ease administrative set up.

Logging

SpoolOrganizer functions can optionally log the operations they perform to the SpoolOrganizer Log. The log can provide the administrator with two useful functions:

- + Desired spool entries can be traced for auditing, tracking, and accounting purposes.
- + Complete logging can easily be turned on temporarily for problem determination purposes.

The log can be queried by using SpoolOrganizer displays or by using user-written queries. The user can specify which operations to log, such as placing spool entries into the Online Database or Archiving spool entries to Tape or Optical. The user can also specify which spool entries to place into the log, saving space and processing time.

No Application Changes Needed

SpoolOrganizer monitors outqs immediately before they print, which means the application programs you purchased or wrote do not need to be changed. The applications can continue sending output to existing outqs, and SpoolOrganizer will process the output before it prints.

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Archiving Features

SpoolOrganizer provides several features that allow the user to archive spool entries to external media. **Figure 1-1** shows the various options offered, and the SpoolOrganizer commands which perform the functions.

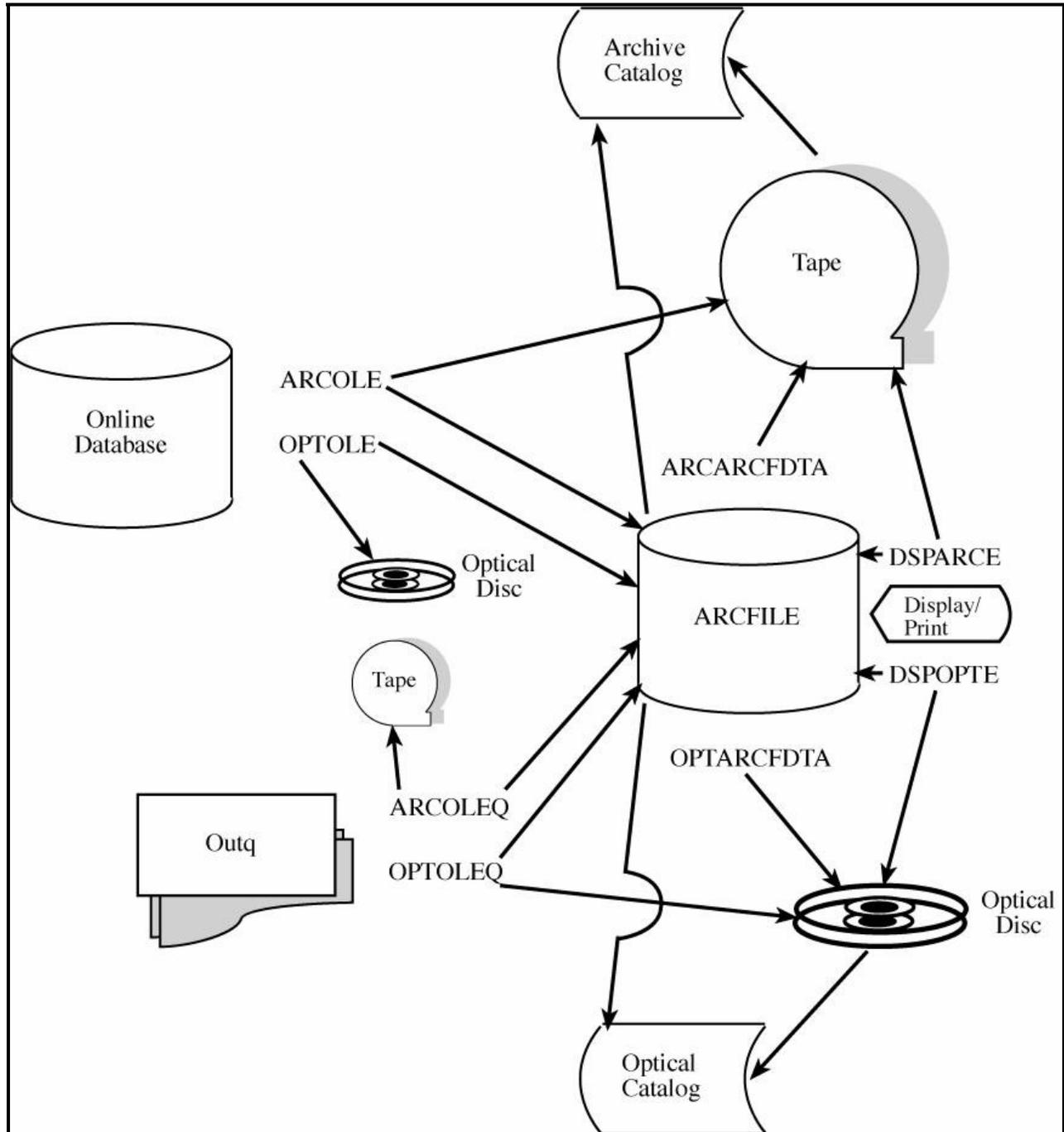


Figure 1-1: Archiving Features

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Archive from Outq

Spool entries can be retrieved from a specified outq and written to tape, Optical disk, or an **ARCFILE**. Spool entries can be selected based on their age (Job Date). Spool entries can be deleted after archived.

Archive from the Online Database

Spool entries can be retrieved from the Online Database and written to tape, Optical disk, or an **ARCFILE**.

Archive to Tape

Spool entries can be written to tape . Multiple archives can be placed on a tape. An archive can span multiple tapes.

Archive to Optical Disk

Spool entries can be written to an Optical Library Dataserver volume. Multiple archives can be placed on a volume. Archives can be placed in subdirectories within the volume. An archive can span multiple volumes.

Archive to an ARCFILE

Spool entries can be written to a SpoolOrganizer **ARCFILE** member, then written to tape or Optical disk at a later time. An **ARCFILE** is a sequential physical file on disk.

Display Archived Spool Entries

Spool entries archived to tape, Optical disk, or an **ARCFILE** can be displayed directly from the external media. The user can display the list of spool entries archived, then display or reprint desired spool entries directly from the external media.

Optical Catalog

Spool entries archived to Optical disk can be tracked in the Optical Catalog. The archived entries can be queried by users at a later time. Information such as the spool entry attributes, date and time of the archive, and volume/path information is maintained by SpoolOrganizer. Users can display or reprint selected spool entries directly from mounted Optical volumes.

Archive Catalog

Spool entries archived to tape can be tracked in the Archive Catalog. The archived entries can be queried by users at a later time. Information such as the spool entry attributes, date and time of the archive, and volume/dataset information is maintained by SpoolOrganizer. Users can select an option to reprint queried spool entries. SpoolOrganizer will automatically fetch the spool entry from the archived tape and print it into the desired outq.

Restore Archived Spool Entries

Spool entries archived to tape or an **ARCFILE** can be restored from the external media. All saved entries, or a subset can be restored. Entries can be restored to the original outq, to a different one, or to the Online Database.

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Report Distribution (Bundling) Features

Bundling Output

Monitors will pass specified spool entries to the Bundle Manager, which will place the spool entries into Bundles. A spool entry can be placed into multiple Bundles. The Bundles can be managed by SpoolOrganizer or displayed/changed by users.

Banner Pages

SpoolOrganizer can wrap Bundles with Banner pages for printing. Large block letters for Job name, User name, Spool File name, etc. can be printed, allowing easy separation by operations and users. Users can define different Banner page layouts for different Bundles. A leading page(s), trailing page(s), or both can be specified. The fields printed in big block letters, and other tailoring options can be specified. Leading and trailing pages can be defined differently.

Partial Print

Only part of a spool entry can be placed into a Bundle. There are several methods to specify to SpoolOrganizer the desired subset of the spool entry:

- + **Start/End of Segment**
- + **Page by Page include/omit**
- + **User Exit Program**
- + **Remaining Bundle**
- + **Remaining All**
- + **Range of Pages**

Multiple segments of a spool entry can be identified and placed into different Bundles, dividing up the spool entry electronically by criteria such as Department ID. The spool entry can also be omitted from a Bundle based on spool data. Also pages not placed into other Bundles can be placed into a Bundle.

Scheduling Features

Bundles can be defined as Hourly, Daily, Weekly, Monthly, Yearly, or Times. The date/time the Bundle is closed, printed, and deleted can be specified. Manual release for printing can be defined. Bundle entries can be defined as required, or optional. The Bundle can be closed when all required spool entries are received, or when the specified Cutoff time arrives. Hold/print options, depending if the Bundle is complete, are provided.

Day of Week Processing

Bundle entries can be included or omitted depending on the day of the week. The number of copies can be specified for each day. A flexible Time Adjustment feature can be specified to allow spool entries processed after midnight to be included in the current day. Job entry, job active, spool file open, and SpoolOrganizer date/time can be used for the time adjustment.

Active Classes

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Bundles or Bundle Entries can be assigned one or more Classes. Operations will set Spool Organizer's Active Classes, changing the Bundle Manager's distribution. For example, certain spool entries need to be distributed to more people during month end processing than the rest of the month.

Send via E-mail

SpoolOrganizer can send Bundles via OS/400 E-mail facilities to remote addresses. For example a Monitor can send a reports to a user whose E-mail address is *user@company.com*.

Security

Bundle security is similar to the Spool Processing security described above.

Attribute Change

Bundle entry attributes can be changed when processed by the Bundle Manager. The options available are the same as described in Spool Processing features above.

Logging

Bundling functions can optionally log the operations they perform to the SpoolOrganizer Log. The log can provide the administrator with two useful functions:

- + Desired Bundles and their spool entries can be tracked for auditing, tracking, and accounting purposes.
- + Complete logging can easily be turned on temporarily for problem determination purposes.

The log can be queried by using SpoolOrganizer displays or by using user-written queries. The user can specify which operations to log, such as placing spool entries into the Online Database or Archiving spool entries to tape. The user can also specify which spool entries to place into the log, saving space and processing time.

Totally Automatic

Once defined, Bundles can collect spool entries, print them, and delete them with no user intervention. Search/display functions are available to allow manual operations to Bundles.

Indexing Features

SpoolOrganizer can retrieve specified values from entries and store them in an index. For example, customer numbers can be collected from Invoice reports and indexed. Many options are available to make the collection process totally automatic. Users can query the index to find desired information. Once the desired value is located the user can display or print the spool entry or parts of it.

Automatic Data Collection

The administrator specifies which spool entries to look at, and the desired information in them to retrieve. The specified Monitor will search each matching entry, retrieve the desired values and place them into an

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index.

Value Selection

The administrator can specify a line and column range to inspect. Single or multiple values per page can be extracted. The following relationships can be specified:

- + **EQ (=)**
- + **LT (<)**
- + **GT (>)**
- + **CT (contains)**
- + **NE (not =)**
- + **LE (<=)**
- + **GE (>=)**

Values are selected if they satisfy the relation and are within the specified page/column range.

Qualifying Relations

Up to **5** qualifying relations can be specified to further check the value before placing it into the index. Qualifying relations further check the line where the value was found to minimize the amount of unwanted values collected. For example, matches can be skipped if there are blanks in columns **1** thru **10** on the line.

Numeric Values

Specifying a numeric value allows SpoolOrganizer to perform custom edit checks to the data before placing it into the index. Storing the true numeric value makes end user queries more organized. Decimal points can be a dot or comma. Commas, floating dollar signs, and other editing characters can be removed. Minus signs, **CR** symbols, and parentheses will convert the value to negative for sorting purposes. Non-numeric values will be discarded. Numbers can be up to **18** digits, with up to **5** decimal positions.

Character Values

Specifying a character value allows the user to ignore Upper case differences. Character strings can be up to **50** positions long.

Index Query

Once values are placed into an index, users can search them to locate desired information. The search screen allows up to 15 relations, ANDed or ORed together. Relations can be **EQ, NE, GT, LT, GE, LE** or **CT (char only)**. Upper case differences and wild card characters can be specified for character queries. Results can be narrowed by Job date ranges. The results can be sorted by Job date or value. The result list can be ordered ascending or descending.

Display or Print Results

Once a list of matching values is displayed, the user can display a result. The spool entry containing the value is shown, positioned to the page and line where the result is located. The user can scroll thru the entire spool entry. The user can also print the entire spool entry; print the page where the result value is located, or print ranges of the spool entry. **Note:** Spool entries located in the Archive Catalog can only be printed.

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Stored Search Specifications

Once a query is defined (relations, job date range, sort and order locations), it can be saved for future use. The saved name has two parts, Name and user ID, allowing multiple users to freely assign names to their stored searches. *PUBLIC can be assigned to the user ID, allowing anyone to use the search. A default search can be assigned to each user, or *PUBLIC.

Online Database, Archive/Optical Catalog

SpoolOrganizer automatically maintains the location of the spool entries contain the index values. The user can select the locations to be searched. The index is updated if SpoolOrganizer moves the base spool entry to another location (ARCOLE cmd, etc.). The index entries are automatically deleted when the base spool entry is deleted from the OLDB, Archive/Optical Catalog.

Monitoring an Outq

A SpoolOrganizer Monitor is a task that monitors an outq and processes spool entries placed into it. The Monitor performs two types of functions: It passes specified spool entries to the Bundle Manager for Report Distribution (described below), and it performs the automatic Spool Processing functions. When output is placed into the source outq the Monitor is awakened instantly by the system.

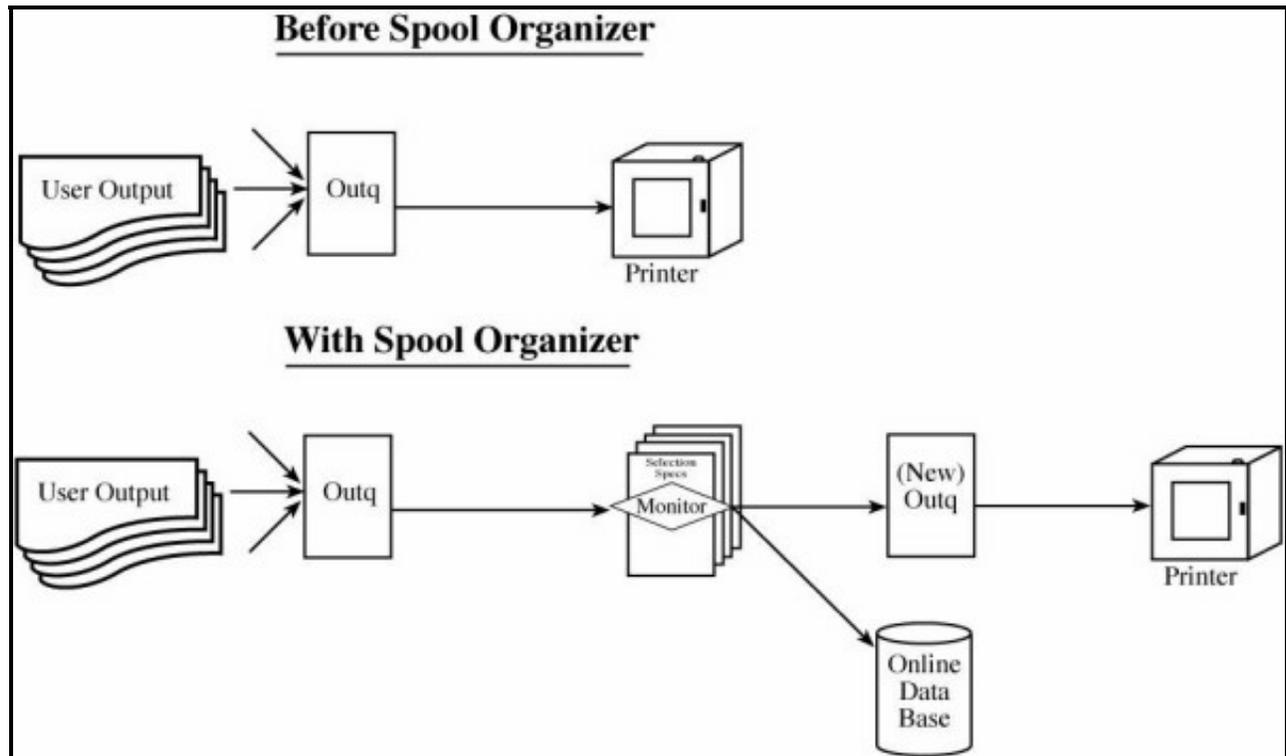


Figure 1-2: Processing Spool Entries with a Monitor

The user will probably want SpoolOrganizer to process certain spool entries differently than others. To do

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this, multiple Selection Specs can be specified for each Monitor. Monitors will load their selection specs into memory when they start. Each selection spec has a "Selection Criteria" part to tell the Monitor which spool entries to process, and a "Processing Options" part to tell the Monitor what to do with the spool entry it selects. **Note:** The Monitor description also has a "Processing Options" section, which tells it what to do with a spool entry that does The Monitor (via selection specs) can use the following as test criteria to select a spool entry for processing:

- + **Job name**
- + **Job user ID**
- + **Spool file name (i.e. QPJOBLOG, etc.)**
- + **Spool file number**
- + **Form ID (i.e. *STD)**
- + **Print file User Data**
- + **Group profile name**
- + **Minimum pages**

Multiple Monitors can be active concurrently (Each Monitor monitors an Outq). Because SpoolOrganizer consumes no CPU while waiting for spool entries, and the processing time for each spool entry is small, all user printers can be monitored without considerable system overhead.

Processing Options Performed by the Monitor

Once a spool entry is selected for processing the following options can be performed by the Monitor:

Place into Online Database

The spool entry is placed into the Online Database. Users can access the spool entry (if authorized) once it is placed into the Online Database. Access options are:

- + **Display**
- + **Display Attributes**
- + **Change Attributes**
- + **Print**

The amount of time the spool entry is kept in the Online Database, and the amount of time the entry is tracked by SpoolOrganizer (in the Archive Catalog, or Optical Catalog) after it is archived to tape is assigned at this time. Spool Entries traced in the Optical Catalog can be displayed online as long as the Optical Disk is mounted. For example, the spool entry can be kept online for 30 days, then tracked for 2 years. Security access codes, which a user needs to access this spool entry in the Online Database, are also assigned at this time.

Move to Outq

The spool entry can be moved to a specified outq. Typically the target outq is attached to a printer. Thus SpoolOrganizer can process spool entries before they are printed. Banner Pages can be attached to the spool entry and spool entry attribute changes can be performed at this time.

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Duplicate a Spool Entry

Copies of the selected spool entry can be made and sent to the outqs specified in a list called the Outq Distribution List. Please note that this function is independent of Report Distribution (Bundling). There is no limit to the number of outq's in the outq distribution list. The copies retain the original spool entry's attributes (except Job Number and Spool File Number). Thus multiple locations can receive their own copy of a spool entry without having to rerun a job. The original copy is moved to the first outq in the list. Banner Pages can be attached to the spool entry and spool entry attribute changes can be performed at this time.

Send via E-mail

Copies of the selected spool entry can be sent to users on the Internet using OS/400 E-mail facilities. Multiple recipients can be specified.

Delete/Hold the Spool Entry

The selected spool entry can be deleted or held without being moved. For example, the user can specify that all spool entries with a Spool File Name of **QPJOBLOG** will be deleted after being placed into the Online Database.

Selecting Spool Entries to Display

Once the spool entry is placed into the Online Database, end users can access the spool entry. The user can search the Database by specifying search criteria. Spool entries which match the search criteria will be displayed for the user to select. The user can access the displayed spool entries by performing one of the following tasks:

- + **Display the spool entry**
- + **Print the spool entry**
- + **Display the spool entry attributes**
- + **Change the spool entry attributes**

The user can use the following attributes as search criteria to locate a spool entry:

- + **Job name**
- + **Job user ID**
- + **Job number**
- + **Spool file name**
- + **Forms ID**
- + **Spool file User Data**
- + **User Remark**
- + **Job Date**
- + **Group Profile**
- + **Outq and Outq Library**
- + **Number of Pages**

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The User remark field is supplied by the Monitor when the spool entry is placed into the Online Database. The user can specify the following operations to test the above attributes:

- + **Equal** (EQ)
- + **Not equal** (NE)
- + **Greater than** (GT)
- + **Less than** (LT)
- + **Greater than or equal to** (GE)
- + **Less than or equal to** (LE)
- + **Contains** (CT)

For example the user can retrieve all spool entries with Job User ID equal to MAB. Up to 15 tests can be specified, each can be ANDed or ORed together. For example, the user may specify Job name equal to MAB AND Form ID not equal to *STD.

The user can specify the field used to order the spool entries which match the query. Any of the fields used for searching can be specified. The order can be Ascending or Descending.

Two forms of a wild card function are available to the end user:

- + **Single character:** The underscore character "_" matches any single character. For example, A_B matches ABB, AXB etc. It does not match AB, AXXB, etc.
- + **Multiple character:** The asterisk character "*" matches any number of characters. For example, A*B will match AB, AXB, AXXB, etc.

The wild card characters can only be used with the EQ keyword. Multiple occurrences of each form can appear in a single test. For example, the user can specify A*B*CD_F as search criteria. The user can specify if upper/lower case differences are to be ignored during the test. For example, abc is equivalent to ABC.

The format of the list of spool entries displayed as a result of a search can be defined by the administrator. For example, some users may wish to see the User Data attribute on the list display, and others may not. The administrator can define Heading Descriptions to control the fields displayed. The Heading description can be specified on the **DSPOLE** (display online entries) command.

The selection criteria can be saved by the user for later use. The **DSPOLE** (display online entries) command can specify the stored selection criteria, allowing spool entries to be accessed directly from a user menu. Each user can have their own set of selection criteria. Security officers can view other user's saved selection criteria.

Displaying a Spool Entry

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A spool entry can be displayed on the screen by authorized end users. Spool entry type *SCS, *IPDS, and *AFPDS can be displayed. The following functions are available to the end user when displaying a spool entry:

- + **Partial Print.** The user can print desired parts of the displayed output to a specified outq. The user can specify a range, giving the starting page/line number and the ending page/line number. A column range can be specified. The created spool entry will have the same attributes as the original spool entry, except for job name and job user.
- + **Send via E-mail.** The user can send parts of the displayed output to an E-mail Address. The user can specify a range, giving the start page/line number and the ending page/line number. A column range can be specified.
- + **Horizontal split screen.** The user can split the screen into an upper and lower session. Two spool entries (or the same entry twice) can be displayed at one time. All functions except the Partial Print function can be performed on either the top or bottom session. The two sessions act independently of each other. Thus the user can scroll down through the bottom session while the top session remains fixed. The user can reposition the split line number to accommodate the data being displayed.
- + **Vertical split screen.** The user can split the screen into a left and right half. The user can specify the screen column to place the vertical split, the leftmost position to display of the left half, and the leftmost position to display of the right half. Thus the user can have on the screen data beyond column 80 (or 132). Both halves remain in sync; the right and left halves will always show the same lines of data. The upper and lower sessions are independent and can have different vertical split statuses.
- + **Search forward or backward.** The user can easily search forward or backwards for text. Both are performed simply by pressing a command key (F16=Forward, F17=Backward). The next occurrence of the text in the scan window is located, the line that contains the string is displayed at the top line of the session's window, and the position where the string starts is displayed. The windowing status is not changed by the search. Text that is within column limits can be searched for. Upper and lower case differences can be ignored.

The following control commands are processed by the display function.

- + **W (Window)** Horizontally positions the line of output on the display. The value can be relative (plus or minus) or absolute. For example W50 will cause the line of output to be displayed starting at print column 50. W+10 causes the displayed output to shift left 10 characters.
- + **P (Page)** Positions the first line of the desired page at the top line of the display session. The values can be relative (plus or minus) or absolute.
- + **T (Top)** Positions the first line of the spool entry at the top line of the display session.
- + **B (Bottom)** Positions the last line of the spool entry at the top line of the display session.

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- + **+/- (Plus/Minus Records)** Positions the spool entry up or down the specified number of print records. Each non-blank print line is considered a print record.
- + **n (Record Position)** Positions the nth print record of the spool entry at the top line of the display session. For example a value of 1 will position to the top of the spool entry.

Archive the Online Database to Tape or Optical

Spool entries in the Online Database can be archived to Tape or Optical Disk. The user can archive all spool entries, or only expired spool entries. Each spool entry placed into the Online Database is given an expiration date by the Monitor. Archiving places selected spool entries in the Online Database onto tape or optical and optionally removes the entries from the Online Database. Entries placed in the Optical Catalog can be processed Online as long as the Optical Disk is mounted. After the Optical Disk is removed, the Catalog can track the Optical Disk until it is remounted.

A record of the spool entry can be kept in the Archive/Optical Catalog so that the spool entry can be easily located. Selected attributes of the spool entry are retained, as well as the date/time archived, the archive volume ID, and the file label within the volume. The amount of time the spool entry is tracked by SpoolOrganizer in the Archive/Optical Catalog is assigned by the Monitor when the spool entry is placed into the Online Database.

The user can specify which spool entries are to be archived, using selection specifications similar to those used to search for spool entries to display. See "Selecting Spool Entries to Display" above for a description of the selection operations available to the user. Thus a user can organize their archived spool entries for easy retrieval.

Display Archived Spool Entries from Tape or Optical

Using the **DSPOPTE** or **DSPARCE** commands, the user can display the spool entries that have been archived to a Tape or Optical. A screen appears which shows the date/time the archive was performed, the number of spool entries that are contained within the file label being displayed, and a list of all the spool entries within the file label. The user can scroll through the list of entries. The following options can be selected for each displayed spool entry.

- + **Display.** The spool entry can be displayed on the screen. See "Displaying a Spool Entry" above for a description of the features of the display function. Thus the user can verify the selected spool entry as the one desired before processing it further.
- + **Print.** The spool entry can be printed to the specified outq. The original spool entry's attributes, including Job Name and User ID will be maintained.
- + **Return to Online Database.** The spool entry will be placed into the Online Database for

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processing by users.

- + **Display attributes.** The spool entry attributes can be displayed on the screen.

Restore Spool Entries from Tape

Using the **RSTARCE** command, the user can restore spool entries that were saved using the **ARCOUTQ** or **ARCOLE** commands. All spool entries, or a subset can be restored. The user can use the following attributes to limit the spool entries restored:

- + **Job name**
- + **Job user ID**
- + **Job number**
- + **Spool file name**
- + **Forms ID**
- + **Spool file User Data**
- + **Group Profile**
- + **User Remarks**
- + **Job Date**
- + **Outq and Outq Library**

The User remark field is supplied by the Monitor when the spool entry is placed into the Online Database. The spool entries can be restored to their original outq, or can be restored to another outq.

The **ARCOUTQ** and **RSTARCE** commands provide a simple, system wide spool entry backup utility.

Creating a Microfiche Tape

Using the **FCHOUTQ** command, the user can create a tape to be used by microfiche companies. The **FCHOUTQ** command processes all spool entries in the outq. For each spool entry processed, a user exit program is called and the spool entry's attributes and the first 100 print lines are provided. Thus the microfiche tape can be tailored extensively by the user. Four user exit programs are provided.

Global Search for Text Strings

The user can search multiple spool entries for a given text string. The user specifies the selection criteria to use, and the text string to search for. Only spool entries that match the selection criteria will be selected. The selection process is similar to selecting spool entries to display. See "Selecting Spool Entries to Display" for a description of the features of the selection process. A list of the spool entries that match are printed. The spool entry's attributes and the page/line and column the string is located are given. Spool entry types ***SCS**, ***IPDS**, and ***AFPDS** are supported.

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Security

Only authorized users can perform the above functions. Only users with a matching access code can display, print, or process a spool entry. The following classes of users are available:

- + **U (User)** A user is authorized to search for spool entries, display or print authorized spool entries, and globally search spool entries for text.
- + **O (Operator)** An operator has all user authority plus the ability to Archive spool entries, retrieve archived spool entries, purge the archive catalog, and start or stop Monitors.
- + **S (Security Officer)** A security officer has all operator authority plus the ability to define users, Monitors, and other SpoolOrganizer definition options.

A special profile ***PUBLIC** can be specified to simplify the administration of users. It serves as a default authority for all users. Each spool entry in SpoolOrganizer can have up to 10 security access codes attached to it. In order to display or print a spool entry the user must have a matching access code. When creating a User ID, up to 25 access codes can be specified. To simplify the implementation, generic access codes can be specified for both the spool entry or the user ID. For example if a spool entry has ABC and XYZ access codes attached to it, a user with an AB* could access the spool entry. There are two types of accesses:

- + **Read.** The user can display or print the contents of the spool entry.
- + **Change.** The user can perform all Read functions plus change the spool entry's attributes, or delete the spool entry.

Bundling Output

The SpoolOrganizer Bundle Manager is a task which receives spool entries from Monitors and places them into user defined Bundles. It also closes, prints and deletes Bundles at their assigned date/time. A Bundle is opened when its first spool entry is received. At this time the Bundle manager assigns a Cutoff date/time using Bundle Descriptions. The Bundle remains open until all of its required entries are received or the Cutoff time arrives. The Bundle is then Closed and placed into a **HELD** or **WAITPRT** (wait for print) status, depending on the Bundle Description. If held, a user must manually release the Bundle for printing. Otherwise the Bundle is assigned a print time using its Bundle Description. When the print time arrives the Bundle Manager routes the Bundle to the assigned outq. Banner pages and spool entry attribute changes are performed, and the Bundle is assigned a delete date/time at this time. The Bundle is deleted by the Bundle Manager when its delete date/time arrives.

Defining a Bundle consists of the following components:

- + **Bundle Description**

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+ **Bundle Entries**

- Selection Criteria
- Processing Options
- Partial Print Options

Bundle Description

Options that define the overall Bundle are specified here. Some of the options are:

+ **Outq/E-mail destination**

The outq where the Bundle will print or the E-mail destination.

+ **User ID**

The user that "owns" the Bundle. This user has all security rights to the Bundle. Printed spool entries will have this OS/400 user ID in their attributes.

+ **Cutoff/Print/Delete times**

Specifies the values used to calculate processing date/times. See "Bundle Scheduling Features" below for more information.

+ **Hold/Release when closed**

The Bundle can be held or released for printing when it is closed. Separate hold/release options can be specified for complete and incomplete Bundles.

+ **Banner Pages**

Specifies the Banner page Description to use when printing.

+ **Hold on Outq**

Specifies that all of the spool entries in the Bundle will be held in the outq when printed.

Bundle Entries

Each spool entry that will make up the Bundle is described.

Selection Criteria

The selection criteria tells SpoolOrganizer which spool entry(s) to retrieve and place in the Bundle as this entry. Specify the Monitor and a Selection Specification. The selection spec functions the same as a Monitor selection spec (see above for more information).

Processing Options

Many options exist which tell the Bundle Manager what to do with spool entries it receives. Some of the options follow:

+ **Multiple Entries**

The Bundle can keep the first, last, or all spool entries if more than one is received before the Bundle is closed.

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+ **Required Entry**

The user can specify that the entry must be received before the Bundle is closed.

+ **Signal New Bundle**

A spool entry received can force the Bundle Manager to close its existing Bundle and start a new one.

+ **Day of Week Processing**

See below for details of this option.

+ **Attribute Change**

Certain spool entry attributes (copies, HOLD) can be changed by the Bundle Manager when the Bundle is printed.

Partial Print Bundle Entries

The Bundle Manager can place only part of the spool entry into a Bundle. The administrator describes the desired subset of the spool entry using one of the following Partial Print Specifications:

Start/End of Segment

The user can specify absolute start/end page numbers, or specify character strings in the spool data to test for to determine the start and end of the desired segment. For example, the user may define a department number in the report heading to test for. Multiple tests can be performed, and the tests can be ANDed or ORed together. Tests can be equal, not equal, contains, greater than, etc. starting/ending line numbers, from/to columns, and upper/lower case translate options can be specified for each test.

Page by Page Include/Omit

The user can test each page of the spool entry to determine if the page will be included in the desired subset. The included pages do not need to be contiguous. The test options to determine if a page is to be included are the same as in Start/End of Segment described above.

Remaining Page (Bundle)

The user can take pages of a spool entry that were not placed into other Bundles and place them into a Bundle. Only entries processed by the Bundle Entry within this Bundle will be selected.

Remaining Page (ALL)

The user can take pages of a spool entry that were not placed into other Bundles and place them into a Bundle. Entries processed by all Bundle Entries will be selected.

Range of Pages

Similar to Start/End of Segment. The difference is that the entire spool entry is printed with the PAGERANGE parameter set to the segment's start and end page values.

User Exit Program

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SpoolOrganizer can call a program written by the administrator to determine the desired subset of the spool entry. Each page is passed to the user exit program. The user exit program can look at the data in the page and tell SpoolOrganizer what to do with the spool entry. The exit program can specify the Start/End of segment, pages to include, keep the entire spool entry, or omit the entire spool entry.

A single spool entry can be placed into multiple Bundles, thus automatically dividing the spool entry into many segments. The following options are available:

+ **Start/end lines and columns**

When using compare data, the user can pinpoint the location of the spool data to compare. For example the user may wish to use a department code in the heading lines of a report for comparison.

+ **Ignore upper/lower case**

The user can ignore upper/lower case differences when performing the compare.

+ **Include last page**

The user can specify if the specified end of segment is the last page wanted or the start of unwanted pages.

+ **Include/Omit**

If the start page/data is not matched, the spool entry is not included into the Bundle.

Bundle Scheduling Features

The Bundle Manager has much flexibility when describing the flow of Bundles through SpoolOrganizer, and the degree of automation desired. In general, the user specifies the Cutoff, print, and delete times.

Cutoff date/time

Specifies the date and time the Bundle is to quit collecting spool entries. Several methods of specifying the date are provided:

- + **Daily:** The Bundle will close each day, at the time specified.
- + **Weekly:** The Bundle will close at the specified day of the week i.e. Friday), at the time specified.
- + **Monthly:** The Bundle will close at the specified day of the month (i.e. the 31st), at the time specified.
- + **Yearly:** The Bundle will close at the specified month/day (i.e January 10th), at the time specified.
- + **Hourly:** The Bundle will close each hour, at the minute specified.
- + **Times:** The Bundle will close at the specified times each day. Up to 12 times can be specified.
- + **Hold/Release:** The Bundle can be held or scheduled for print when closed. Separate options exist for complete and incomplete Bundles.

Print date/time

The user can specify the number of days to hold the closed Bundle before printing, and the time to print.

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Delete data/time

The user can specify the number of days to keep the Bundle before it is deleted.

Bundle Day of Week Feature

The Bundle Manager can include/omit spool entries based on the day of the week. For example, a Bundle Entry can be assigned 3 copies on Monday, zero copies on Tuesday (do not include the spool entry) and 1 copy all other days. When testing for the day of the week, a Time Adjust feature is provided. This allows output that does not complete by midnight to be included in the proper day's work. The adjustment can logically move the end of the day forward or backwards up to 23 hours. For example, you can specify 7:00 AM as the logical end of day for one spool entry's purposes, and 5:00 PM for another. The time SpoolOrganizer uses to make this comparison can be specified as follows:

Job entry

The date/time the job entered the system, via **SBMJOB**, sign on, etc.

Job active

The date/time the job begins executing.

Spool file open

The date/time the application program opens the spool entry.

SpoolOrganizer

The date/time a SpoolOrganizer Monitor processes the spool entry.

Bundle Active Class Feature

The Bundle Manager can include/omit spool entries based on an assigned Class. The Active Classes are set by Operations personnel. Only Bundle Entries with Classes that match one of the Active Classes will collect spool entries. Up to 10 Classes can be specified on the Bundle Description or Bundle Entry Description. A special Class, ALL, specifies that the Bundle or Entry is always active.

Active Classes can be used to allow different Bundles to collect spool entries during different periods of activity. For example, the administrator can specify Bundles that are only active during month end processing. These Bundles would not collect entries unless the Month End Class (i.e. MON) is set active.

Displaying Active Bundles

The user can work with active Bundles in the system. The Bundles can be searched for by specifying the following search criteria:

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- + **Bundle Name**
- + **User ID**
- + **Status**

The **WRKACTBDL** (work with active Bundles) command can specify the above search criteria, allowing desired Bundles to be accessed directly from a user application menu. The user can perform the following functions on the displayed Bundles:

- + **Display spool entries in the Bundle**
 - Display spool data**
 - Display spool attributes**
- + **Display Bundle Descriptions and Bundle Entry**
- + **Change or delete Bundles or their entries**
- + **Hold, print, or reopen Bundles**

SpoolOrganizer Logging Feature

SpoolOrganizer can optionally write certain events and operations performed to the SpoolOrganizer Log. Users can query the log by using a query supplied by SpoolOrganizer, or write their own query applications. The log can be used for Spool Entry Tracking and Accounting, and Problem Determination. Tasks which can optionally perform logging are:

- + **Monitors**
- + **Online Database Archive/Purge Operations**
- + **Archive Catalog and Optical Catalog Add/Purge Operations**
- + **Bundling Functions**
- + **Indexing Functions**
- + **User Online Database Operations**
- + **User Active Bundle Operations**

The information recorded in the log varies depending on the type of log entry. In general the following information is recorded:

- + **Date/time of the entry.**
- + **Sender's Job Name, User, and Number.**
- + **Operation being performed.**
- + **Function issuing the request (Monitor, Bundle Mgr, etc.).**
- + **The Bundle Entry Name or Monitor Selection Spec Used.**
- + **The Spool Entry processed (Job/User/Num, File/Num).**
- + **Misc Information depending on type of request.**
- + **Spool Entry Attributes**

The Administrator can specify which Monitors, Bundle Manager or Index Manager functions to log.

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Additional options may be specified, allowing the Administrator to selectively decide which events should be logged within each function. If specified, the following events can be logged:

- + **Start Up (Monitors, Bundle Mgr and Index Mgr)**
- + **End of Processing (Monitors, Bundle Mgr and Index Mgr)**
- + **Errors or warnings issued (Monitors, Bundle Mgr and Index Mgr)**
- + **Resetting of the input data queue (Bundle Mgr and Index Mgr)**

The Administrator can also specify which operations performed to the Online Database are to be written to the SpoolOrganizer/400 Log. If specified, the **ARCOLE, PUROLE, ARCRCFDTA, OPTOLE, OPTARCFDTA, DSPARCE** (OLDB Add Only) and **DSPOPTE** (OLDB Add Only) commands will log their operations. If logging is active, the commands will log the following operations:

- + **Archive to backup media**
- + **Addition to the Online Database (DSPARCE & DSDPOPTE only)**
- + **Deletion from the Online Database**

The Administrator can also specify which operations performed on the Archive/Optical Catalog are written to the SpoolOrganizer/400 Log. If specified, the **ARCOLE, ARCRCFDTA, PURARCCAT, OPTOLE, OPTARCFDTA** and **PUROPTCAT** commands will log their operations. If logging is active, the commands will log the following operations:

- + **Addition to the Archive/Optical Catalog**
- + **Deletion from the Archive/Optical Catalog**

E-mail Features

SpoolOrganizer can optionally send spool entries via E-mail to Internet users. For example, a report can be sent to **user@ibm.net**. SpoolOrganizer uses the OS/400 Mail Server Framework to send to E-mail addresses. Tasks which can send spool entries via E-mail are:

- + **Monitors**
- + **Bundling Functions**
- + **BDS Display a Spool Entry Operations**
- + **CL Commands**
EMLSPLE

The spool entry is placed into the mail as either an inline part or an attachment. Attachments can be in the following formats:

- + **Text**
- + **Adobe PDF (Acrobat Reader)**
- + **Microsoft Excel**
- + **CSV (Spreadsheet, Database)**

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- + **TSV (Spreadsheet, Database)**

Monitors

The user can specify an E-mail Specification on the Monitor Default Processing Options or on Monitor Selection Criteria Processing Options. This allows the administrator to specify only certain spool entries processed by the Monitor will be sent via E-mail. See below for a description of E-mail Specifications.

Bundles

A Bundle can be sent to E-mail addresses described in an E-mail Spec (See below) instead of an outq.

BDS Display a Spool Entry Operations

The BDS Display a Spool Entry has the ability to send a spool entry to E-mail users. An optional Note can be attached to the message and the message can be kept in the Sent Mail Log.

CL Commands

The SpoolOrganizer **EMLSPLE** (E-Mail a Spool Entry) command can send a specified spool entry in an outq to one or more E-mail users. The **EMLSPLE** command can be entered from an OS/400 command line or placed into user-written programs. Up to 50 recipients can be specified, or a data file containing the list of recipients can be entered. An E-Mail Specification (described below) is specified, allowing many options to be setup in advance. Many E-mail Spec options can be overridden by the command.

E-mail Specification Features

The E-mail Specification describes to SpoolOrganizer tasks certain options to take when sending the spool entry. The available options are:

- + **From Name and Address**
- + **To Name and Address**
- + **Additional To Name/Addresses to send to**
- + **Bcc Name and Address**
- + **Additional Bcc Name/Addresses to send to**
- + **Subject**
- + **Sent Mail Log Options:**
 - + **Retention Period**
 - + **Security access codes**
- + **An optional preceding Note**
- + **Note as separate Part**
- + **Spool entries as separate Part**
- + **Part attachment type**
 - Inline**
 - Attached unformatted**
 - Adobe PDF**
 - Microsoft Excel**
 - CSV (spreadsheet & database)**

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TSV (spreadsheet & database)

- + Attachment Name and Type
- + Encryption Options

From Name and Address

Specifies the From Address and optionally the From Name. This will appear on the message as: *from-name* <*from-address*> or *from-address*.

To and Bcc Name and Address

Specifies the recipient Address and optionally Name. To addresses will appear on the message as: *to-name* <*to-address*> or *to-address*. Bcc (Blind Carbon Copy) address will not appear in the message header.

Additional To/Bcc Names and Addresses

Specifies a distribution list that will also receive the message. To address will appear on the message as: *to-name* <*to-address*> or *to-address*.

Subject

Specifies the subject area of the message.

Sent Mail Log Options

SpoolOrganizer can optionally keep the message in its Sent Mail Log. If kept, options such as the retention period and security can be specified.

Optional Preceding Note

Specifies up to 5 lines that will precede the spool entry in the message.

Note as separate Part

Specifies if the Optional Note is to be a separate part of the message.

Spool entries as separate Part

Specifies if each spool entry is to be a separate part of the message.

Part Attachment Name and Type

Specifies the attachment name and type to assign to the attachment file.

Encryption Options

Specifies if encryption is to be performed and the password to use, and other options.

E-mail Sent Mail Log

SpoolOrganizer/400 can optionally keep sent E-mail in a log. Users can search the log and display their sent mail using the **DSPSNTML** command and resend their mail if desired. The **PURSNTML** (purge send

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mail) command is provided to clear the log. Optional Security classes are provided to secure send E-mail.

Move Spool Entries to IFS Directory

SpoolOrganizer/400 can move spool entries to an IFS directory. Once in the IFS directory other tasks can access the entries. For example if OS/400 HTTP server is set up, Internet users can access the spool entries in the IFS directories using web browsers. FTP clients can also access IFS files created by SpoolOrganizer. The moved spool entries can be written in the following formats:

Text

Adobe PDF

Microsoft Excel

HTML

CSV (Database or Spreadsheet)

TSV (Database or Spreadsheet)

The created files can be encrypted, requiring a password for the user to access. The following SpoolOrganizer commands can be used by the user to move spool entries to an IFS directory:

DIROUTQ Command

The **DIROUTQ** command moves the spool entries of one or more outqs to an IFS directory. An effective date test can be used to narrow down the spool entries moved. Spool entries can be deleted after they are moved.

DIRSPLE Command

The **DIRSPLE** command moves a single spool entry to an IFS directory.

Web Browser Access

Internet users using a web browser such as Microsoft Internet Explorer can access SpoolOrganizer/400 functions. A TCP connection to the Internet and an OS/400 HTTP server must be set up to do this. Spool Organizer functions available to web browsers are:

Display Online Entries

Work with Active Bundles

Displayed spool entries or Bundle Entries can be downloaded into the PC or browser session in the following formats:

Adobe PDF

HTML

Microsoft Excel

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CSV (Comma separated values)
TSV (Tab separated values)
Text

Internet users, like AS/400 green-screen users, must be defined to Spool Organizer and have proper security clearance to access Spool Organizer functions and spool entries.

Spool PDF Overlay/400™ Interface

Spool Organizer can use the features of Spool PDF Overlay/400™ product if it is installed. Spool PDF Overlay/400 is a separate product from BDS that provides the additional features when creating Adobe PDF files, such as:

Overlays
Images
Multiple Fonts

Refer to Spool PDF Overlay/400 documentation or contact BDS for more information on its features. The following Spool Organizer functions can utilize Spool PDF Overlay/400 features when creating a PDF:

Monitors (Email)
Bundles (Email)
Spool Entry Display (Email)
EMLSPLC cmd
DIRSPLC, DIROUTQ cmds
Web Browser functions (Email)
DSPSNTML cmd (resend Email)

Refer to the Spool Organizer documentation for more information.

IASPs and Multiple Spool Organizer Instances

Spool Organizer product libraries can be placed onto Basic and Independent ASPs, giving the Administrator great flexibility. Multiple instances of Spool Organizer can be running within an LPAR. Each Spool Organizer instance is independent of the other instances.

Spool Data Encryption to Hard Disk, Backup Devices

Spool Organizer optionally can encrypt spool entry data segments when writing data to I-O devices during the following operations:

- Online Database

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- Archives to Tapes, Optical Disks and ARCFILes
- Bundling
- Email Sent Mail Log

Spool Organizer uses the industry standard AES encryption. This insures that sensitive user data contained in spool entries is not stored in a clear format when residing on disk drives or backup units.

Acknowledgements

The following third party products have been incorporated into Spool Organizer:

Flate - Flate is an industry-standard compress/decompress algorithm written by Jean-loup Gailly and Mark Adler. BDS has adopted their code to run on the AS/400 platform. The Adobe PDF format supports Flate. You can contact them at <http://www.gzip.org/>.

INSTALLATION

Before you begin

- 1) Use these instructions if you are installing a new instance of Spool Organizer/400. If you are updating your existing Spool Organizer/400 instance to a new release refer to the document “**SpoolOrganizer/400 Update Instructions**” provided with the update package.
- 2) A permanent or temporary password is needed once Spool Organizer is installed. If you have already have an instance of Spool Organizer running on this or any other LPAR within this CPU, you can use its permanent password for this instance. Otherwise you will need to contact Broderick Data Systems for a temporary or permanent password. If you plan to install Spool Organizer after business hours, you may wish to call Broderick Data Systems in advance to get your password.
- 3) If you already have an instance of Spool Organizer running on this LPAR, or you have one of our other products installed on this LPAR, and they are not compatible with this release of Spool Organizer, you will need to update them **before** installing this instance. Refer to Appendix L, Release Compatibility for more information. Failure to do so could cause other BDS software to stop working after this instance is installed.
- 4) If you plan to install more than one instance of Spool Organizer on this LPAR, or you plan to install Spool Organizer onto APSs other than the System ASP (ASP 1), refer to Appendix K, “ASP Considerations” prior to performing the install.

Prerequisites

The following hardware and system software is needed to execute SpoolOrganizer/400. Please ensure that all needed system software is installed before beginning the installation.

AS/400:

- + OS/400 Version 7, Release 2, Modification 0 or greater
- + Security level 40 or less

To create encrypted PDF attachment files in email messages:

- Cryptographic Access Provider for AS/400 (57xx-AC3)

Decrypt files:

To decrypt SpoolOrganizer encrypted PDF attachment files in email messages:

- + Windows 2000, Windows XP, Windows 2003, or Windows 7 or later
- + DotNet Framework 1.1 or greater

Installation

- 1) Sign on as **QSECOFR**

Note: The installation procedures below will end and change subsystem **BDS**. You must insure the applications using subsystem **BDS** (for example Remote SpoolPrint3X/400, File Transfer3X/400, etc.)

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can be stopped before performing the installation.

- 2) Restore the install routines from the media.

Mount the media and enter one of the following:

If you are using Tape:

```
RSTOBJ OBJ(BSOIN*) SAVLIB(SPOR40) DEV(xxxxxx) VOL(*MOUNTED)  
RSTLIB(QTEMP)
```

If you are using CD-ROM:

```
RSTOBJ OBJ(BSOIN*) SAVLIB(SPOR40) DEV(OPT01) VOL(BDS)  
RSTLIB(QTEMP) OPTFILE(SPOR40)
```

If you are using a Save file:

You should have a save file containing the Spool Organizer media. Verify the contents and note the library saved:

```
DSPSAVF FILE(mylib/myfile)
```

The library saved should be **SPOR40**.

Restore the install objects from the save file containing library **SPOR40** into library **QTEMP**:

```
RSTOBJ OBJ(BSOIN*) SAVLIB(SPOR40) DEV(*SAVF) SAVF(mylib/myfile)  
RSTLIB(QTEMP)
```

- 3) Execute the install procedure. Enter one of the following:

Note: If you are planning to install Spool Organizer into ASPs other than the system ASP (ASP 1), refer to Appendix K, “ASP Considerations” to determine the values for the xxxASP and xxxASPDEV parameters on the following BSOINS command. Refer to the command help text for more information regarding the xxxASP and xxxASPDEV parameters.

Note: If you are planning to install Spool Organizer into an IASP, verify that the IASP device’s status is **AVAILABLE**. Use the command **WRKCFGSTS CFGTYPE(*DEV) CFGD(your-IASP-dev)**.

If you are using Tape or CD-ROM (Press F4 to prompt):

```
QTEMP/BSOINS DEV(xxxxx)
```

If you are using a Save file (Press F4 to prompt):

```
QTEMP/BSOINS DEV(*SAVF) PGMSAVF(mylib/myfile)
```

INSTALLATION

Enter the save file containing library **SPOR40** for mylib/myfile.

You will receive the message “Installation of SpoolOrganizer complete”. You may need to call Broderick Data Systems to activate your 30 day trial package.

4) Access the BDS Software Server (optional).

Note: Your AS/400 must be connected to the Internet to perform this procedure.

a) If you have not done so previously, access the tailoring options screen:

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b) Note the fields “BDS Access Userid” and “Password”. You will need a user ID and password to access some of the server options. If needed, contact BDS administration to get this information. If you add your user id and password, press **ENTER** to enter them and re-enter the setup command.

c) Press F14, E-Comm. The Software Server display will appear. Take note of the options available to you. When you are finished, press F3 to exit

Continue with the section "Planning Guide".

Note: Appendix B, “Setup Examples” is a tutorial which demonstrates all the major components of SpoolOrganizer and how they fit together. It is strongly recommended that the administrator perform the examples in Appendix B.

Planning Guide

Certain actions should be performed before starting Monitors, the Bundle Manager or the Index Manager. The administrator should use this section as a guide when planning for the setup of SpoolOrganizer. Setup examples are included in the appendices.

Planning involves the following major areas :

Spool Processing

- + **Determine Outqs to be monitored**
- + **Group spool entries by processing option.**
- + **Determine Users and their authorities**
- + **Group spool entries so archive media usage is optimized**

Report Distribution (Bundling)

- + **Determine users that want their spool entries bundled**
- + **Define the spool entries to be bundled**

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- + **Determine which outqs the spool entries will appear**
- + **Determine when/where the users want their Bundles printed**

Indexing

- + **Identify the spool entries to be indexed**
- + **Determine which values in each spool entry to collect for the index**
- + **Determine users that want to search indexes**

Follow the steps listed below to plan your installation:

Spool Processing

- 1) Determine which outqs you wish to monitor using SpoolOrganizer (Source Outq's).
- 2) For each source outq, group expected spool entries so that each entry in the group has the same processing options:
 - + Target Outq (Outq, Outq Distribution List, or Delete)
 - + E-mail specification (to address, etc.)
 - + Amount of time the spool entry is to be kept in the on-line database (if at all), and the amount of time the entry is to remain in the Archive Catalog.
 - + The user profiles which can display, and change the spool entry.
- 3) For each group identified, specify attributes which will uniquely identify the spool entry(s). Use the following attributes as possible Selection Criteria:
 - + **Job Name**
 - + **Job User**
 - + **Spool File Name**
 - + **Spool File Number**
 - + **Form Name**
 - + **User Data**
 - + **Group Profile Name of Job User**

You will use the above plans to create Monitor descriptions and Selection Criteria Specifications.

- 4) Determine the users which are to be able to use the system. Determine the type (security officer, administrator, or user), and the spool entries allowed to display or change.

You will use the above plans to create Spool Organizer User ID's.

- 5) Determine which archive tapes will contain certain spool entries. For example: all joblogs may be placed on the same tapes. Organizing archive media in this fashion will make searching for an archived entry much easier. Determine the entries to group together, and the amount of time to keep a

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tape active.

Note: Appendix B, “Setup Example” has a step by step example of setting up Spool Organizer to process spool entries. It will walk the user through each of the above planning steps.

Report Distribution (Bundling)

- 1) Make a list of each user which wants Bundles of Spool Entries. List each bundle for the user separately.
- 2) For each Bundle defined above, list each spool entry which will be contained in the Bundle. Determine the following for each spool entry:
 - + Attributes: Job name, Job user, Spool File name, etc. These attributes describe the spool entry to the Bundle Manager.
 - + Label the spool entry as required or optional to the Bundle.
- 3) Determine the outq the spool entry currently appears in. A SpoolOrganizer Monitor is required to monitor these outqs, and pass the requested spool entries to the Bundle Manager. Please note that you may already have defined Monitors to perform the Spool Processing Options described above.
- 4) For each Bundle determine where/when you want it printed. Write down the outq to print into, and the time you want it printed.

You will use the above plans to create Bundle Descriptions

Note: Appendix B, “Setup Examples” has a step by step example of setting up Spool Organizer Bundles. It will walk the user through each of the above planning steps.

Indexing

- 1) Identify each spool entry which contains data to be indexed. You will use this information to define Monitors and Selection Specs for each Spool Entry. A Monitor is required to monitor these outqs, and pass the requested spool entries to the Index Manager. Indexing uses Selection Specs to tell the Monitor which spool entries to pass to the Index Manager. Please note that you may use existing Monitors and Selection Specs for Indexing.
- 2) Determine the values in each spool entry to collect for indexes. Determine for each set of values the following:
 - + data type (character or numeric)
 - + location on the page (row/column range)
 - + values to collect (all values, certain ranges, etc.)

You will use the above plans to create Index Specifications.

- 3) Determine the users which will search the Indexes. Determine which users are authorized to

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display each spool entry defined in step 1), and which indexes they will search.

You will use the above plans to create Spool Organizer Users and optionally Index Stored Search Specs.

Note: Appendix B, “Setup Examples” has a step by step example of setting up Spool Organizer Indexing. It will walk the user through each of the above planning steps.

ADMINISTRATION

To access a SpoolOrganizer/400 Menu, enter one of the following commands:

SPLADM	Administrator Main Menu
SPLOPR	Operator Main Menu
SPLUSR	User Main Menu

If **SPLADM** is entered the following screen should appear:

```
SpoolOrganizer/400 (TM)          9/30/97  08:58:32
Administrator Main Menu        04 01 0000  QSECOFR

      1. Define System           (SPLDEF)

      2. Control System Execution (SPLEEXEC)

      3. End User Functions      (SPLUSR)

      90. Sign off

Selection: _____ F3=Exit  F6=Messages  F10=Command Entry
(C) Copyright 1989, 1999 - Broderick Data Systems
```

Option 1, Define System can be executed by the command **SPLDEF**.

Option 2, Control System Execution can be executed by the command **SPLEEXEC**.

Option 3, End User Functions can be executed by the command **SPLUSR**.

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Define System

SpoolOrganizer/400 (TM)		9/30/97	10:46:03
Define System Menu		04 01 0000	QSECOFR
1. Define Users	17. Define CSV Specifications		
2. Define Monitors	18. Define PDF Specifications		
3. Define Monitor Selection Criteria	19. Define HTML Specifications		
4. Check Selection Specs (CHKSELSPEC)	20. Define Encryption Specs		
5. Define Outq Distribution Table	21. Define MS Excel Specifications		
6. Define Archive/Purge Criteria	22. Define XL Style Specifications		
7. Define Tailoring Options			
8. Set Logical Views (SETSOLGL)			
9. Define Banner Page Specifications			
10. Define Attribute Change Specifications			
11. Define Heading Specifications			
12. Define Bundle Specifications			
13. Define Index Specifications			
14. Define E-Mail Specifications			
15. Define E-Mail Distribution Table			
16. Define File Cross References			
90. Sign off			
Selection:	F3=Exit	F6=Messages	F10=Command Entry
(C) Copyright 1989, 1999 - Broderick Data Systems			

Options 1 thru 19 are used to describe various components to SpoolOrganizer. The user must be a SpoolOrganizer Security Officer to perform these options. User profile QSECOFR can define users regardless of its SpoolOrganizer definition.

The above options have the following definitions:

1. Define Users

The Administrator defines users to SpoolOrganizer, their operating class (Security Officer, Operator, User), and their security access codes needed to access spool entries and Bundles. For more information, refer to Chapter 4, "Define Users".

2. Define Monitors

The Administrator can define Monitors, which will monitor outqs, process spool entries, and perform retrieval functions for the Bundle Manager. For more information, refer to Chapter 5, "Define Monitors".

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3. Define Monitor Selection Criteria

The Administrator defines Selection Criteria, which are loaded by Monitors when they start. Selection criteria identifies certain spool entries to the Monitor and describes the special processing options the Monitor is to perform to them. For more information, refer to Chapter 6, "Define Selection Criteria".

4. Check Selection Specifications

This option executes the SpoolOrganizer/400 CHKSELSPEC command, a utility used to cross reference spool entry attributes against Monitor Selection Specifications. By selecting this option, the administrator can simulate the processing of a Monitor to determine if a spool entry is being processed according to the processing options of a previously defined Monitor Selection Specification, or the default processing options as defined for the Monitor. A report is generated (BSOCHKSPEC) which produces the results of the command. For more information, refer to Chapter 6, "Define Selection Criteria".

5. Define Outq Distribution Table

The Administrator uses the Outq Distribution Table to define lists of outqs. Monitors and Selection Criteria refer to these lists by name and can send a spool entry to every outq in the list. For more information, refer to Chapter 7, "Define Outq Distribution List".

6. Define Archive/Purge Criteria

Allows the Administrator to define a group of spool entries. Archive and Purge operations can refer to this group by name. For more information, refer to Chapter 8, "Define Archive/Purge Specifications".

7. Define Tailoring Options

Allows the Administrator to enter passwords, set various system options, and define SpoolOrganizer Logging options. For more information, refer to Chapter 9, "Define Tailoring Options".

8. Set Logical Views

This option allows the System Administrator to define the logical views for the Online Database, Archive, and Optical Catalog files used by SpoolOrganizer/400. For further information, refer to Chapter 9, "Set Database/Catalog Logical Views".

9. Define Banner Page Specifications

Allows the Administrator to specify options for creating Banner Pages. Monitors, Selection Criteria, and Bundles can refer to these specs by name to print customized Banner Pages around desired output. For more information, refer to Chapter 10, "Define Banner Page Specifications".

10. Define Attribute Change Specifications

Allows the Administrator to specify options for creating specifications to change certain spool entry attributes. Monitors, Selection Criteria, and Bundles can refer to these specs by name. For more information, refer to Chapter 11, "Define Attribute Change Specifications".

11. Define Heading Specifications

Allows the Administrator to specify options for creating Heading Specifications. Heading descriptions

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define the spool entry attributes that are shown to the user on the Spool Entry List display. The DSPOLE (Display Online Entries) command can refer to the descriptions by name. For more information, refer to Chapter 12, "Define Heading Specifications".

12. Define Bundle Specifications

Allows the Administrator to define Bundles and their entries. The Bundle Manager uses the Bundle descriptions to distribute desired reports to users. For more information, refer to Chapter 13, "Define Bundle Specifications".

13. Define Index Specifications

Allows the Administrator to define Index Specifications to be used by the Index Manager. For more information, refer to Chapter 14, "Define Index Specifications".

14. Define E-Mail Specifications

Allows the Administrator to define E-mail Specifications. E-Mail specs are used by Monitors and the Bundle Descriptions to describe attributes (to, from, etc.) of the sent message.

15. Define E-Mail Distribution Table

Allows the Administrator to define lists of E-mail recipients. An E-mail Distribution List name can be specified on E-mail Specifications.

16. Display File Cross References

Allows the Administrator to determine where a given Specification is used. For example all Monitors using Banner Page Spec XYZ can be listed.

17. Define CSV Specifications

Allows the Administrator to define Column Separated Values (CSV) Specifications. CSV Specs allow E-mail to be in sent in CSV format, which most PC Spreadsheet and Database applications can support.

18. Define PDF Specifications

Allows the Administrator to define PDF Specifications. PDF Specs allow E-mail to be sent in Adobe PDF format, which most can be read by Adobe Acrobat Reader.

19. Define HTML Specifications

Allows the Administrator to define HTML Specifications. HTML Specs allow files to be created in HTML format, which most can be read by web browsers.

20. Define Encryption Specifications

Allows the System Administrator to define Encryption Specifications, which are used by E-mail Specs to encrypt e-mail attachments.

21. Define MS Excel Specifications

Allows the Administrator to define Microsoft Excel Specifications. MS Excel Specs allow E-mail to be sent in XLSX format, which most can be read by Microsoft Excel spreadsheet readers.

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22. Define Excel Style Specifications

Allows the System Administrator to define Style Specifications, which are used by MS Excel Specs to build e-mail attachments.

Control System Execution

Due to the number of options available, the Control System Execution Menu is divided into two screens. The first screen is displayed as follows:

```

                                SpoolOrganizer/400 (TM)          9/30/97   11:59:30
                                Control System Execution Menu    04 01 0000   QSECOFR

Monitor Selections:
  1. Start a Monitor          (STRSOMON)
  2. End a Monitor            (ENDSOMON)
  3. Display Monitor Status   (DSPSOMSTS)

Archive Selections:
 11. OutQ to Tape            (ARCOUTQ)
 12. OutQ to Optical         (OPTOUTQ)
 13. Online DB to Tape       (ARCOLE)
 14. Online DB to Optical    (OPTOLE)
 15. ARCFIELD to Tape        (ARCARCFDTA)
 16. ARCFIELD to Optical     (OPTARCFDTA)

Display Archive Media Selections:
 21. Tape/ARCFIELD Entries   (DSPARCE)
 22. Optical Entries         (DSPOPTE)

Report Distribution Selections:
 41. Set Active Classes     (SETACTCLS)
 42. Start Bundle Manager   (STRBDLMGR)
 43. End Bundle Manager     (ENDBDLMGR)
 44. Apply Bundle Changes   (APYBDLCHG)
 45. Display Production Specifications

Indexing Selections:
 51. Start Index Manager    (STRIDXMGR)
 52. End Index Manager      (ENDIDXMGR)
 53. Apply Index Changes    (APYIXSCHG)
 54. Display Production Specifications

Purge Selections:
 61. Online Database        (PUROLE)
 62. Archive Catalog        (PURARCCAT)
 63. Optical Catalog        (PUROPTCAT)
 64. SpoolOrganizer Log     (PURSOLOG)
                                More...

Selection: _____ F3=Exit F6=Messages F10=Command Entry
(C) Copyright 1989, 1997 - Broderick Data Systems
```

All options available perform various operations tasks. The user must be defined to SpoolOrganizer as an Operator or Security Officer. The commands executed by the corresponding menu options are in parentheses. Commands can be placed in CL programs or submitted to batch.

The options have the following definitions:

Monitor Selections

1. Start a Monitor

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Starts the Monitor task. For more information, refer to Chapter 15, "Monitor Selections".

2. End a Monitor

Ends the Monitor Task. For more information, refer to Chapter 15, "Monitor Selections".

3. Display Monitor Status

Displays the current status of defined Monitors. Various options and function keys are provided to allow the user to dynamically change the current status of the selected Monitor(s). For more information, refer to Chapter 15, "Monitor Selections".

Archive Selections

11. Outq to Tape

Allows the operator to extract spool entries from an outq and write the entries to tape or an ARCFILE. Archived spool entries can be optionally written to the Archive Catalog. For more information, refer to Chapter 16, "Archive Outq to Tape/Optical" and Chapter 17, "Archive Online Database to Tape/Optical".

12. Outq to Optical

Allows the operator to extract Spool Entries from an outq and write the entries to an Optical Disk or ARCFILE. Archived Spool Entries can be optionally be written to the Optical Catalog. For more information, refer to Chapter 16, "Archive Outq to Tape/Optical" and Chapter 17, "Archive Online Database to Tape/Optical".

13. Online Database to Tape

Allows the operator to extract spool entries from the Online Database and write the entries to tape or an ARCFILE. Archived spool entries can be optionally deleted and/or written to the Archive Catalog. For more information, refer to Chapter 17, "Archive Online Database to Tape/Optical".

14. Online Database to Optical

Allows the operator to extract Spool Entries from the Online Database and write the entries to an Optical Disk or an ARCFILE. Archived Spool Entries can be optionally deleted and or written to the Optical Catalog. For more information, refer to Chapter 17, "Archive Online Database to Tape/Optical".

15. ARCFILE to Tape

Allows the operator to move the contents of an ARCFILE to Tape. An ARCFILE is a file on disk that is supported by the ARCOLE command. For more information, refer to Chapter 17, "Archive Online Database to Tape/Optical".

16. ARCFILE to Optical

Allows the Operator to move the contents of an ARCFILE to an Optical Disk. An ARCFILE is a file on disk that is supported by the OPTOLE command. For more information, refer to Chapter 17, "Archive Online Database to Tape/Optical".

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Display Archive Media Selections

21. Tape/ARCFILE Entries

Allows the operator to display the spool entries archived on a Tape or an ARCFILE via the ARCOLE or ARCOUQ commands. The operator can select options to display the spool entry data, print the spool entry, move it back to the Online Database, or display its attributes. For more information, refer to Chapter 18, "Display/Restore Archive Media Selections".

22. Optical Entries

Allows the operator to display the spool entries archived on an Optical Disk via the OPTOLE or OPTOUTQ commands. The operator can select options to display the spool entry data, print the spool entry, move it back to the Online Database, or display its attributes. For more information, refer to Chapter 18, "Display/Restore Archive Media Selections".

Report Distribution (Bundling) Selections

41. Set Active Classes

Allows the operator to specify the Active Classes that control which Bundle/Bundle Entry(s) are processed by the Bundle Manager. For more information, refer to Chapter 20, "Control the Bundle Manager".

Note: If an update operation is planned, the Bundle Manager and all Monitors that perform bundling functions cannot be active when this option/command is executed.

42. Start Bundle Manager

Allows the operator to start the Bundle Manager. For more information, refer to Chapter 20, "Control the Bundle Manager".

43. End Bundle Manager

Allows the operator to end the Bundle Manager. For more information, refer to Chapter 20, "Control the Bundle Manager".

44. Apply Bundle Changes

Applies the Administrative copy of the Bundle Specifications to the Production copy. The Administrative copy is maintained by using option 12, from the Define System Menu. The Bundle Manager uses the Production copy. For more information, refer to Chapter 20, "Control the Bundle Manager".

45. Display Production Specifications

Displays the Production copy of the Bundle Specifications. For more information, refer to Chapter 20, "Control the Bundle Manager".

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Indexing Selections

51. Start Index Manager

Allows the operator to start the Index Manager. For more information, refer to Chapter 21, "Control the Index Manager".

52. End Index Manager

Allows the operator to end the Index Manager. For more information, refer to Chapter 21, "Control the Index Manager".

53. Apply Index Changes

Applies the Administrative copy of the Index Specifications to the Production copy. The Administrative copy is maintained by using option 13, from the Define System Menu. The Index Manager uses the production copy. For more information, refer to Chapter 21, "Control the Index Manager".

54. Display Production Specifications

Displays the Production copy of the Index Specifications. For more information, refer to Chapter 21, "Control the Index Manager".

Purge Selections

61. Online Database

Allows the operator to delete spool entries from the Online Database. For more information, refer to Chapter 19, "Purge Selections".

62. Archive Catalog

Allows the operator to delete entries from the Archive Catalog. The Archive Catalog contains an entry for each spool entry archived to tape (and designated to be tracked in the Archive Catalog) using the ARCOLE or ARCOUQ commands. For more information, refer to Chapter 19, "Purge Selections".

63. Optical Catalog

Allows the operator to delete entries from the Optical Catalog. The Optical Catalog contains an entry for each spool entry archived to Optical Disk (and designated to be tracked in the Optical Catalog) using the OPTOLE and OPTOUTQ command. For more information, refer to Chapter 19, "Purge Selections".

64. SpoolOrganizer Log

Allow the operator to remove selected records from the SpoolOrganizer/400 Log. Purged records are dependent upon the parameters specified for the command. For further information, refer to Chapter 19, "Purge Selections".

ADMINISTRATION

By pressing the Page Down key, the following screen will be displayed:

```
SpoolOrganizer/400 (TM)          9/30/97    15:07:01
Control System Execution Menu    04 01 0000 QSECOFR

Restore Archive Media Selections:
31. Tape/ARCFILE Entries      (RSTARCE)
32. Tape/Archive to OLDB      (RSTOLDB)

Miscellaneous Selections:
71. Create Microfiche Tape      (FCHOUTQ)
72. Verify Online Database      (VEROLE)
73. Display SpoolOrganizer/400 Log (DSPSOLOG)

E-Mail and E-Commerce Selections:
81. Purge Sent E-Mail Messages  (PURSNTML)
82. Move Outq to IFS Directory   (DIROUTQ)
83. Move Sple to IFS Directory   (DIRSPLE)

90. Sign off

Bottom

Selection: _____ F3=Exit F6=Messages F10=Command Entry
(C) Copyright 1989, 1997 - Broderick Data Systems
```

Restore Archive Media Selections

31. Tape/ARCFILE Entries

Allows the operator to restore spool entries archived to tape or an ARCFILE. Restored spool entries are dependent upon the parameters specified for the command. For more information, refer to Chapter 18, "Display/Restore Archive Media Selections".

32. Tape/ARCFILE to OLDB

Allows the operator to move spool entries archived to tape or an ARCFILE to the Online Database. For more information, refer to Chapter 18, "Display/Restore Archive Media Selections".

Miscellaneous Selections

71. Create Microfiche Tape

Allows the operator to write each spool entry contained in an outq to tape. The files written to tape can be read by a microfiche company. For more information, refer to Chapter 22, "Creating a Microfiche

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Tape".

72. Verify Online Database

Allows the operator to check the internal files that make up the Online Database and Bundles. The operator can check only, or check and correct data. For more information, refer to Chapter 23, "Verify Online Database".

73. Display SpoolOrganizer/400 Log

Allows the operator to display selected records in the SpoolOrganizer/400 Log. For further information refer to Chapter 30, "Display SpoolOrganizer Log".

E-Mail and E-Commerce Selections

81. Purge Sent E-Mail Messages

Allows the operator to remove sent messages from the Sent E-Mail Log. The operator can specify from/to dates, and to clear all or just expired entries. For more information, refer to Chapter 34, "Display/Purge the Sent Mail Log".

82. Move Outq to IFS Directory

Executes the **DIROUTQ** command, which moves the contents of one or more outq into an IFS directory. Internet users can access the directory. Formats supported are text, HTML, Adobe PDF, MS Excel and CSV. For more information, refer to Chapter 38, "IFS Directory Commands".

83. Move Sple to IFS Directory

Executes the **DIRSPLE** command, which moves a single spool entry into an IFS directory. Internet users can access the directory. Formats supported are text, HTML, Adobe PDF, MS Excel and CSV. For more information, refer to Chapter 38, "IFS Directory Commands".

90. Sign off

Issues the IBM SIGNOFF command.

End User Functions

ADMINISTRATION

SpoolOrganizer/400 (TM)	9/30/97	14:42:14
User Main Menu	04 01 0000	QSECOFR
1. Display Online Spool Entries	(DSPOLE)	
2. Search Spool Entries for Text		
3. Print Spool Entries	(PRTOLE)	
4. Work with Active Bundles	(WRKACTBDL)	
5. Display Index Entries	(DSPIDX)	
6. Display Sent E-Mail Log	(DSPSNTML)	
7. E-Mail a spool entry	(EMLSPLE)	
90. Sign off		
Selection: _____ F3=Exit F6=Messages		
(C) Copyright 1989, 1997 - Broderick Data Systems		

Options 1 thru 7 perform tasks that end users will want to perform. The user must be defined to SpoolOrganizer to execute a task.

The above options have the following definitions:

1. Display Online Spool Entries

Allows the user to search the Online Database, Archive Catalog and Optical Catalog for spool entries. If authorized the user can display, print, change, and/or delete entries. For more information, refer to Chapter 24, "Search for Spool Entries".

2. Search Spool Entries for Text

Allows the user to search spool entries in the Online Database, Archive Catalog and Optical Catalog for a text String. A report is generated showing all occurrences of the search string in the searched spool entries. For more information, refer to Chapter 25, "Search Spool Entries for Text".

3. Print Spool Entries

Allows the user to print a group of spool entries in the Online Database. For more information, refer to Chapter 26, "Print Spool Entries".

4. Work with Active Bundles

Allows the user to display Bundles. For more information, refer to Chapter 27, "Work with Active Bundles".

5. Display Index Entries

Allow the user to query Indexes. For more information, refer to Chapter 28, "Display Index Entries".

6. Display Sent E-Mail Log

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Allows the operator to search and display sent messages in the Sent E-Mail Log. The operator can specify from/to dates, and other attributes of the message to narrow down the search. Once located, the message can be displayed, resent, or deleted. For more information, refer to Chapter 34, "Display/Purge the Sent Mail Log".

7. E-Mail a spool entry

Allows the user to send spool entries via E-Mail to Internet users. For example a report can be sent to jim@aol.com. For more information, refer to Chapter 35, "E-Mail a Spool Entry".

90. Signoff

Issues the IBM SIGNOFF command.

DEFINE USERS

A User must be defined to SpoolOrganizer before it can perform any of its functions. A special User ID, ***PUBLIC** can be defined to allow users not explicitly defined to use SpoolOrganizer.

Press **F6** to enter new users. Enter the user profile of the user to create and press **ENTER**. The following screen will appear:

```
SpoolOrganizer/400                                10/20/94
Define Users                                       15:06:31

User ID: _____

Read Security Table: _____
                    _____
                    _____

Change Security Table: _____
                    _____
                    _____

User Class: _____

Text: _____

F3=Exit  F12=Cancel Current Operation

COPR 1989 BRODERICK DATA SYSTEMS
```

User ID

Specify the User Profile of the user being defined.

***PUBLIC:** Specifies a default authority to use for all IBM user profiles, including user profiles not defined to SpoolOrganizer. If the user is defined to SpoolOrganizer, the user will have all authorities defined to ***PUBLIC** in addition to the authorities defined to it. Authorities include read/change tables and user class, defined below.

Read Security Table

Specifies the security access codes which the user will be allowed to display or print. Specify up to 25 codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means the user can display all spool entries.

Change Security Table

Specifies the security access codes which the user will be allowed to change. Specify up to 25 codes, each

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can be generic. For example A* will match A, AX, AXX, etc. A value of * means the user can change all spool entries.

NOTE: If a User has change authority, the user also has read authority to a given spool entry.

User Class

Specify the type of user:

U: User. A User can access spool entries and global search for text.

O: Operator. An Operator has all User authority plus the ability to perform operational functions such as archiving spool entries.

S: Security Officer. A Security officer has all Operator authority plus the ability to administer SpoolOrganizer.

Text

Specify up to 30 characters of descriptive text.

DEFINE MONITORS

A Monitor is a task that processes available spool entries automatically as they appear in a specified outq. The user must define (and start) a Monitor if any of the following functions are desired:

- + **Delete, Hold, or Move certain spool entries to an outq**
- + **Place spool entries into the Online Database**
- + **Copy spool entries to multiple outq's**
- + **Report Distribution (Bundling)**
- + **Indexing**
- + **Send via E-mail to internet users**

When started, the Monitor will remain in a wait state until a spool entry appears in the outq with a ready status. OS/400 will activate the Monitor automatically. While in a wait status the Monitor consumes no resources (CPU, etc.). The Monitor will process all ready spool entries, then return to a dataq wait state.

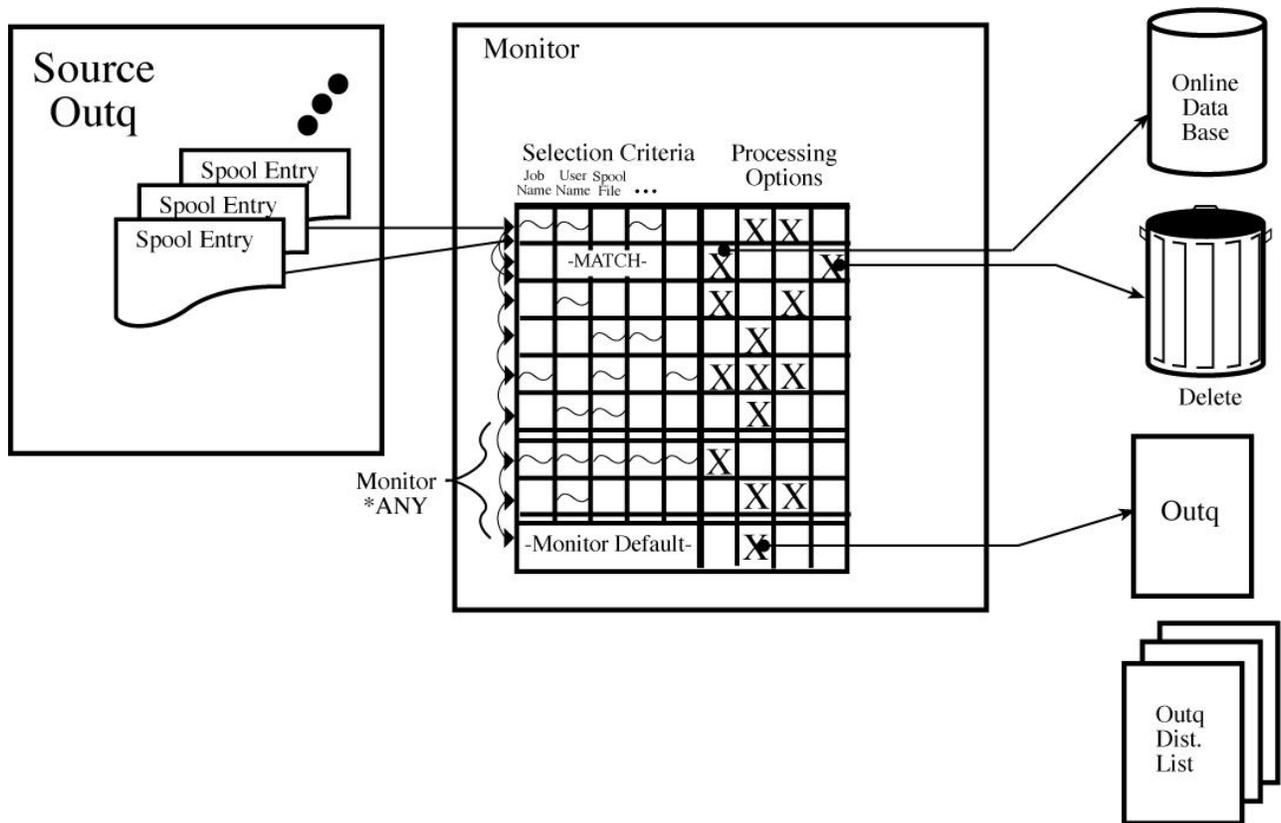


Figure 5-1: Monitor using Selection Specs

At startup the Monitor loads all Selection Specs with its name into tables in memory. Then all Selection specs with name *ANY are loaded. Each selection Spec has two parts, the "Selection Criteria" part and the "Processing Options" part. For more information, refer to Chapter 6, "Define Selection Criteria". The Monitor then loads all Bundling and Indexing specifications defined for it. For more information, refer to Chapter 13, "Define Bundle Specifications" and Chapter 14, "Define Index Specifications".

When a ready spool entry appears in the outq being monitored, the Monitor compares the spool entry's

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attributes with each selection spec looking for a match. **Please note: that only non-blank selection criteria fields are used for compare purposes.** If a match is found, the corresponding processing options are performed. If no selection specs match, the Monitor's default processing options are performed.

The Monitor then compares the spool entry to each Bundle spec it loaded looking for matches. If matches are found the Monitor sends requests to the Bundle Manager to process the spool entries into Bundles. The Monitor also processes any Index specs it loaded in a similar fashion.

Typically the outq being monitored is the outq started to the printer before installing SpoolOrganizer. See figure 1-2 for a before and after example. The printer should now be started to a new outq, and the Monitor should move entries that the administrator still wants printed to this new outq. If this is done no end user applications should need to be changed.

Please note: that because the end user can display the spool entries in the Online database, and is now able to print all or part of the spool entry after viewing it, the administrator may not want all spool entries to be printed any more. Also note that if Bundling is defined, the administrator may not want the spool entry to print for similar reasons. The administrator can delete these spool entries. The Selection Specifications described above allow the Monitor to process various spool entries differently.

Select **F6** to add a new Monitor. Enter the name of the Monitor to create and press **ENTER**. The following screen should appear:

DEFINE MONITORS

```
SpoolOrganizer/400          ADD          5/06/96
                          Define Monitors          10:16:46

Monitor: TEST1

  From Outq/Library: _____ (Name, F4=Prompt)
  Perform Logging:   *NO          (*YES *NO)
  Process Held Entries: *NO          Delay: 30
  Status: *ACTIVE          (*ACTIVE, *INACTIVE)
  Descriptive Text: _____

                          Default Processing Options

  To Outq: _____ (Name, *DLT, *HLD, F4=Prompt)
  Library: _____ (Name, F4=Prompt)
  Outq Dist List: *NONE          (*NONE, Name, F4=Prompt)
  E-Mail Spec: *NONE          (*NONE, Name, F4=Prompt)
  Online Database Period: _____ Value: 0
  Arc/Opt Catalog Period: _____ Value: 0
  Read Security Table: _____
  Change Security Table: _____
  User Remark: _____

  Banner Page Specifications: *NONE          Attribute Change Specs: *NONE
  Log Spool Entry Operations: *NO          *ALL *YES *NO *NONE
  Disassemble Data (Y/N): N
  User Exit Pgms: 1) *NONE 2: *NONE 3: *NONE 4: *NONE

F3=Exit  F12=Cancel Current Operation

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```

The above parameters have the following definitions:

From Outq

Specifies the outq to Monitor for available spool entries. Specify a two-part name (outq and library).

Perform Logging

Specifies if this Monitor will log its functions to the SpoolOrganizer Log. This option is ignored unless the **LOG MONITORS** parameter is ***SELECT** on the "Tailoring Options" screen. For more information on SpoolOrganizer Logging including the events logged and options, refer to Chapter 29, "Display SpoolOrganizer Log".

***NO:** The Monitor will not log its operations to the SpoolOrganizer Log.

***YES:** The Monitor will log its operations to the SpoolOrganizer Log.

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Process Held Entries

Specifies if the Monitor will process entries in a held status.

***NO:** The Monitor will not process entries on hold.

***YES:** The Monitor will process held entries as well as ready entries. The Monitor will periodically wake up and sample the source outq to determine if any held entries are present. See "Delay" below.

Note: Monitors can process spool entries in a save status along with held entries. See "Tailoring Options", Process SAV for more information.

Delay

Specifies, for Monitors with Process Held Entries, the amount of time in seconds the Monitor will delay before resampling the source outq. Monitors will not be notified by OS/400 when a held entry is placed in the outq. Therefore the Monitors must periodically sample the outq. Once a Monitor detects an eligible spool entry in the outq, it will process all eligible spool entries in the outq before delaying.

Note: Spool entries with formtype "**BDSHOLD**" will not be processed by Monitors. Monitors that are processing held entries, and are instructed to hold the entry, will change the entry's formtype to **BDSHOLD**.

Status

Specifies if the Monitor will be started when **MON(*ALLACT)** is specified on the **STRSOMON** command. This option is intended to allow operations to start all production Monitors with one command, and to allow the administrator to create other Monitors that are not to be started.

***ACTIVE:** The Monitor will be started.

***INACTIVE:** The Monitor will not be started.

Descriptive Text

Specify up to 30 characters of text that describes the Monitor.

Default Processing Options

The following options are performed if no selection criteria specified for the Monitor match the spool entry's attributes.

To Outq

Specifies the outq (if any) the Monitor is to place the spool entry into after processing it.

***DLT:** Specifies that the Monitor is to delete the spool entry after performing all other processing options.

DEFINE MONITORS

***HOLD:** Specifies that the Monitor is to hold the spool entry after performing all other processing options.

Outq Dist List

Specifies the name of an Outq Distribution List. Each outq contained in the Outq Distribution List will also receive a copy of the spool entry. Each copy is a "new" spool entry independent of the original; the user can delete, change, etc. any copy without affecting the other copies.

E-Mail Spec

Specifies the name of an E-Mail Specification, which describes how the spool entry will be sent via E-Mail to Internet users. The E-Mail message is in addition to the to outq and outq distribution list processing. For more information, see Section V, "E-Mail".

Online Database Period and Value

Specifies how long (if at all) the spool entry is to be kept active in the Online Database. Specify the following Period types:

BLANK: Do not place the spool entry into the Online Database.

ND: Number of days. Specifies the number of days from the date the spool entry entered the SpoolOrganizer Online Database the spool entry will be active.

NM: Number of Months. Specifies that the value given is the number of months. For example; if NM 3 is specified and a spool entry is processed on June 14th, it will expire on September 14th.

NY: Number of Years. Specifies the number of years the spool entry will be active in the Online Database.

DT: Date. Specifies the last day the spool entry is active. The specified value must be in the format YYYYMMDD.

ME: Month End. Specifies the last day of the month is the last day the spool entry will be considered active.

QE: Quarter End. Specifies the last day of the current quarter will be the last day the spool entry will be considered active.

YE: Year End. Specifies the last day of the year is the last day the spool entry is active.

Note: An expired spool entry will not be removed from the Online Database until an archive or purge is performed which selects it.

Archive/Optical Catalog Period and Value

Specifies the amount of time (if any) the spool entry is tracked in the Archive/Optical Catalog. The user can search the Archive/Optical Catalog to easily locate the volume the desired spool entry resides. Please note

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the spool entry's data is not online at this time. SpoolOrganizer calculates the expiration date based on the day the spool entry was placed into the Online Database.

Read Security Table

Specifies the security access codes that a user must have to display or print the spool entry. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can display the spool entry.

Change Security Table

Specifies the access codes a user must have to change a spool entry's attributes. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can change the spool entry.

User Remark

Specifies up to 30 characters of text that will be attached to the spool entry's attributes when placed into the Online Database. The purpose of the user remark field is to allow users to group spool entries with no common characteristics together for later reference. Users will be able to use the User Remark field as search criteria to display, archive, and globally search spool entries.

Banner Page Specifications

Specifies the name of the Banner Page Specifications to use to place Banner Pages around the spool entries moved to the To Outq field. For more information, refer to Chapter 10, "Define Banner Page Specifications"

***NONE:** No Banner Pages are produced.

Attribute Change Specifications

Specifies the name of the Attribute Change Specification to use to change certain spool entry attributes before moving the spool entry to the To Outq. For more information, refer to Chapter 11, "Define Attribute Change Specifications".

***NONE:** No attribute changes will be made.

Log Spool Entry Operations

Specifies, if logging is active, which spool entries will be logged. See the "Perform Logging" parameter above for more information concerning logging.

***NO:** Spool entries which the Monitor performs its default processing options on will not be logged. (Spool entries that are processed via a Selection Spec will use the Selection Spec's Log parameter to determine if they will be logged.)

***YES:** Spool entries which the Monitor performs its default processing options on will be logged. (Spool entries that are processed via a Selection Spec will use the Selection Spec's Log parameter to determine if they will be logged.)

DEFINE MONITORS

***ALL:** All spool entries processed by the Monitor will be logged, regardless of the Log values on the Selection Specs.

***NONE:** No Spool entries processed by the Monitor will be logged, regardless of the Log values on the Selection Specs.

Disassemble Data

Specifies if the Monitor will store the spool entry's data segments in a SpoolOrganizer format in addition to the IBM internal format when placing the spool entry into the Online Database, Archive Tapes, or Optical disk. Once disassembled, the spool entry can be processed much more quickly by other SpoolOrganizer functions:

- + Spool entry Display
- + Bundling, Partial Print
- + Indexing

For more information concerning Indexing, refer to Chapter 14, "Define Index Specifications".

N: Do not disassemble the spool entry data into SpoolOrganizer's format.

Y: Disassemble spool entry data into SpoolOrganizer's format.

Notes:

- 1) Disassembling a spool entry approximately doubles the amount of space needed to store the spool entry. Disassembling the spool entry greatly increases the amount of Monitor processing time for the spool entry. Care should be taken when deciding which spool entries to disassemble.
- 2) If the Monitor determines the spool entry needs to be processed by the Index Manager, the spool entry will be disassembled.

User Exit Programs

Specifies the name of the program the Monitor will call at certain times during execution. For more information, refer to Appendix A, "User Exit Programs".

***NONE:** No user written exit program will be called.

Damaged Data Queues

When the administrator creates a Monitor, a data queue and data area with the same name is created in library **BDSDATA**. OS/400 can damage data queues if it halts abruptly, for example during a power failure. If a Monitor's data queue or data area is damaged, the administrator can recreate it by deleting the data queue or area, and then issuing a change operation (option 2) on the Monitor. No fields need to be actually

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changed. SpoolOrganizer will create a data queue or data area if either does not exist.

Note: The administrator can also delete then restore the damaged/missing objects from a backup.

To recreate SpoolOrganizer data queues not associated with a monitor, refer to Appendix G, “Other Functions”.

DEFINE SELECTION SPECIFICATIONS

Selection Specifications are used by Monitors to selectively process spool entries arriving into an outq. For more information regarding how monitors use selection criteria, refer to Chapter 5, "Define Monitors".

Note: To improve performance and ease administration, a "Display Specifications" screen is provided to allow the user to limit the number of specifications displayed during the session. The user can specify a starting and ending range of Selection Criteria. These values can be changed by pressing F5 while displaying the list of Selection Specifications.

To add selection criteria press F6. Enter the following:

Monitor Name

Specifies the monitor that will use the selection criteria.

***ANY:** All monitors will use the specifications.

ID

This field is not used by SpoolOrganizer, but can be used by the user to group selection specifications. ID can be left blank.

Sequence Number

Specify a number used to sort the specifications. Please note that the sequence number is sorted within ID.

For example if a Monitor XYZ will have 5 selection specs, the user can number them XYZ 100, XYZ 200, etc. Monitor XYZ will load into memory in ascending Sequence Number order all XYZ selection specs when it is started.

Note: Monitor/ID/Sequence number must be unique.

Press **ENTER**. The following screen will appear:

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Monitor: TEST	SpoolOrganizer/400	DISPLAY	5/7/96
ID/Seq: 0000100	Define Selection Criteria		7:33:55
Selection Criteria			
Job Name: _____	Job User: _____		
Spool File Name: _____	Spool File Number: _____		
Form ID: _____	Group Profile: _____		
Spool User Data: _____	Minimum Pages: _____		
Descriptive Text: _____			
Processing Options			
To Outq: _____	(Name, *DLT, *HLD, F4=Prompt)		
Library: _____	(Name, F4=Prompt)		
Outq Dist List: <u>*NONE</u>	(*NONE, Name, F4=Prompt)		
E-Mail Spec: <u>*NONE</u>	(*NONE, Name, F4=Prompt)		
Online Database Period: _____	Value: _____		
Arc/Opt Catalog Period: _____	Value: _____		
Read Security Table: _____	_____	_____	_____
Change Security Table: _____	_____	_____	_____
User Remark: _____	_____	_____	_____
Banner Page Specs Name: <u>*NONE</u>	(*NONE, Name, F4=Prompt)		
Attribute Change Specs Name: <u>*NONE</u>	(*NONE, Name, F4=Prompt)		
Log Spool Entry Ops: <u>*NO</u>	Disassemble Data <u>*NO</u>	(*YES *NO)	
F3=Exit F12=Cancel Current Operation			
(C) Copyright 1989, 1996 Broderick Data Systems			

Selection Criteria

Enter Selection Criteria to describe the spool entries that are to be processed. At least one of the selection fields must be specified. The Monitor will use each non-blank field as a comparison. The spool entry is considered a match if all non-blank fields match their corresponding spool entry attributes.

Generic comparisons are supported. If the last character is a * the field is considered a generic field. For example QP* will match QPJOBLOG, etc. but *STD will only match *STD.

Descriptive Text

Specify up to 30 characters of text that describes the Monitor.

DEFINE SELECTION SPECIFICATIONS

Processing Options

The following options are performed if the spool entry matches the selection criteria specified above.

To Outq

Specifies the outq (if any) the monitor is to place the spool entry into after processing it.

***DLT:** Specifies that the monitor is to delete the spool entry after performing all other processing options.

***HOLD:** Specifies that the monitor is to hold the spool entry after performing all other processing options.

Outq Dist List

Specifies the name of an Outq Distribution List. Each outq contained in the Outq Distribution List will also receive a copy of the spool entry. Each copy is a "new" spool entry independent of the original; the user can delete, change, etc. any copy without affecting the other copies.

E-Mail Spec

Specifies the name of an E-Mail Specification, which describes how the spool entry will be sent via E-Mail to Internet users. The E-Mail message is in addition to the to outq and outq distribution list processing. For more information, see Section V, "E-Mail".

Online Database Period and Value

Specifies how long (if at all) the spool entry is to be kept active in the Online Database. Specify the following Period types:

BLANK: Do not place the spool entry into the Online Database.

ND: Number of days. Specifies the number of days from the date the spool entry entered the SpoolOrganizer Online Database the spool entry will be active.

NM: Number of Months. Specifies that the value given is the number of months. For example, if NM 3 is specified and a spool entry is processed on June 14th, it will expire on September 14th.

NY: Number of Years. Specifies the number of years the spool entry will be active in the Online Database.

DT: Date. Specifies the last day the spool entry is active. The specified value must be in the format YYYYMMDD.

ME: Month End. Specifies the last day of the month is the last day the spool entry will be considered active.

QE: Quarter End. Specifies the last day of the current quarter will be the last day the spool entry will be

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considered active.

YE: Year End. Specifies the last day of the year is the last day the spool entry is active.

Note: An expired spool entry will not be removed from the Online Database until an archive or purge is performed which selects it.

Archive/Optical Catalog Period and Value

Specifies the amount of time (if any) the spool entry is tracked in the Archive Optical Catalog. The user can search the Archive/Optical Catalog to easily locate the volume the desired spool entry resides. Please note the spool entry's data is not online at this time. SpoolOrganizer calculates the expiration date based on the day the spool entry was placed into the Online Database.

Read Security Table

Specifies the security access codes that a user must have to display or print the spool entry. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can display the spool entry.

Change Security Table

Specifies the access codes a user must have to change a spool entry's attributes. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can change the spool entry.

User Remark

Specifies up to 30 characters of text that will be attached to the spool entry's attributes when placed into the Online Database. The purpose of the user remark field is to allow users to group spool entries with no common characteristics together for later reference. Users will be able to use the User Remark field as search criteria to display, archive, and globally search spool entries.

Banner Page Specifications

Specifies the name of the Banner Page Specifications to use to place Banner Pages around the spool entries moved to the To Outq field. For more information, refer to Chapter 10, "Define Banner Page Specifications".

***NONE:** No Banner Pages will be produced.

Attribute Change Specifications

Specifies the name of the Attribute Change Specification to use to change certain spool entry attributes before moving the spool entry to the To Outq. For more information, refer to Chapter 11, "Define Attribute Change Specifications".

***NONE:** No attribute changes will be performed to the spool entry.

Log Spool Entry Operations

Specifies, if logging is active, if the spool entry processed by this Selection Spec will be logged. This

DEFINE SELECTION SPECIFICATIONS

parameter is ignored if logging is not active, or the Monitor specifies *ALL or *NONE on its "Log Spool Entry Operations" parameter. For more information, refer to Chapter 9, "Define Tailoring Options".

***NO:** The spool entry will not be logged.

***YES:** The Spool entry will be logged.

Disassemble Data

Specifies if the Monitor will store the spool entry's data segments in a SpoolOrganizer format in addition to the IBM internal format when placing the spool entry into the Online Database, Archive Tapes, or Optical disk. Once disassembled, the spool entry can be processed much more quickly by other SpoolOrganizer functions:

- + Spool entry Display
- + Bundling, Partial Print
- + Indexing

For more information concerning Indexing, refer to Chapter 14, "Define Index Specifications".

***NO:** Do not disassemble the spool entry data into SpoolOrganizer's format.

***YES:** Disassemble spool entry data into SpoolOrganizer's format.

Notes:

- 1) Disassembling a spool entry approximately doubles the amount of space needed to store the spool entry. Disassembling the spool entry greatly increases the amount of Monitor processing time for the spool entry. Care should be taken when deciding which spool entries to disassemble.
- 2) If the Monitor determines the spool entry needs to be processed by the Index Manager, the spool entry will be disassembled.

Testing Selection Specifications

The CHKSELSPC command allows the administrator to determine which selection specification within a Monitor is processing the spool entry. The command can be executed from an OS/400 command line, or by taking Option 4 - "Check Selection Specifications" from the Define System Menu. The following screen will appear:

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```
Check Selection Specifications (CHKSELSPEC)

Type choices, press Enter.

Monitor Name . . . . . _____ Name
Spooled File . . . . . _____ Name
Spooled File Number . . . . . *ONLY 1-9999, *ONLY, *LAST
Job Name . . . . . * Name, *
  User . . . . . _____ Name
  Number . . . . . _____ 000000-999999
Job system name . . . . . *ONLY Name, *ONLY, *CURRENT, *ANY
Spooled file created:
  Creation date . . . . . *ONLY Date, *ONLY, *LAST
  Creation time . . . . . _____ Time, *ONLY, *LAST
OutQ to Receive Analysis . . . . . *JOB Name, *JOB
  Library . . . . . _____ Name, *LIBL

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More eys
```

The CHKSELSPEC command has the following parameters:

Monitor Name (MONITOR) Parameter

Specifies the name of the Monitor that is to Monitor the output queue where the spool entry is to arrive. The name specified must conform to OS/400 TYPE(*NAME) conventions and must have been previously defined. This is a required parameter.

Spooled File (SPLFILE) Parameter

Specifies the name of the Spooled File that is to have its attributes compared to Selection Criteria of defined Selection Specifications. The name specified must conform to OS/400 TYPE(*NAME) conventions and must exist. This is a required parameter.

Spooled File Number (SPLNUM) Parameter

Specifies the Spooled File Number associated with the specified Spooled File name. One of the following values is required:

***ONLY:** Specifies that only one spooled file from the specified job has the specified Spooled File name.

***LAST:** Specifies that the highest-numbered spooled file from the specified job and Spooled File name is to be used.

DEFINE SELECTION SPECIFICATIONS

spooled-file-number: Specify a spooled file number from 1 to 9999, inclusive, associated with the specified job and Spool File name.

Job Name (JOB) Parameter

Specifies the three-part job name associated with the job that created the specified Spooled File/Number. One of the following values is required:

*****: Specifies that the job that created the specified Spooled File/Number is the job where this command is run.

job-name: Specify the name of the job that created the specified Spooled File/Number. If this is the only portion of the Job parameter that is specified, the entire system will be searched. If duplicates exist, the command will end in error.

User-name: Specify the name of the user profile under which the job that created the associated Spooled File/Number was run.

job-number: Specify the job number assigned by the system at the time the job that created the associated Spooled File/Number was run.

Job system name (JOBSYSNAME) Parameter

Specifies the system where the job that created the spooled file (JOB parameter) ran. This parameter is considered after the job name, user name, job number, spooled file name, and spooled file number parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date and time.

***CURRENT:** The spooled file created on the current system with the specified job name, user name, job number, spooled file name, spooled file number, and create date and time is used.

***ANY:** The job system name is not used to determine which spooled file is used. Use this value when the spooledfile create date and time parameter is to take precedence over the job system name when selecting a spooled file.

system-name: Specify the name of the system where the job that created the spooled file ran.

Spooled file created (CRTDATE) Parameter

Specifies the date and time the spooled file was created. This parameter is considered after the job name, user name, job number, spooled file name, spooled file number, and job system name parameter

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requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date/time.

***LAST:** The spooled file with the latest create time of the specified job name, user name, job number, spooled file name, spooled file number, job system name, and spooled file create date is used.

date/time: Specify the date/time the spooled file was created.

Outq to Receive Analysis (OUTQ) Parameter

Specifies the name and library of the outq to receive the report (BSOCHKSPEC) generated by the CHKSELSPEC command. One of the following values is required:

***JOB:** Specifies that the outq and library to receive the report (BSOCHKSPEC) generated by the CHKSELSPEC command is to be retrieved from the current job attributes. If the OUTQ attribute of the current job specifies *DEV, the outq to receive the report will be associated with the PRTDEV attribute of the current job with the library specification of *LIBL. Otherwise, the outq to receive output will be associated with the OUTQ/OUTQLIB attributes of the current job.

output-queue-name: Specify the name of the output queue to receive the report (BSOCHKSPEC) generated by the CHKSELSPEC command.

The possible library values are:

blank: Valid only when *JOB is specified for the output queue name.

***LIBL:** The library list is used to locate the output queue.

library-name: Specify the library where the output queue is located.

DEFINE OUTQ DISTRIBUTION TABLE

An Outq Distribution List allows the user to send a spool entry to multiple outqs. To specify an outq distribution list enter the name of the list in the Outq Dist List field when defining Monitors or Selection Specifications. The Monitor will read all list entries that match the Distribution List Name, and place a copy of the spool entry in each list entry's outq. Certain attributes such as copies or form ID can be changed when the spool entry is copied.

Note: To improve performance and ease administration, a "Display Specifications" screen is provided to allow the user to limit the number of Outq List entries displayed during the session. The user can limit the display to:

- + Outq List Name
- + Starting/ending Sequence number range

These values can be changed by pressing **F5** while displaying the list of Selection Specifications.

Press **F6** to enter entries. The following screen will appear:

Spool Organizer/400		4/03/96
Define Outq Distribution List		9:00:58
List Name:	Sequence Number	00000001
To Outq:	_____	_____
Banner Page Specs Name:	_____	
Descriptive Text:	_____	
Attribute Changes		
Attribute Change Specs Name:	_____	
Copies:	_____	User Data: _____
Forms ID:	_____	Form Feed: _____
Hold:	_____	Save: _____
Align:	_____	Print Quality: _____
F3=Exit F12=Cancel Current Operation		
(C) Copyright 1989, 1996 Broderick Data Systems		

List Name

Specifies the Name that will be referred to by the Monitor or Selection Spec.

Sequence Number

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Orders the List entries.

Note: The List Name/Sequence Number must be unique.

To Outq

Specifies the outq the monitor is to place a copy of the spool entry into.

Banner Page Specifications

Specifies the name of the Banner Page Specifications to use to place Banner Pages around the spool entries moved to the To Outq field. For more information, refer to Chapter 10, "Define Banner Page Specifications".

***MONITOR:** The Name specified on the Monitor or Selection Spec is used.

***NONE:** No Banner Pages are produced.

Text

Specify Up to 30 characters of descriptive text.

Attribute Changes

Attribute Change Specifications

Specifies the name of the Attribute Change Specification to use to change certain spool entry attributes before moving the spool entry to the To Outq. For more information, refer to Chapter 11, "Define Attribute Change Specifications".

***NONE:** No attribute changes will be made.

Note: The Copies, User Data,... thru Duplex fields have been replaced with the "Attribute Change Specification" field, and are maintained for compatibility with pre-3.0 SpoolOrganizer installations. Support for Copies, User Data,... Duplex fields is planned to end with a future release of SpoolOrganizer. For this reason we recommend that the "Attribute Change Specifications" field is used.

Example: To send a spool entry to three outqs A B and C:

+ Decide on a name for the list (EXLIST)

+ Create three entries using the screen above:

<u>ListNm</u>	<u>Seq#</u>	<u>To Outq,lib</u>	<u>Text</u>
EXLIST	100	A QUSRSYS	text 1
EXLIST	200	B QUSRSYS	text 2
EXLIST	300	C QUSRSYS	text 3

DEFINE OUTQ DISTRIBUTION TABLE

+ Create (or change) the Monitor or Selection Spec, and specify on the Dist List Name field:
EXLIST.

+ End/Start the Monitor. The monitor will place a copy of each matching spool entry into outqs A, B,
and C.

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Specifies the spool database attribute to compare for the test. The following attributes and their numbers are valid:

- 1-Job Name
- 2-Job User
- 3-Spool File Name
- 4-Form ID
- 5-User Data
- 6-User Remark
- 7-Date (YYYYMMDD)
- 8-Job Number
- 9-Group Profile of Job User
- 10-Source Outq Name
- 11-Source Outq Library
- 12-Number of Pages

Please Note: Date is the date the job that created the spool entry entered the system.

Rel. (Relation)

Specifies the type of test to perform. The following types are valid:

- EQ Equal
- EQ Not equal
- GT Greater than
- NG Not Greater than
- LT Less than
- NL Not Less than
- LE Less than or equal to
- GE Greater than or equal to
- CT Contains (The value appears anywhere in the field)

Value

Specifies the value to test for.

* **(Job Date only):** Substitutes the job date of the workstation job performing the search.

***+nnnnnn (Job Date only):** Adds n days to the workstation's job date.

***-nnnnnn (Job Date only):** Subtracts n days from the workstation's job date.

***USRPRF (Job User only):** Substitutes the workstation's User Profile.

UC (Ignore upper/lower case differences)

Specifies if abc is equivalent to ABC, etc. Specify Y to ignore case differences, N to accept case differences. Blank defaults to Y.

DEFINE ARCHIVE/PURGE CRITERIA

Wild (Wild Card Char)

Wild Card Character Specifies if wild characters are present in the value. Wild characters can only be specified if the relation is EQ. Two types of Wild Characters are valid:

*****: Matches any number of characters. For example A*C will match AC, AXC, AXXC, etc.

_: Matches any one character. For example A_C will match AXC, ABC etc. but will not match AC, AXXC, etc.

More than one wild character can be specified. For example A*B_C*D_E is valid.

Name to Save or Restore

Specifies the Name to save the specifications under for further reference. The Name will be referred to in the **ARCID** parameter of the **ARCOLE**, **PUROLE**, **PURARCCAT**, **OPTOLE** and **PUROPTCAT** commands.

Text

Specify up to 30 characters of descriptive text.

Example: To keep all archived joblogs on the same tape, perform the following:

1) Enter the following on the screen shown above:

<u>Field</u>	<u>Rel</u>	<u>Value</u>
3 (Splf name)	EQ	QPJOBLOG

2) Save the specifications. The name to save is your choice. For example use **JOBLOGS**. Enter "Archive Job Logs" in the text field. Press **F9** to save.

3) Enter the archive Online Database spool entries command:

ARCOLE ARCID(JOBLOGS) DEV(xxxxxx)

The joblogs will be archived.

DEFINE TAILORING OPTIONS

This allows the Administrator to define system wide options and SpoolOrganizer Logging options. To access the Tailoring Options screen, select option 7 from the Define System Menu or enter the following command:

BRODERICK/BSOSETUP

The following screen will appear:

```

                                SpoolOrganizer/400      (TM)      5/17/12 10:41:07
                                Setup Display

System Statistics:
  Rel  Mod  PTF  System Name  CPU Serial  Model  Feat  Grp  LPAR
   05   06 1201  BDS400      102NF2M    F10   2159 P05  00001

Database File
Sizes (Megabytes):
  Online      CATALOGS          BUNDLE MANAGER      INDEX MANAGER
  Database  Archive  Optical  Headers  Partial Print  Index Headers
    27.34    0.01    0.02    0.00          0.00          1.18

Passwords:
  Permanent: F1F2F3F4F5F6F7F8  Temporary: FAFBFCFDFFEFF Hex Digits
  High Avail: F1F2F3F4F5F6F7F8

BDS Access Userid: _____ Password: _____
Disk Encr Key/IV: AXCG1RVX FGYRECCY

Output Options:
  Monitor Output      Align Movement      Process SAV
   5 (0=No chg, 1-9)  Y (Y,N)             Y (Y/N)
   5 (0=No chg, 1-9)  Y (Y,N)             Y (Y/N)

Issue Tape Mount Messages: Y (Y/N)  DIRxxxx default: *YES (*YES,*NO)
F3=Exit F10=Logging Options F11=Lgl Views F13=E-Mail Options F14=BDS SwSvr
  
```

The above parameters have the following definitions:

System Statistics

Rel, Mod and PTF

This is the Release, Modification and Priority Temporary Fix of SpoolOrganizer you have installed.

Note: When the update to SpoolOrganizer is done, it will update these fields. If you update SpoolOrganizer and these fields do not update, verify you have executed the update procedure in the

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SpoolOrganizer Update Instructions.

System Name

The system name assigned to the AS/400 computer running the SpoolOrganizer/400 software.

CPU Serial Number

The CPU serial number assigned to this AS/400 computer.

Model

The model number of this AS/400 computer.

Proc Feat (System Processor Feature Code)

Specifies the System Processor Feature Code, derived from the Processor Feature Code and the Interactive Feature Code.

Proc Grp (Processor Group)

The Processor Group of this AS/400 computer.

Database File Sizes

Shows the approximate disk space in Megabytes currently utilized by SpoolOrganizer/400 for its physical files.

The values are calculated by taking the record length of the internal files and multiplying by the number of records in the file. Deleted records are included in the calculations. (SpoolOrganizer will reuse deleted records at the next add operation). The administrator may wish to reorganize physical files in library **BDSDATA** if a large number of deleted records are present or suspected.

Passwords

Permanent and Temporary Passwords

Passwords are provided by Broderick Data Systems to allow access to SpoolOrganizer. Certain key functions test these passwords before executing. If the password tests fail, a message will appear on the **QSYSOPR** message queue and the function stops.

High Availability Password

If this machine is being replicated to a High Availability machine, specify the Permanent Password for the HA machine here. This will allow you to cut over to the HA machine without changing passwords. Note: You must purchase an HA license from Broderick Data Systems in order to receive an HA password.

BDS Access User ID and Password

DEFINE TAILORING OPTIONS

Specifies the user ID and password needed to access the BDS Software Server. Contact BDS Administration for your user ID and password.

Disk Encr Key/IV

Specifies the encryption Key and IV to use when writing spool entry data to disk. Spool Organizer optionally encrypts spool entry data segments when writing data to I-O devices during the following operations:

- Online Database
- Archives to Tapes, Optical Disks and ARCFILES
- Bundling
- Email Sent Mail Log

Spool Organizer uses the industry standard AES encryption. This insures that sensitive data contained spool entries is not stored in a clear format when residing on disk drives or backup units. Encryption requires more CPU processing and takes up slight more disk space. Specify one of the following:

***NONE:** Spool Data will not be encrypted.

Key, IV: Specify a Key and an IV, which combine to act as a password. Specify up to 16 characters.

Once changed, Monitors and the Bundle Manager and Index Manager must be restarted for the changes to take effect.

Note: Users will not need to know these passwords to access data. Changing the password will only affect new entries, it will not affect existing entries already written to disk/tape/etc.

Output Options

Monitor Priority

Specifies the output priority SpoolOrganizer tasks will assign to output moved to the target outq(s). This feature is required when Banner Pages are produced; otherwise Banner pages may be separated from the parent spool entry. **Note:** The priority in the Online Database is not changed regardless of the value in this field.

0: The monitor will not change the spool entry's original priority value.

1-9: The monitor will change all moved output to this priority.

Align Movement

Specifies that SpoolOrganizer tasks which move output to target outqs (see above) will synchronize the movement, insuring that output from SpoolOrganizer is not interspersed in the outq. Specify **Y** to align the output, **N** to not align the output.

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Warning: SpoolOrganizer/400 does not align output created by a user task that places the output directly into the Target outq. The user tasks should place the output into the Monitor source outq and allow the Monitor to move the output to the target outq.

Process SAV

Specifies, for Monitors that have the “Process Held Entries” attribute, if spool entries in the Save status (SAV) are also to be processed. . Specify **Y** to process spool entries in a SAV status, **N** to not process them.

Issue Tape Mount Messages

Specifies, for printing Archived entries on tape, if a Device Mount message is displayed to allow the operator to Mount the correct tape. Some tape management systems will find the correct tape for you, and the mount message is not needed. One of the following values is required:

Y: A Tape mount message will be issued.

N: No Tape mount message will be issued.

DIRxxxx default

Specifies, for the **DIRSPLE** and **DIROUTQ** commands, the value to substitute if CMBOVPRT(*DFT) is specified. Refer to Chapter 38, “IFS Directory Commands” for more information. Specify *YES or *NO.

Specify Logging Options

If **F10** is chosen, the screen showing SpoolOrganizer Logging options is displayed. SpoolOrganizer can optionally log many of its functions to the SpoolOrganizer Log. The log can be valuable to the Administrator in many situations. The history of certain spool entries can be tracked. Spool entry accounting data can be collected. Problem determination procedures can be greatly enhanced. The functions which can be logged are:

- Monitor operations**
- Archive/Purge operations**
- Bundle Manager operations**
- Indexing operations**
- User Change/Delete operations**

If logging is specified, the specified tasks send messages to job BSOLOGREQ running in subsystem BDS, which writes the requests to physical file BSOLOG in library BDSDATA. Each log entry is time stamped and the sender is recorded. The information contained in the log record depends on the type of event being logged. In general, the following information is logged:

- Date/time of the entry.
- Sender's Job Name, User, and Number.
- Operation being performed.

DEFINE TAILORING OPTIONS

Function issuing the request (Monitor, Bundle Mgr, etc.).
 The Bundle Entry Name or Monitor Selection Spec Used.
 The Spool Entry processed (Job/User/Num, File/Num).
 Misc Information depending on type of request.

SpoolOrganizer/400 (TM)			5/7/96	14:14:14	
Logging Options			04 00 0000		
	MONITORS	BUNDLE MGR.	INDEX MGR.		
Log Operations:	*SELECT	*SELECT	*SELECT	*ALL	*SELECT *NONE
Spool Entry Received:	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y N	
Attribute Changes:	<u>Y</u>	<u>Y</u>	-	Y N	
User operations:	<u>Y</u>	<u>Y</u>	-	Y N	
Online DB add:	<u>Y</u>	-	-	Y N	
To outq:	<u>Y</u>	-	-	Y N	
Distribution Lists:	<u>Y</u>	-	-	Y N	
Send to Bundle Mgr:	<u>Y</u>	-	-	Y N	
Send to Index Mgr:	<u>Y</u>	-	-	Y N	
Close/Prt/Dlt Bundles:	-	<u>Y</u>	-	Y N	
Add Bundles/Entries:	-	<u>Y</u>	-	Y N	

Other Logging Options					
	Archive/Purge Online DB:	*SELECT	*ALL	*SELECT	*NONE
	Archive/Optical Catalogs:	*SELECT	*ALL	*SELECT	*NONE
F3=Exit/Ignore <ENTER>=Exit/Accept					

The above parameters have the following definitions:

Logging Monitor Operations

Options allow the Administrator to specify which Monitors to log. If logging is active for a Monitor, the Administrator can specify which operations to log, and which spool entries to log.

Monitors Field

Specifies which Monitors will log their operations. Select one of the following:

***NONE:** No Monitors will log their operations to the SpoolOrganizer log.

***SELECT:** Only Monitors which specify *YES in their "Perform Logging" field will log their operations to the SpoolOrganizer Log. This option is recommended for normal operations if logging

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is desired.

***ALL:** All Monitors will log their operations. This operation is only recommended for problem determination situations.

If logging is specified for a Monitor, the following events will be logged:

- Monitor startup
- Monitor end
- Errors or warnings detected

In addition, the user may optionally log the following events by specifying a 'Y' next to the corresponding field.

Spool Entries Received

Each spool entry placed into the Source outq and processed by the Monitor will be logged.

Attribute Changes

Changes to spool entry attributes will be logged. Changes can be made by either specifying an Attribute Change Spec or by a User Exit Program.

User Operations

Changes and deletions performed by users on the DSPOLE (Display Online entries) option will be logged.

Online Database Add

Spool entries placed into the Online Database will be logged.

To Outq

The target outq in which the Monitor places the processed spool entry will be logged, including *HOLD and *DLT.

Distribution List

A log entry for each outq in a distribution list will be written.

Send to Bundle Manager

Spool Entries sent to the Bundle Manger for processing into Bundles can be logged.

Send to Index Manager

Spool Entries sent to the Index Manger for processing into Indexes can be logged.

If logging is active for a Monitor, the user can also specify which spool entries to log. Thus the Administrator can only log certain spool entries, managing the amount of data placed into the log. The "Log Spool Entry Operations" field, which specifies which spool entries to log, is contained on the Monitor description and on Selection Specifications for that Monitor. See Chapter 5, "Define Monitors"

DEFINE TAILORING OPTIONS

and Chapter 6, "Define Monitor Selection Criteria" for more information.

Logging Bundle Manager Operations

The Administrator can log operations performed by the Bundle Manager to the SpoolOrganizer Log. The Administrator can specify which Bundles to log, and which operations performed on the Bundle to log.

Log the Bundle Manager

Specifies which Bundles to log to the SpoolOrganizer Log. Select one of the following:

***NONE:** No logging will be performed.

***SELECT:** Only Bundles which have *YES specified in the "Log Operations" field will be logged. This option is recommended for normal operations if logging is desired.

***ALL:** All Bundles will be logged. This option is recommended only to perform problem determination.

If logging is active via *SELECT or *ALL being specified, the following events will be logged:

- Bundle Manager startup
- Bundle Manager end
- Previous Abend condition and recovery
- Resetting the input messages queue
- Warnings and errors detected

In addition, the user may optionally log the following events by specifying a 'Y' next to the corresponding field.

Spool Entry Received

A record of each spool entry received from Monitors is logged.

Attribute Changes

Changes to spool entry attributes are logged. Attributes can be changed via Attribute Change Specs or a User Exit program.

User Operations

Operations to Bundles performed by users using the WRKACTBDL command are logged. Operations logged include:

- Bundle or Bundle Entry delete
- Changes to Bundle descriptions
- Changes to Entry spool file attributes

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Bundle status changes (HOLD, READY, etc.)
Changes to Cutoff, Print, or Delete times

Note: Many operations performed to Bundles using the WRKACTBDL command are actually requests sent to the Bundle Manager. The SpoolOrganizer Log will show the request made by the user and the action performed by the Bundle Manager.

Close/Print/Delete Bundles

A record of close, print, and delete operations performed on Bundles is written to the log.

Add Bundles/Entries

The creation of New Bundles, and the addition of entries into the Bundles is logged.

Logging Index Manager Operations

The Administrator can log operations performed by the Index Manager to the SpoolOrganizer Log.

Log the Index Manager

Specifies which spool entries to log to the SpoolOrganizer Log. Select one of the following:

***NONE:** No logging will be performed.

***SELECT:** Only spool entries which have *YES specified in the "LogOperations" field will be logged. Please note that this field is specified on the Monitor or Selection Specs field. This option is recommended for normal operations if logging is desired.

***ALL:** All spool entries will be logged. This option is recommended only to perform problem determination.

If logging is active via *SELECT or *ALL being specified, the following events will be logged:

- Index Manager startup
- Index Manager end
- Previous Abend condition and recovery
- Resetting the input messages queue
- Warnings and errors detected

In addition, the user may optionally log the following events by specifying a 'Y' next to the corresponding field.

Spool Entry Received

A record of each spool entry received from Monitors is logged.

DEFINE TAILORING OPTIONS

Logging Archive and Purge Operations

The Administrator can log Archive and Purge operations performed on the Online Database and Archive Catalog. All spool entries archived/purged can be logged, or only selected spool entries.

Log Archive/Purge Online DB

Specifies if the following commands will be logged:

ARCOLE
PUROLE
ARCARCFDTA
DSPARCE (Move to OLDB only)

Select one of the following:

***NONE:** No spool entries will be logged.

***SELECT:** Spool entries which have *YES specified in their "Log Operations" field will be logged when they are archived or purged.

***ALL:** All Spool entries will be logged when they are archived or purged.

If logging is requested via specifying *SELECT or *ALL, the following operations performed are logged:

Spool entry archive to tape
Spool entry delete from Online Database

Log Archive/ Optical Catalog

Specifies if operations performed to the Archive or Optical Catalog are logged. If active, spool entries placed into or deleted from the Archive Catalog will be logged. Commands which are affected are:

ARCOLE **OPTOLE**
ARCARCFDTA **OPTARCFDTA**
PURARCCAT **PUROPTCAT**

Specify one of the following:

***NONE:** No spool entries are logged.

***SELECT:** Spool entries which have *YES in their "Log Operations" field will be logged.

***ALL:** All processed spool entries will be logged.

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Set Database/Catalog Logical Views

Spool Organizer builds several logical views over the Online Database, Archive Catalog, and Optical Catalog. These views are used to reorder the information into anticipated sequences, such as Job Name or User ID. They greatly increase the performance of many searches, but decrease the performance of other tasks such as archiving and purging. Spool Organizer allows the administrator to define the desired logical views. The following table shows the Spool Organizer functions which use logical views, and their use (Search or Maintenance):

<u>Function</u>	<u>Search</u>	<u>Maint</u>
DSPOLE (Display Online Database, Arc/Opt Catalogs)	Y	Y
ARCOLE (Archive Online Entries)	Y	Y
OPTOLE (Archive to optical)	Y	Y
ARCARCFDTA (Archive an ARCFILE)		Y
OPTARCFDTA (Archive an ARCFILE to optical)		Y
PUROLE, PURARCE, PURARCCAT (Purges)	Y	Y
Search Online Entries for Text	Y	
PRTOLE (Print multiple entries)	Y	

Spool Organizer Searches use OS/400's Open Query File function. When a search is requested, Open Query File checks the system for any access path (logical view). If one is found, Open Query File then may or may not use it. If no logical view is found, OS/400 automatically builds a view. This may take a considerable amount of time.

To display/change the views defined over the Online Database or Archive/Optical Catalogs, use the SETSOLGL command. The following screen will appear:

DEFINE TAILORING OPTIONS

		SpoolOrganizer/400 (TM)				5/7/96 14:14:14	
		Set Logical Views					
		Online Database		Archive Catalog		Optical Catalog	
		<u>Ascend Descend</u>		<u>Ascend Descend</u>		<u>Ascend Descend</u>	
Job Name		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Job User Prf		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
File Name		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Form ID		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
User Data		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
User Remark		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Job Number		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Job Date/Time		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Group Profile		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Outq Name		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Outq Lib		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Num Pages		<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>

F3=Exit F6=Update F11=Submit

Job Name thru Num Pages

Specifies a field that a logical view can be built over. Specify Y to build the access path, N to remove the access path.

Ascend/Descend

Spool Organizer allows the results of searches to be ascending or descending order. Each requires a different access path. Specify Y to build a logical view for the corresponding order.

F3 (Exit)

Press F3 to exit without updating.

F6 (Update)

Press F6 to update your changes interactively. No Spool Organizer function (Monitors, Archive/Purges, Users searching) can be active.

F11 (Submit)

Press F11 to submit an update of your changes to batch using job description **BSOLGLUPD** in library **BRODERICK**. No Spool Organizer function (Monitors, Archive/Purges, Users searching) can be active.

E-Mail Options

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If F13 is chosen, the screen showing SpoolOrganizer E-Mail options is displayed:

```
SpoolOrganizer/400 (TM)          5/7/96   14:14:14
      E-Mail Options

System Name: BDS400B
                                           (Name, *SYSVAL)

EBCDIC CCSID:   37
ASCII CCSID:    437
Character Set:   us-ascii
      Dft Log Period:           
      Read Security Table:           
      Change Security Table:           
Part Type: *INLUNF                  (*INLUNF, *ATHUNF, *PDF, *XLS, *CSV)
      Attachment File Name: *SPLFILE
      Attachment File Type: *PARTYP
      Max Len: 10

PDF Keywords
Font Name: Courier                  Font Point Size:           
Page Measurement: *TGTSIZE          (*TGTSIZE, *SPLFILE)
Page Width/Length: 8.500          11.000
Page Rotate Column: 80
Spool PDF Ovl/400 Spec Name: *NONE          (name, *NONE, *DFT)
CSV/TSV or PDF Spec Name: *NONE          (Name, *NONE, F4=Prompt)
Encryption Spec Name: *NONE          (Name, *NONE, F4=Prompt)

F3=Return/Ignore   <ENTER>=Return/Accept
```

System Name

Specifies the system (host) name to use when a default is required. For example, from the BDS Spool Entry Display function, the default From Address is calculated as *user-profile@system-name*.

EBCDIC and ASCII CCSID

Specifies the EBCDIC to ASCII conversion scheme to use. Please note that the AS/400 is an EBCDIC machine and most E-Mail recipients reside on PC's which are ASCII machines. SpoolOrganizer will convert the E-mail message to the specified ASCII character set ID before passing the message to OS/400 routines. For more information refer to AS/400 National Language Support, Appendix G.2 "Code Pages and CCSID's"

Notes:

- 1) Specified CCSID's will be checked by issuing a test string to convert. Errors will be reported back to

DEFINE TAILORING OPTIONS

the user. For a list of errors and their meanings refer to "OS/400 National Language API's", Chapter 3.2.2 "CDRCVRT API Feedback Codes and Conditions". No error message does not insure a proper conversion. We recommend you test the conversion by sending a message to a recipient and have the recipient display the sent message.

2) CCSIDs 37 and 437 are US English EBCDIC and ASCII.

Character Set

Specifies the character set to be placed into the message header. This value will appear in the MIME Message Header in the "charset=" parameter. Example values are:

us-ascii
iso-8859-1

Dft Log Period, Read Security Table, Change Security Table

Specifies default values used on the Email a Spool Entry section (F15) of the BDS Display a Spool Entry function. The user can override the values specified here.

Note: These values are not edit checked.

Part Type

Specifies the type of processing SpoolOrganizer will perform when placing the spool entry into the message. Specify one of the following:

***INLUNF:** Each spool entry will appear in the message with no formatting or attachment processing.

***ATHUNF:** Each spool entry will appear in the message as a separate attachment with no formatting.

***PDF:** Each spool entry will appear in the message as a separate attachment, formatted as an Adobe PDF file. Any user with Adobe Acrobat Reader or Writer can view or print the spool entry.

***XLS:** Each spool entry will appear in the message as a separate attachment, formatted as a Microsoft Excel (xlsx) file. Any user with Microsoft Excel can view or print the spool entry.

***CSV:** Each spool entry will appear in the message as a separate attachment, formatted as a Column Separated Values (CSV) file. Most PC Spreadsheet and Database applications can load CSV files.

Attachment File Name

Specifies the name given to the attachment file. This name can be used to name the file when saving it to a PC's disk. The PC file name will be in the form *name.type*. Specify a name or one of the following:

***SPLFILE:** The Spool File Name of the job that created the spool entry will be used as the attachment file name.

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***JOBNAME:** The Job Name of the job that created the spool entry will be used as the attachment file name.

***JOBUSER:** The User Profile Name of the job that created the spool entry will be used as the attachment file name.

Attachment File Type

Specifies the type given to the attachment file. This value will be added to the end of the file name. The PC file name will be in the form *name.type*. Specify a value or one of the following:

***PARTYP:** The part type (specified above) will determine the file type:

*ATHUNF	.txt
*PDF	.pdf
*XLS	.xlsx
*CSV	.csv
*TSV	.tsv

Max Length

Specifies, for attachment files with substitute naming (*JOBNAME, *JOBUSER, etc.), the maximum length to make the file name. Specify a value between 1 and 32.

PDF Keywords

Specifies options that are used to build an Adobe PDF file. These options are ignored if a PDF Spec is specified below. Refer to Chapter 37, “Define PDF Specifications for a description of the PDF keywords.

CSV/TSV or PDF Spec Name

Specifies for types CSV, TSV, XLS and PDF, the specifications name to use: Many options that control the output formatting are contained on the Specifications Name. For more information refer to Chapters 35 “Define CSV/TSV Specifications”, Chapter 37 “Define PDF Specifications” or Chapter 40 “Define MS Excel Specifications”. Specify a name or one of the following:

***NONE:** No specification. For PDF types, options specified above will be used.

Encryption Spec Name

Specifies for types ATHUNF, CSV, TSV, XLS and PDF, the Encryption specifications name to use: For more information refer to Chapter 39, “Define Encryption Specifications”. Specify a name or one of the following:

***NONE:** No encryption will be performed.

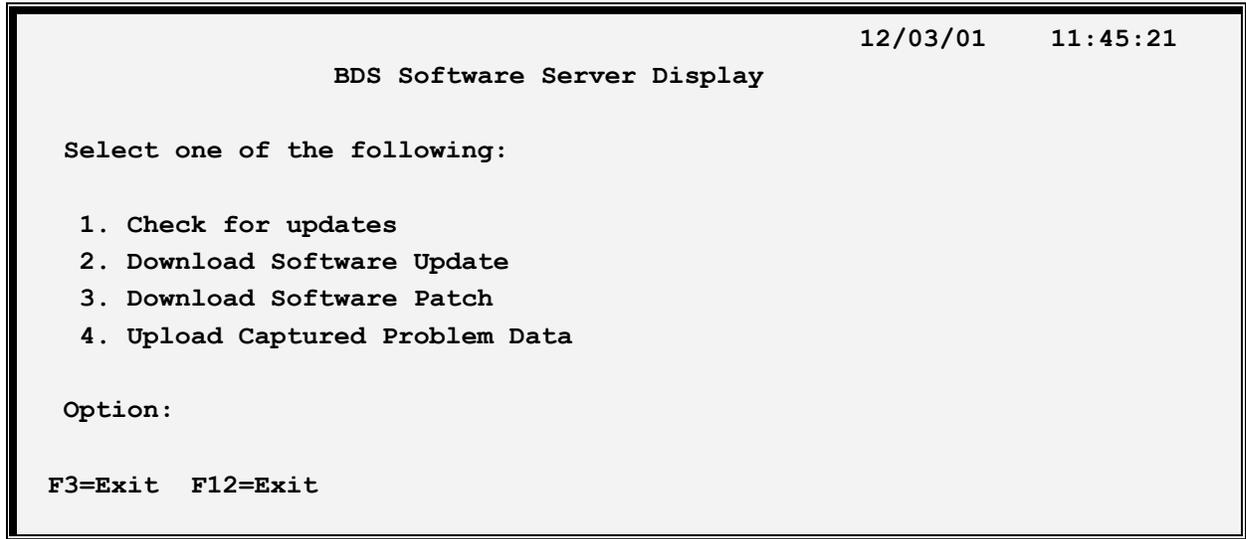
F3 (Return)

Press F3 to exit without updating.

DEFINE TAILORING OPTIONS

Access the BDS Software Server

If **F14** is chosen, the screen showing BDS Software Server options is displayed. To access the BDS Software Server the AS/400 must be connected to the Internet. The following display will appear:



```
12/03/01 11:45:21
BDS Software Server Display

Select one of the following:

1. Check for updates
2. Download Software Update
3. Download Software Patch
4. Upload Captured Problem Data

Option:

F3=Exit F12=Exit
```

Some of the following options require a user ID and password. If you do not have one, contact BDS Administration. These options use the Internet to connect to a server at Broderick Data Systems. Therefore your AS/400 must be connected to the Internet. If behind a firewall, the firewall must allow outbound sessions through it.

Check for updates

Retrieves the latest available release of the product. Displays the BDS and OS/400 prerequisites releases required to install the latest release of the product.

Download Software Update

Downloads the latest release of the product into save files on your system. The update procedure can then be done using these save files. The product may be active and running while you perform this download.

Download Software Patch

Downloads objects into a save file on your system. Usually you will use this option while working with BDS tech support.

Upload Captured Problem Data

Uploads a save file on your system (containing objects that you have saved) into a save file on the BDS server. Usually you will use this option while working with BDS tech support.

F3 (Return)

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Press F3 to exit.

F12 (Return)

Press F12 to exit.

DEFINE BANNER PAGE SPECIFICATIONS

SpoolOrganizer can print Banner Pages with large block letters around desired spool entries. Banner Pages are useful when separating a large volume of printed output. Several options are available describing the look of the Banner Pages generated by SpoolOrganizer. The administrator can create multiple Banner Page descriptions, and refer to the specific one. For example the Monitor description, Selection Criteria description, and Bundle Entry description definition screens can refer to a Banner Page description.

To access the Define Banner Page Specifications screen, Select **Option 9**, from the Define System Menu.

Press **F6** to add a Banner Page Description and enter a name. The following screen will appear:

SpoolOrganizer/400		7/11/12
Define Banner Page Specifications		11:28:49
Spec Name: TEST		
Number of Header/Trailer Pages:	<u>1</u> <u>1</u>	(0 - 9)
Header/Footer Character:	<u>*</u>	(Character value)
Number of Header/Footer Lines:	<u>5</u> <u>5</u>	(0 - 99)
Large Print Fields Line 1:	<u>*JOBNAME</u>	(Character value, Field Name)
Large Print Fields Line 2:	<u>*JOBUSER</u>	(Character value, Field Name)
Large Print Fields Line 3:	<u>*JOBNUM</u>	(Character value, Field Name)
Print Small Job Information:	<u>*YES</u>	(*YES, *NO)
User Information Lines:		
	<u>*NONE</u>	_____
	<u>*NONE</u>	_____
	<u>*NONE</u>	_____
Attribute Change Specification:	<u>*NONE</u>	
Line Generation Overflow Option:	<u>*IGNORE</u>	(*IGNORE *NOBANNER *TRUNCATE)
Group Jobs Together:	<u>*YES</u>	(*YES, *NO)
Descriptive Text:		_____
Different Trailer Specifications:	<u>*YES</u>	(*YES, *NO)
F3=Exit F12=Cancel Current Operation		
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The above parameters have the following definitions:

Number of Header/Trailer Pages

Specifies the number of pages to create before and after the spool entry or group. Specify zero if no header or trailer page is wanted. Both values cannot be zero.

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Header/Footer Character

Specifies the character to be repeated across the top/bottom of the page, depending on the Number of Header/Footer Lines specified below.

Number of Header/Footer Lines

Specifies the number of lines printed at the top and bottom of the page. The printed lines will consist of the Header/Footer Character repeated. For printers which use folded box paper, these characters will print across the perforation in the paper. The printer's ink will soak through the paper along the perforations, allowing the operator to look at the side of the stack of paper and quickly see the Banner Pages.

Large Print Fields Line 1, 2, and 3

Specifies the data that will print in large block letters. Each character will be expanded to a 7 character by 9-line grid. One blank line will print between each large line. Specify a value to print or specify one of the following spool file attributes:

- *JOBNAME
- *JOBUSER
- *JOBNUM
- *SPLFILE
- *FORMTYPE
- *USERDATA
- *DOCNAME
- *PROCNAME (S/36 environment procedure name)
- *NONE (No information will print)

Note: User Exit program **BSOCX1** is provided to allow modification of the character generation. For more information, refer to Appendix A, "User Exit Programs".

Print Small Job Information

Specifies if the job's information will print normal size. The output will look similar to the information printed on **OS/400** job separator pages.

User Information Lines

Specify up to 3 lines of user text that will print on the Banner Page.

Attribute Change Specifications

Specifies the name of the Attribute Change Specification to use to change certain spool entry attributes of the Banner pages. For example, you may wish for Banner pages to be retrieved from Drawer 2. Unless changed by an Attribute Change spec, Banner pages will be created using the attributes of the first spool entry in the group. For more information, refer to Chapter 11, "Define Attribute Change Specifications".

***NONE**: No attribute changes will be made.

Line Generation Overflow Option

Specifies the option SpoolOrganizer will perform if the number of lines calculated by the options above

DEFINE BANNER PAGE SPECIFICATIONS

exceeds the number of lines on the form. The Banner Page will copy the user spool entry's attributes, including form length and width. If several spool entries are grouped together, the first spool entry's attributes are used.

***IGNORE:** No action will be taken. The print lines will spill over to the next page, and a partially blank page will be produced.

***TRUNCATE:** All lines after the bottom of the form is reached will not print.

***NOBANNER:** The banner page will not be printed.

Group Jobs Together

Specifies if the Monitor is to group multiple spool entries with the same Job Name/User/Number together. This parameter is used by Monitors when moving output to the specified To Outq.

***YES:** The Monitor will attempt to group spool entries with the same Job Name/User/Number together. The grouping will continue until the Monitor detects one of the following conditions:

- + **Job Name/User/Number changes.**
- + **The To Outq changes.**
- + **A different Banner Page Specification is detected.**
- + **An Attribute change spec that causes a re-gen of the spool entry is detected.**
- + **The Monitor enters a Wait state.**

***NO:** Each spool entry processed by the Monitor will have separate Banner Pages.

Descriptive Text

Specify up to 30 characters of descriptive text.

Different Trailer Specifications

Allows the administrator to specify different values for some of the above parameters on the trailer pages. For example, some microfiche companies require the trailer pages to have a "catch phrase" to mark the end of the spool entry.

***NO:** The Banner Header and Trailer will have the same attributes.

***YES:** Another screen will appear, allowing you to define different values on the Trailer pages for some of the above parameters.

DEFINE ATTRIBUTE CHANGE SPECIFICATIONS

SpoolOrganizer can change certain spool file attributes as it processes a spool entry. For example a spool entry can be held as it is moved to an outq. The administrator can create multiple Attribute Change descriptions, and refer to the specific one. For example the Monitor description, Selection Criteria description, and Bundle Entry description definition screens can refer to an Attribute Change description.

Warning: SpoolOrganizer does not check the validity of user-changed attributes. It only performs minor syntax checking. Many attributes are valid or invalid depending on other attributes, or the type of printer the spool entry is printed on. It is the Administrator's responsibility to test all attribute changes for validity.

Broderick Data Systems may consider any technical support call that is traced to invalid user changes of spool entry attributes as a chargeable call.

Press **F6** to add an Attribute Change Description and enter a name. The following screen will appear:

Spool Organizer/400			4/03/96	
Define Attribute Change Specifications			15:17:18	
Name: _____				
Qualifying			Change	
Field	Rel	Value	Field	Value
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
_____	---	_____	_____	_____
Text: _____				
F3=Exit F12=Cancel Current Operation				

The above parameters have the following definitions:

Qualifying Expression

Specifies a test to perform to determine if the change is to be performed. Specify a field, relation, and value. The expression is compared to the spool entry attribute. If true, the change expression is performed.

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Field

Specifies the spool entry attribute. Specify one of the valid fields listed below.

Rel: (Relation)

Specify one of the following:

EQ	Equal to
NE	Not equal to
GT	Greater than
LT	Less than
GE	Greater than or equal to
LE	Less than or Equal to

Value

Specify the spool attribute value to compare.

Note: Specify a blank field, relation, and value to indicate the change is to be performed unconditionally.

Change Expression

Specifies the Attribute and the new value to substitute. Specify a field and value.

Field

Specifies the spool entry attribute. Specify one of the valid fields listed below.

Value

Specify the new spool attribute value.

Valid Fields

Below is a list of valid spool attributes that can be tested/changed. Most attributes correspond to **OS/400** attribute names. See the **OS/400 CRTPRTF** command for a description. Attributes that have special meanings are described below.

ALIGN	FILESEP	HOLD	LPI	PRTQLTY	UOM
COPIES	FOLD	JOBNAME	MULTIUP	RPLUNPRT	USRDTA
CPI	FONT	JONBUM	OUTPTY	SAVE	EXPDATE
DRAWER	FORMFEED	JOBUSER	OVRFLW	SCHEDULE	DAYS
DUPLEX	FORMTYPE	JUSTIFY	PAGRTT	SPLFILE	

BAOVL	Back overlay name
BAOVLLIB	Back overlay library
BAOVLOFFDN	Back overlay offset down
BAOVLOFFAC	Back overlay offset across
FONTPOINT	Font point size
FROVL	Front overlay name
FROVLLIB	Front overlay library

DEFINE ATTRIBUTE CHANGE SPECIFICATIONS

FROVLOFFDN	Front overlay offset down
FROVLOFFAC	Front overlay offset across
MONITOR	The SpoolOrg Monitor name (Qualifying field only)
PAGEEND	Page range ending page
PAGELEN	Page Length (lines per page)
PAGESTART	Page range starting page
PAGEWIDTH	Page Width (characters per line)
RPLCHAR	replace unprintables replacement character

Notes:

- Changes to the Job Name and Job User attributes are ignored by Outq Distribution List entries.
- Specify **EXPDATE** as blank or in CYYMMDD format.
- If **DAYS** is specified, **EXPDATE** does not need to be specified. Date is calculated using current date.

DEFINE HEADING SPECIFICATIONS

The administrator can specify the attributes that display on the spool entry list screen for each user by defining a Heading Specification. Up to 10 screens can be defined for each spec. Each time the user presses **F11** (view) on the spool entry list screen, the next screen's format will be displayed. Pressing **F11** on the last defined screen will cause the first to display. The user gives each specification a unique name, which is referred to on the **DSPOLE** command and the Search screen.

To define a Heading Description, select "Define Heading Specs" from the "Define System Menu". Press **F6** to add and enter a unique name. The following screen will appear:

```

                                SpoolOrganizer/400          ADD          3/12/94
                                Define Heading Descriptions 8:15:21

Name: HDG1

2=Change  5=Display

Opt  A/D  Seq  Heading
--   --  --  -----
_    D   10
_    D   20
_    D   30
_    D   40
_    D   50
_    D   60
_    D   70
_    D   80
_    D   90
_    D  100

          Descriptive Text: _____

F3=Exit  F6=Save  F12=Cancel Current Operation
```

Opt Field

Specify 2 to change the screen, 5 to display the screen.

A/D (Active/Deleted) Field

Enter A to activate a line, D to delete it. To add a new line, place a '2' in the option field and place an 'A' in the A/D field and press enter.

Heading Field

Displays the Heading the user will see when using this Heading Specification.

Text Field

Enter up to 30 characters of descriptive text.

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F3=Exit

Exits without saving any changes made to the specification.

F6=Save and Exit

Saves the Specification and returns.

Each row represents a screen the user will see when using this specification to display a list of spool entries. Deleted rows will be compressed out when the Specification is saved.

Place a '2' in one of the Opt fields, place an 'A' in its A/D field, and press **ENTER**.

The following screen will appear:

```

                                SpoolOrganizer/400                CHANGE    3/12/94
                                Define Heading Descriptions      8:18:06

Name: HDG1      SAMPLE HEADING DESCRIPTION
Seq:  10

*...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+

Fields:
____
____

Valid Field Values:

1-Job Name  2-Job User  3-Job Number  4-File Name  5-File Num  6-Form ID
7-Pages     8-Job Date   9-Job Time  10-Entry Dt  11-Entry Tm 12-Outq
13-Outq Lib 14-User Dta  15-User Remk 16-Group Prf

F3=Exit    F6=Save and Exit    F12=Cancel Current Operation
```

Enter a value in one of the fields and press **ENTER**. The corresponding heading will appear underneath the rule above. This heading shows the heading the user will see. Continue entering fields and pressing **ENTER** until the desired format is created. Press **F6** to save the screen or press **F3** to exit without saving.

DEFINE BUNDLE SPECIFICATIONS

Bundle Descriptions are used by the Bundle Manager and by Monitors to process spool entries. Two sets of Bundle Descriptions exist in SpoolOrganizer; an administrative copy and a production copy. This allows the administrator to make changes while the Monitors/Bundle Manager are active. The **APYBDLCHG** command copies the administrative copy into the production copy. Menu options allow the administrator to display/change the administrative copy and allow users to display the production copy.

A Bundle Description consists of options which affect the entire Bundle, and Bundle Entry Descriptions describing each spool entry which will be included in the Bundle.

To display or change Bundle Descriptions select the appropriate menu option.

Note: To improve performance and ease administration, a "Display Specifications" screen is provided to allow the user to limit the number of Bundle Descriptions displayed during the session. The user can limit the display to:

- + Bundle Name/ID
- + User ID
- + Cutoff Date type

These values can be changed by pressing **F18** while displaying the list of Bundle Descriptions.

To add a Bundle Description press **F6**. Enter the following:

Bundle Name/ID

Specifies the Name/ID the Bundle will be referred to. The name portion must conform to **OS/400** object name rules. For example XYZ is a valid name but >YZ is not. The **ID** portion is optional and can be left blank. It is provided to help organize large numbers of Bundle Descriptions. Press **ENTER** and the following screen will appear:

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Bdl Name:	Spool Organizer/400	10/12/94
ID:	Define Bundle Description	8:28:33
Descriptive Text: _____		
To Outq/Library:	_____	(Name, F4=Prompt)
User Profile:	_____	(Name, F4=Prompt)
Banner Page Specifications:	<u>*NONE</u>	(Name, F4=Prompt)
Print Status Page:	<u>*NO</u>	Log Operations: <u>*NO</u> (*NO, *YES)
Keep OPEN until Cutoff Time:	<u>*NO</u>	Hold on Outq: <u>*NO</u> (*NO, *YES)
Auto Release when Closed:	<u>*YES</u>	(*YES, *NO)
Incomplete option when clsd:	<u>*RELEASE</u>	(*RELEASE, *HOLD)
Cutoff Parameters - Type:	<u>D</u>	Value: <u>0</u> Time: <u>0</u>
Additional Times:	<u>2500</u> <u>2500</u> <u>2500</u> <u>2500</u> <u>2500</u> <u>2500</u>	(2500=Null)
	<u>2500</u> <u>2500</u> <u>2500</u> <u>2500</u> <u>2500</u>	(2500=Null)
Print Parameters - Days:	<u>0</u>	Time: <u>0</u> (2500=Immediate)
Days keep after print:	<u>1</u>	
Read Security Table:	_____	
Change Security Table:	_____	
Active Classes:	<u>ALL</u>	
E-Mail Specification:	<u>*NONE</u>	(*NONE, Name, F4=Prompt)
F3=Exit F12=Cancel Current Operation		
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The above parameters have the following definitions:

Descriptive Text

Specify up to 30 characters of descriptive text.

To Outq

Specifies the outq where the Bundle will print.

Note: Avoid specifying ***LIBL** in the library field. SpoolOrganizer is unable to perform internal locking functions on outqs specified with library ***LIBL**.

User Profile

Specifies the user profile which will "own" the Bundle. This user profile will appear in the Job User attribute of each spool entry within the Bundle when printed. The owner has all data security rights to the Bundle and its entries. Please note that only users defined as SpoolOrganizer Security Officers can change security fields, even on owned Bundles.

Banner Specifications Name

DEFINE BUNDLE SPECIFICATIONS

Specifies the name of the Banner Page Description to use to print Banner Pages when the Bundle is printed. The Banner Pages will be printed before the first and after the last spool entry in the Bundle. For large block fields purposes, the Bundle Name replaces the Job Name attribute and the User Profile (specified above) replaces the Job User attribute when the Banner Page(s) is generated.

***NONE:** No Banner Pages are generated when the Bundle is printed.

Print Status Page

Specifies if a Status Report is printed with the Bundle Entries. The status report will print before the first Bundle Entry, and after the front Banner Pages if specified. The Status Report shows the Bundle Name/ID/Number, the date/time printed, a line for each spool entry printed, and a line for each missing Bundle Entry. The status report will adopt the spool file attributes of the first spool entry in the Bundle.

Log Operations

Specifies, if logging is active, if operations performed to the Bundle and its entries will be logged. This parameter is ignored unless the **LOG BUNDLE MANAGER** parameter is ***SELECT** on the Tailoring Options screen. For more information, refer to Chapter 29, "Display SpoolOrganizer Log".

***NO:** The spool entry will not be logged.

***YES:** The Spool entry will be logged.

Keep OPEN until Cutoff Time

Specifies if the Bundle is to be kept open until its calculated Cutoff Time, even if it contains all of its required spool entries.

***NO:** The Bundle will close when it receives all of its required spool entries.

***YES:** The Bundle will stay open until its calculated Cutoff Time even if it contains all of its required spool entries.

Hold on Outq

Specifies if the Bundle is to be placed on hold when placed in the outq (printed).

***NO:** The Bundle will not be placed on hold when printed.

***YES:** The Bundle will be placed on hold when printed. All spool entries, including banner pages and status pages, will be placed on hold when printed.

Auto Release when Closed

Specifies if the Bundle is to be held or scheduled for print when it is closed. This option applies only to complete Bundles (Bundles which contain all of their required spool entries).

***YES:** The Bundle will be released and will wait until its calculated print time. Then it will print. While waiting for print the Bundle will appear in a **WAITPRT** status.

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***NO:** The Bundle will be held when it is closed. To print it must be released manually. After closed the Bundle will appear in a **HELD** status.

Incomplete option when closed

Specifies, for incomplete Bundles, if the Bundle is to be held or scheduled for print when it is closed. A Bundle is considered incomplete if it does not contain all of its required entries when closed.

***RELEASE:** The Bundle will be released and will wait until its calculated print time. Then it will print. While waiting for print the Bundle will appear in a **WAITPRT** status.

***HOLD:** The Bundle will be held when it is closed. To print it must be released manually. After closed the Bundle will appear in a **HELD** status.

Cutoff Time

Specifies the date and time the Bundle will close. Specify a type, value, and time. The Bundle Manager calculates the Cutoff Time when the first Bundle for the Bundle is received, using the fields below.

Type/Value

Specifies the type of time period the Bundle will remain open. Please note that the format of the Value field depends on the Type field. Specify one of the following:

D (Daily)

Bundle will close daily. The value field is ignored.

W (Weekly)

The Bundle will close on the specified day of the week. Specify the day of the week in the Value field, 1=Sunday, 2=Monday, etc.

M (Monthly)

The Bundle will close on the specified day of the month. Specify the day of the month (1-31) in the Value field.

Y (Yearly)

The Bundle will close on the specified month and day. The format of the Value field is **MMDD**.

H (Hourly)

The Bundle will close each hour on the minute specified in the time field.

T (Times)

The Bundle will close at the specified times throughout the day. Specify up to 12 times, using the "Additional Times" field only, avoid using "Value" and "Time" fields for this option. Each specified time must be unique. SpoolOrganizer will sort the specified times into ascending order when saved. To remove a time, specify 2500 (null).

DEFINE BUNDLE SPECIFICATIONS

Note: For Monthly and Yearly processing, if the calculated month has less than 31 days, SpoolOrganizer will adjust the value to reflect the true last day of the month if necessary. For example, February 31st will be changed to February 28 or 29 internally.

Time

Specifies the Cutoff time, in a format **HHMM**. Valid values range from 0000 (midnight) to 2359. **Please note** that for type=**H** (Hourly), the time field must be in the format **MM** and valid values range from 00 to 59.

Note: The time the first spool entry enters SpoolOrganizer can affect the close date/time. For example if Daily, 0900 (9:00 AM) is specified and the first spool entry for the Bundle is received at 10:00 AM, the cutoff date/time will be calculated as the next morning at 9:00 AM.

Print Time

Specifies the date and time the Bundle is printed. The print date/time is calculated when the Bundle is closed, by either the Bundle Manager or a user via the **WRKACTBDL** command. Please note that only Bundles in a **WAITPRT** status will print at their specified time. Thus if an operator changes a Bundle to status **HELD** it will not print. Also note that options are available (see below) to set the status of the Bundle to **HELD** when it is closed by the Bundle Manager. Specify the number of days to wait after close, and the time to print.

Days

The number of days to wait before printing. Specify 0 thru 99.

Time

The time the print will wait until it prints. The format of the time field is **HHMM**. Valid values range between 0000 (midnight) and 2359.

2500: The Bundle will print immediately when closed.

Note: If the specified print time is less than the time the Bundle is closed, the calculated Cutoff day is used for calculating the number of days. For example, if Days=0 and Time=0900 and the Bundle closes at 10:00 AM, the Bundle will print immediately. If Days=1 is specified the Bundle will print the next day at 9:00 AM. A special value of 2500 is provided to specify that the Bundle will print immediately when it closes, regardless of the close time and the calculated cutoff time.

Days to keep after print

Specifies the number of days the Bundle will remain after it has printed. The time the Bundle is deleted is the same time it prints. For example if 1 is specified and the Bundle prints at 11:00 AM, it will be deleted the next day at 11:00 AM. Only Bundles in a **PRINTED** status are deleted. Thus if the operator changes the Bundle to a **HELD** status after it has printed, the Bundle Manager will not delete the Bundle.

Read Security Table

Specifies the security access codes which a user must have to display or print the Bundle or its entries. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of *

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means all users can display the Bundle or its entries

Change Security Table

Specifies the access codes a user must have to change or delete a Bundle or its entries. A user with Change authority also is granted Read authority. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can change the spool entry.

Active Classes

Specifies the Class(es) which must be active for this Bundle to collect spool entries. See "Setting Active Classes" in Chapter 20, "Control the Bundle Manager" for more information. If any one of the specified classes is set active the Bundle will be considered active.

ALL: The Bundle is always active, regardless of which classes are set active.

E-Mail Specification

Specifies the name of an E-Mail Specification, which describes how the Bundle will be sent via E-Mail to Internet users. For more information, see Section V, "E-Mail".

Note: You must specify an E-Mail specification or an outq, but you cannot specify both.

Defining Bundle Entries

Each Bundle Entry Definition describes a spool entry that will be included in the Bundles. After defining the Bundle parameters, a screen will appear listing all Bundle Entries. Press **F6** to add a Bundle Entry. Enter the following:

Sequence Number

Specifies the order the entry will be printed. Valid values are 1-9999.

Bundle Name/ID (copy only)

Specify the Bundle Name/ID to copy the existing Bundle Entry into.

Note: Bundle Name/ID/Sequence must be unique for both add and copy.

Then press Enter. The following screen will appear.

DEFINE BUNDLE SPECIFICATIONS

Bdl Name:	Define Bundle Entry Description	4/04/96
ID:		8:53:44
Seq:		
<u>Selection Criteria</u>		
Monitor Name:	_____ (Name, F4=Prompt, *ANY)	
Job Name:	_____	Job User: _____
Spool File Name:	_____	Spool File Number: _____
Form ID:	_____	Group Profile: _____
Spool User Data:	_____	
Descriptive Text:	_____	
<u>Processing Options</u>		
Multiple Entries Option:	<u>*ALL</u> _____ (*ALL, *FIRST, *LAST)	
Required for compl. Bundle:	<u>*YES</u> _____ (*YES, *NO)	
Signal New Bundle:	<u>*NO</u> _____ (*NO, *YES)	
	Sun Mon Tue Wed Thu Fri Sat	
Day of Week Copies:	<u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u>	
Time Adjust for Day of Week:	Type: <u>SO</u> _____ (*ALL, *FIRST, *LAST)	
Number of Hours:	_____ (-23 to 23)	
Attribute Change Spec. Name:	<u>*NONE</u> _____ (*NONE, Name, F4=Prompt)	
Select Only part of entry:	<u>*NO</u> _____ (*NO, *YES)	
Active Classes:	_____	
F3=Exit	F12=Return	

Bdl Name:	Define Bundle Entry Description	4/04/96
ID:		8:53:44
Seq:		
E-mail Spec Name:	<u>*BDL</u>	
CSV/TSV, PDF or XLS Spec:	<u>*EMLSPC</u>	
E-mail Attachment Name:	<u>*BDL</u>	
Encryption Spec:	<u>*EMLSPC</u> _____ (Name, F4=Prompt, *EMLSPC, *NONE)	
Encryption Password:	<u>*ENCSPC</u> _____ (Char, *ENCSPC)	
F3=Exit	F12=Return	

The above parameters have the following definitions:

Selection Criteria

Unique describes the spool entry to SpoolOrganizer. Specify the following:

Monitor Name

Specifies the Monitor that monitors the outq in which you expect the spool entry to appear. If *ANY is specified, all monitors will load this spec. When the spool entry appears in any outq that is being

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monitored, the spool entry will be passed to the Bundle Manager for processing. For more information, refer to Chapter 5, "Define Monitors".

Job Name thru Spool User Data

Enter Selection Criteria to uniquely describe the spool entry. At least one of the selection fields must be specified. The Monitor will use each non-blank field as a comparison. The spool entry is considered a match if all non-blank fields match their corresponding spool entry attributes. Spool entries that match will be passed from the Monitor to the Bundle Manager for insertion into this Bundle. Generic comparisons are supported. If the last character is a * the field is considered a generic field. For example **QP*** will match **QPJOBLOG**, etc. but ***STD** will only match ***STD**.

Processing Options:

Multiple Entries Option

Specifies the action to take if more than one spool entry is received for this Bundle Entry while the Bundle is open.

***ALL:** All spool entries received will be placed into the Bundle under this Entry.

***FIRST:** Only the first spool entry will be kept. All others will be discarded.

***LAST:** The new spool entry will replace the old spool entry in the Bundle. The old spool entry is discarded.

Required for complete Bundle

Specifies that this entry is a required entry. A Bundle will close when all of its required entries are present.

Signal New Bundle

Specifies that when the Bundle Manager Receives this spool entry, it will close an existing open Bundle if it exists and start a new Bundle. The existing Bundle will be closed regardless of the Bundle's Cutoff Time or Keep OPEN options.

Day of Week Copies

Specifies the number of copies of the spool entry to print. Specify a value for each day of the week. If zero is specified the spool entry will not be placed into the Bundle if it is processed by the Monitor that day.

Time Adjust for Day of Week

Specifies a logical shift of the end of the day (traditionally midnight) for determining the day of the week copies above. This feature allows spool entries that may or may not be processed by midnight to be included in the desired day's work. Specify a type and a number of hours:

Type: Specifies the time to use for comparison purposes. Specify one of the following:

DEFINE BUNDLE SPECIFICATIONS

JE (Job Entry): The time the job that created the spool entry entered the system, via a **SBMJOB** or signing on.

JA (Job Active): The time the job that created the spool entry began executing.

SF (Spool File Open): The time the application program opened the spool entry.

SO (SpoolOrganizer): The time a SpoolOrganizer Monitor processed the spool entry.

Number of Hours

Specify the numbers to logically move the end of the day. Specify a range of -23 to +23. For example, if +1 is specified, a time of Tuesday at 00:30 (12:30 AM) will be considered Monday's work for this Bundle Entry. Consider the following example:

Today is Monday. Job XYZ is submitted at 6:00 PM and waits in the jobq until 11:50 PM, and then it begins executing. The spool entry is opened by an application program in the job stream at 12:15 AM Tuesday morning and the job finishes at 12:45 AM. A SpoolOrganizer Monitor processes the spool entry at 12:46 AM. The following evening (Tuesday) the job is submitted again and the job finishes by 11:30 PM. The Monitor processes the spool entry at 11:31 PM. The department chief wants the 1st spool entry to be considered Monday's work and the second to be Tuesday's work.

There are several ways to accomplish this:

- 1) Specify Type=JE (job entry) and Number of Hours=0.
- 2) Specify Type=JA (job active) and Number of Hours=0. Warning: If Monday's job had begun executing 10 minutes later, this option would not work.
- 3) Specify Type=SF (spool file open) and Number of Hours=+3.
- 4) Specify Type=SO (SpoolOrganizer) and Number of Hours=+3.
- 5) To be safe, you may consider specifying Type=JE and Number of Hours=+7.

Note: The Bundle's Cutoff, Print, and Delete times are not adjusted by the day of week time adjust. The administrator must design the Cutoff Time so that late entries are still included.

Attribute Change Specifications

Specifies the name of the Attribute Change Specification to use to change certain spool entry attributes when printing the Bundle Entry. For more information, refer to Chapter 11, "Define Attribute Change Specifications".

***NONE:** No attribute changes will be performed to the spool entry.

Select Only part of entry

Specifies if the entire spool entry, or only part of the spool entry is included into the Bundle. For more information, refer to "Partial Print Bundle Entries" below.

***NO:** Partial Print processing will not be performed. The entire spool entry will be placed into the

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Bundle.

***YES:** Partial Print processing will be performed.

Notes:

- 1) Partial Print processing requires considerable CPU resources.
- 2) Only Print Device Type ***SCS**, ***IPDS**, ***AFPDS** and certain ***ASCII** spool entries can be scanned for Partial Print processing.

Active Classes

Specifies the Class(es) that must be active for this Bundle Entry to collect spool entries. See "Setting Active Classes" in Chapter 20, "Control the Bundle Manager" for more information. If any one of the specified Classes are set active the Bundle Entry will be considered active.

ALL: The Bundle Entry is always active, regardless of which Classes are set active.

E-mail Spec Name

Specifies, for E-mail Bundles, the E-Mail Spec which describes the attributes of the message to send. The Name must exist. This E-mail spec will override certain attributes specified on the Bundle Header's E-mail spec. For example you can specify a part type of PDF. Other attributes, such as From or To Name will be ignored. For more information on sending spool entries and Bundles via E-Mail, refer to Section 5, "E-Mail" in the SpoolOrganizer/400 Reference Manual.

***BDL:** The Bundle Header's E-mail Spec is used to determine the attributes for this part.

CSV/TSV, PDF or XLS Spec

Specifies, for E-mail Bundles of part type CSV/TSV, XLS or PDF, the Spec which describes the attributes of the message to send. The Name must exist. This E-mail spec will override certain attributes specified on the Bundle Header's E-mail spec. For more information on sending spool entries and Bundles via E-Mail, refer to Section 5, "E-Mail" in the SpoolOrganizer/400 Reference Manual.

***EMLSPC:** The Spec specified on the E-mail Spec is used for this part.

E-mail Attachment Name

Specifies, for E-mail Bundles, the name to assign to the attachment in the message. This value will override any calculated value.

***BDL:** Do not override the calculated attachment name.

Encryption Spec

Specifies, for E-mail Bundles of part type ATHUNF, CSV/TSV, XLS or PDF, the Encryption Spec to use to encrypt the attachment. For more information on encryption, refer to Chapter 39, "Define Encryption

DEFINE BUNDLE SPECIFICATIONS

Specifications" in the SpoolOrganizer/400 Reference Manual.

***EMLSPC:** The Encryption Spec specified on the E-mail Spec is used for this part.

***NONE:** No encryption is performed.

Encryption Password

Specifies, for encrypted attachments, the password needed to access the attachment. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Partial Print Bundle Entries

The Bundle Manager can place only part of a spool entry into a Bundle. A single spool entry can be divided into segments that can be placed into multiple Bundles, or in the same Bundle via multiple Bundle Entries. Segments can overlap. For example pages 2-15 of a spool entry can be placed into Bundle A, and pages 10-25 can be placed into Bundle B.

The spool entry can be skipped and not placed into a bundle using Partial Print processing. Please note that the spool entry may be lost if it is not printed by a Monitor or included into another Bundle. To specify Partial Print options, enter ***YES** in the "Select Only part of entry" field described above. The following screen will appear:

Bdl Name: TEST	Define Bundle Entry Description	2/21/95
ID:	Partial Print Specifications	14:11:09
Seq Num: 10		
Type of search: <u>S</u>	(S P U B A R)	
Start of Segment	Page Number: <u>1</u>	(0=Search)
End of Segment	Page Number: <u>1</u>	(0=Search, 1=Last Page)
	Include Last Page: <u>*YES</u>	
F3=Exit	F12=Return	

The above parameters have the following definitions:

Type of Search

Specifies the method the Bundle Manager will use to determine the desired subset of the spool entry. Choose from one of the following methods:

+ **Start/End of Segment**

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- + **Page by Page Include/Omit**
- + **Remaining Pages (Entry or All)**
- + **Range of Pages**
- + **User Exit Program**

S (Start/End of Segment): Specifies that the administrator will define the first page and the last page desired. The Bundle Manager will test each page until a page passes the tests specified. See "Start of Segment" below for a description of the tests performed. If no pages match, the spool entry is not included in the Bundle. If a page matches, it is considered the start of the desired segment and the Bundle Manager begins at that page testing for the end of segment. The Bundle tests each page using the tests defined in the "End of Segment" until either a page passes the tests or the end of the spool entry is reached. If a page passes the End of Segment tests, the end of the desired segment is determined (See "Include Last Page" below). If no pages match, the last page of the spool entry is considered the end of the segment.

P (Page by Page Include/Omit): Specifies that the administrator will define each page that will be included in the report. The included pages do not need to be contiguous in the spool entry. For example, Pages 1, 12 and 47 may be selected and the rest discarded. The user specifies the tests to be performed to each page in the "Start of Segment" section described below. If no pages pass the specified tests, the spool entry is discarded.

U (User Exit Pgm): Specifies that the administrator will create program **BSOBX2** to tell the Bundle Manager the desired subset of the spool Entry. The Bundle Manager will call **BSOBX2** once for each page in the spool entry, passing to **BSOBX2** the page's data and other parameters. Program **BSOBX2** instructs the Bundle Manager the desired action via a return code. The administrator can specify the following to the Bundle Manager:

- + **Start and Ending Page Numbers of the Segment**
- + **Pages to include or omit**
- + **Place the entire spool entry into the Bundle**
- + **Do not place the spool entry into the Bundle**

A sample exit program is contained in source file **BSOSRC** in library **BRODERICK**. Refer to this member for a description of the parameters passed to **BSOBX2** and their layouts.

B (Remaining, Bundle): Specifies that the Bundle Manager will place any pages that were not placed into other Bundle Entries into this Bundle Entry. Only pages processed by Bundle Entries within this Bundle are considered.

A (Remaining, All): Specifies that the Bundle Manager will place any pages that were not placed into other Bundle Entries into this Bundle Entry. Pages processed by all Bundle Entries are considered.

R (Range of Pages): Similar to Start/End of Segment (see above), except the Bundle Manager will store the entire spool entry and set the PAGERANGE parameters during print. This type is recommended when the spool entry contains print data segments (graphics, etc.) that are not supported by Spool Organizer's partial print function. All other features are identical to type Start/End of Segment.

DEFINE BUNDLE SPECIFICATIONS

Start of Segment

Specifies, for type Start/End of Segment and Range of Pages, the first page of the spool entry to be included into the Bundle or, for type Page by Page, the tests to determine if the page is to be included in the Bundle Entry. Specify either an actual page number (Start/End only) or zero to indicate a data search is to be performed. Enter the following:

Page Number (Start/End, Range only)

Specifies the first page to include in the segment.

0: Data specified below will be used to search the spool data. The first page included in the Bundle will be the page that contains the first occurrence of the specified data. See "Search Data" below for more information.

End of Segment

Specifies the ending page of the spool entry to be placed into the Bundle. This section is ignored for type Page by Page. The rules for defining this section are the same as the Start of Segment.

Include Last Page (Start/End only)

Specifies if the end page, located by specifying end search data, is the last page included in the Bundle or the first page not included. This parameter is ignored if an absolute end page number is specified, or if the end of the spool entry is reached before satisfying the End of Segment requirement.

***YES:** The end page will be included in the Bundle entry.

***NO:** The end page will not be included in the Bundle entry. Please note that at least one (1) page will be placed into the Bundle.

SpoolOrganizer/400		Partial Print Search Definitions		2/21/95													
				14:11:09													
Start of Segment																	
A	StL	EnL	StC	EnC	R1	Data.	. .1.	. .+. .	. .2.	. .+. .	. .3.	. .+. .	. .4.	. .+. .	. .5	Ln	UC
	<u>1</u>	<u>255</u>	<u>1</u>	<u>255</u>	<u>CT</u>	_____										<u>1</u>	<u>Y</u>
-	<u>1</u>	<u>255</u>	<u>1</u>	<u>255</u>	<u>CT</u>	_____										<u>1</u>	<u>Y</u>
-	<u>1</u>	<u>255</u>	<u>1</u>	<u>255</u>	<u>CT</u>	_____										<u>1</u>	<u>Y</u>
-	<u>1</u>	<u>255</u>	<u>1</u>	<u>255</u>	<u>CT</u>	_____										<u>1</u>	<u>Y</u>
-	<u>1</u>	<u>255</u>	<u>1</u>	<u>255</u>	<u>CT</u>	_____										<u>1</u>	<u>Y</u>
more...																	
F3=Exit F6=Accept F12=Return																	

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Search Data

Specify character tests to perform to determine a match. Each line represents a desired test and each test is performed on the spool data within the specified range. The results of each test are **ANDed** or **ORed** together using Boolean logic rules to determine the final result. For example if 5 tests are specified, the specified **ANDs** are performed first giving intermediate results. The intermediate results are **ORed** together giving the final result. Thus the administrator can test a heading (line 2, columns 6 thru 10 for example) for "DEPT 01" or "DEPT 02" by specifying two tests, **ORed** together.

Note: At least one test must be specified. To delete a line, place a space in the A (**AND/OR**) field.

A (AND or OR)

Specifies if this line is to be **ANDed** or **ORed** to the previous line.

StL, EnL (Starting/Ending Lines)

Specifies the line range within each page to test for the specified data.

StC, EnC (Starting/Ending Columns)

Specifies the column range within the specified line range to test for the specified data.

Rel (Relation)

Specifies the test to perform. Specify one of the following:

- EQ (Equal to)
- NE (Not equal to)
- GT (Greater than)
- GE (Greater than or equal to)
- LT (Less than)
- LE (Less than or equal to)
- CT (Contains, the specified data occurs in the spool data)

Notes:

- 1) The Bundle Manager performs the test as follows:

Spool data	Relation	User specified data
-------------------	-----------------	----------------------------
- 2) To determine the exact line and column of the desired spool data to test, we recommend that you view the spool entry using **IBM's DSPSPLF** or SpoolOrganizer's **DSPOLE** commands.
- 3) Use caution when defining large line or column ranges. Unexpected spool data may cause unwanted results.

Data

Specifies the data to use to test against the spool data.

Ln (Data Length)

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Specifies the length of the data to test.

UC (Ignore Upper Case Differences)

Specifies if upper/lower case differences will be ignored.

Y: Upper lower case differences will be ignored. For example aaa will match AAA.

N: Upper/lower case differences will be evaluated. For example aaa will not match AAA.

DEFINE INDEX SPECIFICATIONS

Index Specifications are used by the Index Manager and by Monitors to retrieve desired values from selected spool entries and place the values into indexes. Users can then query the Indexes using the DSPIDX command. Indexing uses Monitors to automatically process specified spool entries. Monitors will use their Selection Specs to identify spool entries which need to be sent to the Index Manager. The Monitor will place them into the Online Database and notify the Index Manager. The Index Manager will process each selected spool entry, searching it for specified values and placing the matching values into Indexes.

Before defining Index Specs, Monitors and Selection Specs must be created. Refer to the section "Planning Guide" in Chapter 2, "Installation" for the general tasks needed to implement Indexing.

Two copies of specifications are maintained by SpoolOrganizer; an administrative copy and a production copy. This allows the administrator to make changes while the Index Manager/Monitors are active. The APYIXSCHG command applies the administrative changes to the production copy. Menu options allow the production copy to be displayed.

The Index Manager and Monitors must be started in order for data to be collected and placed into Indexes. See Chapter 15, "Monitor Selections" and Chapter 21, "Control the Index Manager" for more information.

Note: To Improve performance and ease administration, a "Display Specifications" screen is provided to allow the user to limit the number of Index Specifications being displayed during the session. The user can limit the display to a starting/ending spec range. These specifications can be changed during the session by pressing F18.

To add an Index Specification, press F6. Enter the Following:

Name, ID

Specifies the two-part Index Name. Users will specify this name when searching Indexes. The name and ID must conform to OS/400 TYPE(*NAME) naming conventions. The ID can also be blank.

Data Type

Specifies the type of values to collect. The Index manager offers different features and options when collecting values from a spool entry, depending on the type. Specify one of the following:

C: The data type is character. Up to 50 characters can be collected.

D: The data type is decimal numeric. Values will be stored internally as signed packed decimal, 18 digits with 5 decimal places. The Index manager will edit the data on the page, removing nonnumeric characters.

Note: Users will need to specify the Index Name, ID, and Data Type in order to search indexes. The Administrator will need to provide this information to the user.

Press **ENTER** and the following screen will appear:

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Note: The screen for data type decimal is shown below. The screen for data type character is similar.

```

                                SpoolOrganizer/400 (TM)      ADD      4/04/96
                                Define Index Specification Criteria  18:47:07
                                .....

Index Name/ID/Data Type:  CUSTNUM      ACCTG      (D)ecimal
Selection Specs
  Monitor/ID/Sequence Number:  _____

Page/Data Definition  DECIMAL DATA      SEPARATORS
StL EnL StC EnC Rel  *...+....1...+....2  Comma  DecPt
_____      _____  EQ      00000      ,      .
  Data Length:  18  Qualifier Strings:  N  (Y/N)

                                QUALIFIER STRING DATA
A/O StC EnC Rel Len  *...+....1...+....2...+....3...+....4...+....5 UC
   1  255  CT   1    _____  Y
   -  1  255  CT   1    _____  Y

F3=Exit  F12=Cancel Current Operation

```

The above parameters have the following definitions:

Monitor/ID/Sequence Number

Specifies the Monitor Selection Specification (or Monitor default processing) to identify spool entries to be Indexed. In addition to its own processing options, the Monitor will pass spool entries matching this Selection Spec to the Index Manager for Index Processing. The Monitor and Selection Spec must be defined before it is referenced here, and must be defined such that it places matching spool entries into the Online Database. Multiple Index Specs can reference the same Selection Spec. For more information, see Chapter 5, "Defining Monitors" and Chapter 6, "Defining Selection Criteria".

Monitor

*ANY: Specifies that all Monitors will load this Selection Spec (This is a special value when creating Selection Specs).

ID

*MONITOR: To specify the Monitor's default processing options, specify the Monitor name in the

DEFINE INDEX SPECIFICATIONS

Monitor field, *MONITOR in the ID field, and zero in the Sequence Number field. This will instruct the Monitor to send all spool entries which do not match any of its selection specs to the Index Manager.

Page Data Definition

Specifies the area in the page and the values the Index Manager will check for. Matching values in this range will be placed into the Index.

StL, EnL (Start/End Line)

Specifies the line range on each page where the Index Manager will look for specified values.

StC, EnC (Start/End Column)

Specifies the column range within the line range specified above where the Index Manager will look for specified values.

Rel (Relation)

Specifies the relationship to use to collect values for the index. Specify one of the following relations:

EQ: Equal to

NE: Not equal to

GT: Greater than

LT: Less than

GE: Greater than or equal to

LE: Less than or equal to

CT: Contains (type Character only)

Character Data or Decimal Data

Specifies the data to use in the relation. For character, specify up to 50 characters. For decimal, specify a number, maximum 18 digits w/5 decimal positions.

Note: The relation is interpreted as follows:

(print data) Rel (spec data)

UC (Ignore upper/lower case differences) (Character only)

Specifies if upper/lower case differences are to be ignored for comparison purposes.

Y: Ignore upper/lower case differences.

N: Do not ignore upper/lower case differences.

Comma (Decimal only)

Specifies the character used to separate thousands, millions, billions, etc. In the US it is a comma. This character will be ignored when the Index Manager edits the print data.

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DecPT (Decimal only)

Specifies the character used to separate the integer portion of a number from the fractional portion. In the US it is a period.

Data Length

Specifies the length of the data in the data field.

Qualifier Strings

Qualifier strings allow the user to further define which lines on each page contain the values desired in the index. Thus the user can specify a large line range, and eliminate unwanted lines via qualifier strings.

Qualifier strings will only be tested on lines which match the primary relationship specified above.

Qualifier strings are type character.

Y: Qualifier strings will be specified below.

N: Qualifier strings will not be specified.

If Y is specified, up to 5 qualifier string relations can be specified.

A/O (And/Or)

Specifies if the line is to be ANDed or ORed with the previous line. Boolean logic applies. For example the ANDs are performed first and the results are ORed to get a final result.

StC, EnC (Start/End column)

Specifies the start/end columns.

Rel (Relation)

Specifies the relationship to use to collect values for the index. Specify one of the following relations:

EQ: Equal to

NE: Not equal to

GT: Greater than

LT: Less than

GE: Greater than or equal to

LE: Less than or equal to

CT: Contains

Data

Specifies the data to use in the relation. Specify up to 50 characters.

Note: The relation is interpreted as follows:

(print data) Rel (qualifier data)

DEFINE INDEX SPECIFICATIONS

UC (Ignore upper/lower case differences)

Specifies if upper/lower case differences are to be ignored for comparison purposes.

Y: Ignore upper/lower case differences.

N: Do not ignore upper/lower case differences.

MONITOR SELECTIONS

Monitors are tasks that monitor outqs and process spool entries placed into the outq. The administrator must define each Monitor before starting it.

The user must be an operator or security officer to control Monitors. Use the **STRSOMON** to start a Monitor and the **ENDSOMON** to stop a Monitor. Both commands can be placed in CL programs and/or submitted to batch. Both commands will produce an escape message **SPO-1000** if an error occurs. The user can monitor for this message in a CL program.

Starting a Monitor

Use the **STRSOMON** command to start a Monitor. The start command submits a task to batch using the job description **BSO40**. The parameters for the **STRSOMON** command are:

MONITOR Parameter

Specifies the monitor to start.

***ALL:** All Monitors will be started.

***ALLACT:** All Monitors defined with a status of **ACTIVE** will be started.

Stopping a Monitor

Use the **ENDSOMON** to stop a monitor. The parameters for the **ENDSOMON** command are:

MONITOR Parameter

Specifies the monitor to stop.

***ALL:** All active Monitors are stopped.

WAITEND Parameter

Specifies if control is returned to the calling program immediately or after the Monitor ends.

***NO:** Control is returned to the calling program immediately.

***YES:** Control is returned to the calling program only after the Monitor has ended. This option may be useful if tasks which need the Monitors to be down, such as a backup of library **BDSDATA**, is performed in a CL program after the **ENDSOMON** command.

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Displaying Monitor Status

Use the **DSPSOMSTS** command to display the status of all Monitors. The user must have Spool Organizer Operator or Security Officer authority to execute this command. The following screen will appear:

SpoolOrganizer/400		Monitor Status Display		2/21/95
1=Start Monitor	4=End Monitor			14:11:09
Loc: _____				
<u>Opt</u>	<u>Monitor</u>	<u>Status</u>	<u>Text</u>	
___	PRT01	ACTIVE	System Printer	
___	PRT02	INACTIVE	Accounting Printer	
F3=Exit F5=Refresh F6=DSPMSG F8=DSPJOBLOG				

The parameters and their values are as follows:

Opt (Option)

Select one of the following:

1 (Start a Monitor)

Starts the Monitor. The Monitor must be in a status of **INACTIVE**.

4 (End a Monitor)

Ends the Monitor. The Monitor must be in a status of **ACTIVE**.

Monitor

Specifies the Monitor name.

Status

Shows the current status of the Monitor. This value should not be confused with the **STATUS** parameter of the Monitor Description. One of the following will appear:

ACTIVE: The Monitor is currently active.

INACTIVE: The Monitor is not started.

F6 (DSPMSG)

Issues the OS/400 DSPMSG command to show workstation messages.

MONITOR SELECTIONS

F8 (DSPJOBLOG)

Issues the OS/400 DSPJOBLOG command to show the workstation's joblog.

ARCHIVE OUTQ TO TAPE OR OPTICAL

SpoolOrganizer provides the following commands to archive spool entries from an outq to external media:

ARCOUTQ	Archive to Tape or ARCFILE member
ARCARCFDTA	Move ARCFILE to Tape
OPTOUTQ	Archive to Optical Disk or ARCFILE member
OPTARCFDTA	Move ARCFILE to Optical Disk

The user must be defined as a SpoolOrganizer Operator or Security Officer to use the archive commands.

An **ARCFILE** is a sequential physical file with record length **4096**. SpoolOrganizer can archive spool entries to an **ARCFILE**, then move the **ARCFILE** member to tape or Optical at a later time. For a description of the **ARCARCFDTA** and **OPTARCFDTA** commands refer to Chapter 17, "Archive Online Database to Tape or Optical".

All commands can optionally write a record of each archived spool entry to the Archive or Optical Catalog. Users can query these catalogs to access the archived spool entries. For more information, refer to Chapter 24, "Search for Spool Entries".

All commands can be placed in a CL program and/or submitted to batch. All commands send an escape message **SPO-1000** if an error is detected. The message can be monitored by a CL program.

Archive Outq to Tape

The **ARCOUTQ** command will place an outq's spool entries onto a Tape. The user can select spool entries to archive based on the spool entries job date. Archived spool entries can be deleted after the archive completes normally. The spool entries (and their data) can be displayed directly from the tape, and reprinted or placed into the Online Database. For more information, refer to Chapter 18, "Display Archived Media Selections".

ARCOUTQ is a stand-alone command, the user does not have to perform any other setup functions (defining monitors, etc.) in preparation to use this command. If executed the following screen will appear:

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```

                                Archive an Outq (ARCOUTQ)
Type choices, press Enter.

Outq to Archive . . . . . _____ Name, *ALL
                                *LIBL Name, *LIBL
Device . . . . . _____ Name, *ARCFILE
      + for more values
Volume Identifier . . . . . *MOUNTED Character value, *MOUNTED
      + for more values
File label on tape                                *GENERATE
Tape sequence number . . . . . *END Number, *END
End of tape option . . . . . *REWIND *REWIND, *LEAVE, *UNLOAD
Online Database Period . . . . . DT DT, ND, NM, NY, ME, QE, YE
Online Database Value . . . . . 19900101 Number
Archive Catalog Period . . . . . DT DT, ND, NM, NY, ME, QE, YE
Archive Catalog Value . . . . . 19900101 Number
ARCFILE name . . . . . *NONE Name, *NONE
                                *LIBL Name, *LIBL
ARCFILE file member . . . . . *FILE Name, *FILE, *FIRST
                                                                More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

```

                                Archive an Outq (ARCOUTQ)
Type choices, press Enter.

Existing mbr opt for ARCFILE . . . *ERROR *REPLACE, *ERROR
File expiration date . . . . . *PERM Date, *PERM, *NONE
Delete Archived Spool Entries . . *NO *YES, *NO
Effective Relation . . . . . LT LT, GT, LE, GE, EQ, NE
Effective Period . . . . . DT DT, ND, MB, YB
Effective Value . . . . . *ALL Number, *ALL, *TODAY
User Exit Pgm . . . . . *NONE Name, *NONE
      Library . . . . . *LIBL Name, *LIBL
                                                                Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

ARCHIVE OUTQ TO TAPE OR OPTICAL

The **ARCOUQ** command has the following parameters:

Outq to Archive (OUTQ) Parameter

Specifies the outq to archive to tape. The spool entries in the outq will be archived to tape.

***ALL:** Specifies that all outqs on the system will be archived.

Device (DEV) Parameter

Specifies the tape device to use. Specify up to four devices.

***ARCFILE:** The spool entries will be archived to a special disk file. The file must be a physical sequential file with record length of **4096**. Multiple members can exist. The file must exist.

Volume Identifier (VOL) Parameter

Specifies the tape volume **ID**. Specify up to five volume **ID**'s.

***MOUNTED:** The mounted volume will be used.

File Label on Tape (FILELABEL) Parameter

Specifies the file name assigned to the spool entries when placed on tape. Specify up to 17 characters.

***GENERATE:** SpoolOrganizer will assign a unique file name. The name will have the format "**BSO**" followed by a 5-digit number (i.e. **BSO00001**).

Tape Sequence Number (SEQNBR) Parameter

Specifies the tape sequence number to place the file.

***END:** The spool entries are placed at the end of the tape.

End of Tape Option (ENDOPT) Parameter

Specifies the tape option after the archive completes.

***REWIND:** The tape rewinds and stays in a ready status.

***LEAVE:** The tape remains positioned at the end.

***UNLOAD:** The tape unloads.

Online Database Period (OLDPRD) and Online Database Value (OLVAL) Parameters

Used for compatibility with the Online Database. If at a later date a user displays the archived spool entries using a **DSPARCE** command, then moves a displayed spool entry to the Online Database, these values will be used. For more information concerning the Online Database, refer to Chapter 5, "Define

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Monitors".

Archive Catalog Period (ARCPRD) and Archive Catalog Value (ARCVAL) Parameters

Specifies if a record of each archived spool entry will be placed into the Archive Catalog and if so, the amount of time the record will remain in the Archive Catalog. SpoolOrganizer will calculate a date using the specified parameters and compare it to the current date. If the calculated date is greater than the current date then each archived spool entry will be placed into the Archive Catalog. For more information concerning the amount of time an entry will remain in the Archive Catalog, refer to Chapter 5, "Define Monitors".

DT 19900101: The spool entry will not be placed into the Optical Catalog.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE** to place the archived spool entries into. The **ARCFILE** must exist. Specify a name and a library.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member within the **ARCFILE** to place the archived spool entries. If the member does not exist it will be created.

***FILE:** The member name will be the same as the file name.

***FIRST:** The first member defined will be used.

Existing mbr opt for ARCFILE (MBROPT) Parameter

Specifies the action SpoolOrganizer will take if the **ARCFILE** member already exists.

***ERROR:** An error message is placed into the joblog and an escape message sent to the calling program. In normal situations you should specify **MBROPT(*ERROR)** on the **ARCOUTQ** command and specify **MBROPT(*REMOVE)** on the **ARCARCFDTA** command. This will insure that entries written to the **ARCFILE** are not lost.

***REPLACE:** The existing entries in the member will be replaced with the new entries.

File Expiration Date (EXPDATE) Parameter

Specifies, for tape devices, the file expiration date placed on the tape dataset. This value will be checked by **OS/400** on future write operations to the tape. If a write operation is specified (**SAVLIB** command, etc.) which would overwrite a file which is not expired, **OS/400** will send a warning message to the **QSYSOPR** msgq. Enter a date or specify one of the following:

***PERM:** The file is permanent. A future operation that writes over this label will receive a warning.

***NONE:** The file can be overwritten after it is closed.

ARCHIVE OUTQ TO TAPE OR OPTICAL

Delete Archived Spool Entries (DLTSPLE) Parameter

Specifies that archived spool entries are to be deleted from the outq after the archive completes normally.

***NO:** The archived spool entries will not be deleted.

***YES:** The archived spool entries will be deleted from the outq after the archive completes normally.

Effective Relation (EFREL) Parameter

Specifies if a spool entry is to be selected for archive based on its Job Date. Only spool entries with a Job Date which passes the calculated Effective Date test will be archived. SpoolOrganizer/400 will perform an Effective Date test using the **EFREL**, **EFPRD** and **EFVAL** parameters. It will first calculate an Effective Date using the **EFPRD** and **EFVAL** parameters. Then it will compare the calculated Effective Date to the spool entry's Job Date attribute using the specified Effective Relation. Spool Entries which pass the comparison will be archived. For example if **LT** (Less than), **ND** (num days) and **1** are specified, spool entries created before yesterday will be archived.

This parameter is ignored if **EFVAL(*ALL)** is specified.

Enter one of the following:

LT: Spool entries with Job Start dates older than the calculated Effective Date will be archived.

GT: Spool entries with Job Start dates newer than the calculated Effective Date will be archived.

LE: Spool entries with Job Start dates older than or equal to the calculated Effective Date will be archived.

GE: Spool entries with Job Start dates newer than or equal to the calculated Effective Date will be archived.

EQ: Spool entries with Job Start dates equal to the calculated Effective Date will be archived.

NE: Spool entries with Job Start dates not equal to the calculated Effective Date will be archived.

Effective Period (EFPRD) Parameter

Specifies if spool entries are to be selected for archive based on their Job Date. SpoolOrganizer will use the **EFPRD** and **EFVAL** parameters to calculate the Effective Date. Enter one of the following:

DT: The **EFVAL** parameter will contain a date, which will be used as the Effective Date. The **EFVAL** parameter may also contain one of the following values:

***ALL:** All spool entries will be selected for archive.

***TODAY:** The current day is the Effective Date.

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ND: The **EFVAL** parameter will contain the number of days from the current date to use as the Effective Date. For example a value of 1 represents yesterday.

MB: The first day of the current month is the Effective Date.

YB: The first day of the current year is the Effective Date.

Effective Value (EFVAL) Parameter

Specifies the value required by the **EFPRD** parameter defined above.

Exit Program (EXITPGM) Parameter

Specifies the name of the user-written exit program to call. This program is called prior to processing each spool entry in the specified outq(s). The exit program will pass back a return code that instructs spool organizer to process or skip the spool entry. Thus the processing spool entries can be controlled by user-written programs. For more information see the section "User Exit Program" below. Specify one of the following:

***NONE:** No exit program is called:

pgm-name, lib: Specify the name and library of the exit program. The program must exist.

Example: The following command saves the outq **JOBLOGS** to tape and deletes the archived spool entries:

```
ARCOUTQ OUTQ(JOBLOGS) DEV(QTAPE1) VOL(ARCLOG) ENDOPT(*UNLOAD)
DLTSPLE(*YES)
```

Archive Outq to Optical Disk

The **OPTOUTQ** command will place an outq's spool entries into a directory on one or more Optical Disks, or into an **ARCFILE**. The user can select spool entries to archive based on the spool entries job date. Archived spool entries can be deleted after the archive completes normally. The contents of an **ARCFILE** can be written to Optical using the **OPTARCFDTA** command. The spool entries (and their data) can be displayed directly from Optical Disk or **ARCFILE**, and reprinted or placed into the Online Database. For more information, refer to Chapter 18, "Display Archived Media Selections".

The **OPTOUTQ** command writes spool entries and an index into the specified Target Directory on the Optical disk. The Target Directory can be a subdirectory, within a tree structure. Multiple Target directories can reside on a volume. The Target Directory can only contain one SpoolOrganizer (**OPTOUTQ**, **OPTOLE**, etc.) operation.

An **OPTOUTQ** operation can span multiple Optical volumes. SpoolOrganizer will fill up the first volume and write an index of this volume's spool entries. It will create the specified path and Target

ARCHIVE OUTQ TO TAPE OR OPTICAL

Directory on the next volume, then continue writing the rest of the entries and another index on the next volume. Each index contains only the spool entries on that volume. Mount messages and End-of Volume-List messages will be issued if needed.

OPTOUTQ can optionally place a record of each archived spool entry into the Optical Catalog. Once in the Optical Catalog the spool entry can be searched, displayed, and printed similar to spool entries in the Online Database.

OPTOUTQ is a stand-alone command; the user does not have to perform any of the setup functions (defining monitors, etc.) in preparation to use this command. If executed the following screen will appear: (**Note:** This screen shows parameters when using volume ID's).

```

Archive an Outq to Optical (OPTOUTQ)

Type choices, press Enter.

Outq to Archive . . . . . > _____ Name
                                     > *LIBL      Name, *LIBL
Volume Identifier . . . . . > *ARCFILE _____
                               + for more values _____
DirPath Name . . . . . > *ROOT _____
_____
                               + for more values _____
_____
DirPath Not Found Option . . . . . *ERROR      *CREATE, *ERROR
Target Directory Name. . . . . *GENERATE _____
_____
Target Directory Exists Option . . . . . *ERROR      *REPLACE, *ERROR
Online Database Period . . . . . DT          DT, ND, NM, NY, ME, QE, YE
Online Database Value . . . . . 19900101    Number
Archive Catalog Period . . . . . DT          DT, ND, NM, NY, ME, QE, YE
Archive Catalog Value . . . . . 19900101    Number
Delete Archived Spool Entries . . . . . *NO          *YES, *NO
Delete Archived Spool Entries . . . . . *NO          *YES, *NO
Effective Relation . . . . . LT           LT, GT, LE, GE, EQ, NE
Effective Period . . . . . DT            DT, ND, MB, YB
Effective Value . . . . . *ALL          Number, *ALL, *TODAY
User Exit Pgm . . . . . *NONE          Name, *NONE
    Library . . . . . *LIBL          Name, *LIBL

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Outq to Archive (OUTQ) Parameter

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Specifies the outq to archive. The spool entries in the outq will be archived to Optical Disk.

Volume Identifier (VOL) Parameter

Specifies the Volume ID of the Optical Disk that will receive the spool entries. The volumes must be defined in the Optical Library Dataserver and must be formatted. Specify up to five volumes, or *ARCFILE.

***ARCFILE:** The spool entries will be archived to a special disk file. The file must be a physical sequential file with record length of 4096. Multiple members can exist in an ARCFILE. The file must exist.

DirPath Name(s) (DIRPATH) Parameter

Specifies the directories that make up the path that the Target Directory will be placed into. Specify up to 30 directories, or *ROOT. Example: to place the Target Directory into path /A/B/C, specify DIRPATH(A B C).

***ROOT:** The Target Directory will be placed into the root directory.

Note: The length of the path generated (including the Target Directory and slashes generated by SpoolOrganizer) cannot be greater than 63.

DirPath Not Found Option (DIROPT) Parameter

Specifies the action to take if the path specified in the DIRPATH parameter does not exist on the first volume. **Please note** that SpoolOrganizer will always create the directories in the second thru n volumes if they do not exist.

***ERROR:** The OPTOUTQ command will end in error. An error message is placed into the joblog and escape message SPO-1000 is sent to the calling program.

***CREATE:** All directories not found in the specified path will be created.

Target Directory Name (TRGTDIR) Parameter

Specifies the name of the Target Directory to contain the archived spool entries. SpoolOrganizer places multiple files into the specified Target Directory. The Target Directory is a sub directory of the path specified in the DIRPATH parameter. For example if the DIRPATH parameter defines path /A/B/C, Target Directory TGT1 will appear as /A/B/C/TGT1. If the Target Directory does not exist it will be created.

***CREATE:** SpoolOrganizer will create a unique name. The generated name will be "BSO" followed by a five-digit number (e.g. BSO00001).

Target Directory Exists Option (TDIROPT) Parameter

Specifies the action to take if the specified Target Directory already exists in the specified path on any volume.

ARCHIVE OUTQ TO TAPE OR OPTICAL

***ERROR:** The **OPTOUTQ** command will end in error. An error message is placed into the joblog and escape message SPO-1000 is sent to the calling program.

***REPLACE:** The **OPTOUTQ** command will proceed. SpoolOrganizer/400 will place the spool entries into the specified Target Directory. A new index file will be written to the Target Directory, thus making any previously written spool entries irrecoverable.

Online Database Period (OLDPRD) and Online Database Value (OLDVAL) Parameters

Used for compatibility with the Online Database. If at a later date a user displays the archived spool entries using a **DSPOPTTE** command, then moves a displayed spool entry to the Online Database, these values will be used. For more information concerning the Online Database, refer to Chapter 5, "Define Monitors".

Archive Catalog Period (ARCPRD) and Archive Catalog Value (ARCVAL) Parameters

Specifies if a record of each archived spool entry will be placed into the Optical Catalog and if so, the amount of time the record will remain in the Optical Catalog. SpoolOrganizer will calculate a date using the specified parameters and compare it to the current date. If the calculated date is greater than the current date then each archived spool entry will be placed into the Optical Catalog. For more information concerning the amount of time an entry will remain in the Optical Catalog, refer to Chapter 5, "Define Monitors".

T 19900101: The spool entry will not be placed into the Optical Catalog.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE** to place the archived spool entries into. The **ARCFILE** must exist. Specify a name and a library.

ARCFILE File member (ARCMBR) Parameter

Specifies the member within the **ARCFILE** to place the archived spool entries. If the member does not exist it will be created.

***FILE:** The member name will be the same as the file name.

***FIRST:** The first member defined will be used.

ARCFILE Member Exists Option (MBROPT) Parameter

Specifies the option SpoolOrganizer will take if the **ARCFILE** member already exists.

***ERROR:** An error message is placed into the joblog and an escape message sent to the calling program. In normal situations you should specify **MBROPT(*ERROR)** on the **OPTOUTQ** command and specify **MBROPT(*REMOVE)** on the **OPTARCFDTA** command. This will insure that entries written to an **ARCFILE** are not lost.

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***REPLACE:** The existing entries in the member will be replaced with the new entries.

Delete Archived Spool Entries (DLTSPLE) Parameter

Specifies that archived spool entries are to be deleted from the outq after the archive completes normally.

***NO:** The archived spool entries will not be deleted.

***YES:** The archived spool entries will be deleted from the outq after the archive completes normally.

Effective Relation (EFREL) Parameter

Specifies if a spool entry is to be selected for archive based on its Job Date. Only spool entries with a Job Date which passes the calculated Effective Date test will be archived. SpoolOrganizer/400 will perform an Effective Date test using the **EFREL**, **EFPRD** and **EFVAL** parameters. It will first calculate an Effective Date using the **EFPRD** and **EFVAL** parameters. Then it will compare the calculated Effective Date to the spool entry's Job Date attribute using the specified Effective Relation. Spool Entries which pass the comparison will be archived. For example if **LT** (Less than), **ND** (num days) and **1** are specified, spool entries created before yesterday will be archived.

This parameter is ignored if **EFVAL(*ALL)** is specified.

Enter one of the following:

LT: Spool entries with Job Start dates older than the calculated Effective Date will be archived.

GT: Spool entries with Job Start dates newer than the calculated Effective Date will be archived.

LE: Spool entries with Job Start dates older than or equal to the calculated Effective Date will be archived.

GE: Spool entries with Job Start dates newer than or equal to the calculated Effective Date will be archived.

EQ: Spool entries with Job Start dates equal to the calculated Effective Date will be archived.

NE: Spool entries with Job Start dates not equal to the calculated Effective Date will be archived.

Effective Period (EFPRD) Parameter

Specifies if spool entries are to be selected for archive based on their Job Date. SpoolOrganizer will use the **EFPRD** and **EFVAL** parameters to calculate the Effective Date. Enter one of the following:

DT: The **EFVAL** parameter will contain a date, which will be used as the Effective Date. The **EFVAL** parameter may also contain one of the following values:

***ALL:** All spool entries will be selected for archive.

ARCHIVE OUTQ TO TAPE OR OPTICAL

***TODAY:** The current day is the Effective Date.

ND: The **EFVAL** parameter will contain the number of days from the current date to use as the Effective Date. For example a value of 1 represents yesterday.

MB: The first day of the current month is the Effective Date.

YB: The first day of the current year is the Effective Date.

Effective Value (EFVAL) Parameter

Specifies the value required by the **EFPRD** parameter defined above.

Exit Program (EXITPGM) Parameter

Specifies the name of the user-written exit program to call. This program is called prior to processing each spool entry in the specified outq(s). The exit program will pass back a return code that instructs spool organizer to process or skip the spool entry. Thus the processing spool entries can be controlled by user-written programs. For more information see the section “User Exit Program” below. Specify one of the following:

***NONE:** No exit program is called:

pgm-name, lib: Specify the name and library of the exit program. The program must exist.

Example: The following example places the spool entries in outq **QEZJOBLOG** onto the optical disk with volume **SAVSPLE**. The path will be **JOBLOGS** and the Target directory will be **JULY95**:

```
OPTOUTQ OUTQ(QEZJOBLOG) VOL(SAVSPLE) DIRPATH(JOBLOGS)
TGTDIR(JULY95) DLTSPL(*YES)
```

User Exit Program

The **ARCOUTQ** and **OPTOUTQ** commands can optionally call a user-written program prior to processing each spool entry it selected for processing. The commands will pass to the user exit program the current spool entry’s attributes. The user exit program will signal to the command via a return code to process the spool entry or to skip it. Thus the user can tailor the spool entry selection process to meet their needs.

An example of an exit program is contained on file **BRODERICK/BSOSRC**, member **BSOAX2**. Additional usage information is specified in the member. The developers should copy this module into their own source file. The example is a CL program, but other languages such as RPG or COBOL can be used. Rename and modify your copy as desired and compile the program into your library. Specify your library/program in the **EXITPGM** parameter.

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

SpoolOrganizer provides the following commands to archive spool entries from the Online Database to an external media:

ARCOLE	Archive to Tape or ARCFILE
ARCARCFDTA	Move ARCFILE to Tape
OPTOLE	Archive to Optical Disk or ARCFILE
OPTARCFDTA	Move ARCFILE to Optical Disk

The user must be defined as a SpoolOrganizer operator or security officer to use the Archive commands.

An **ARCFILE** is a sequential physical file with record length **4096**. SpoolOrganizer can archive spool entries to an **ARCFILE**, then write the **ARCFILE** member to tape or Optical at a later time. All commands can optionally write a record of each archived spool entry to the Archive or Optical Catalog. Users can query these catalogs to access the archived spool entries. For more information, refer to Chapter 24, "Search for Spool Entries".

All commands can be placed in a CL program and/or submitted to batch. All commands send an escape message **SPO-1000** if an error is detected. The message can be monitored by a CL program. The user can select the spool entries to archive or purge by specifying an **ARCID**.

Archive Online Database to Tape

The **ARCOLE** command is used to archive spool entries in the Online Database. The archive command will create a file on the archive media that can be displayed at a later date. For more information, refer to Chapter 18, "Display Archived Media Selections". Following is the screen and parameters of the **ARCOLE** command.

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```

Archive Spool Entries (ARCOLE)

Type choices, press Enter.

Selection Specifications . . . . _____ Name, *ALL
Device . . . . . _____ Name, *ARCFILE
      + for more values _____
Volume Identifier . . . . . *MOUNTED Character value, *MOUNTED
      + for more values _____
File label on tape . . . . . *GENERATE
Tape sequence number . . . . . *END Number, *END
End of tape option . . . . . *REWIND *REWIND, *LEAVE, *UNLOAD
Archive expired entries only . . *EXPIRED *ALL, *EXPIRED
Delete archived spool entries . . *YES *YES, *NO
Update Archive Catalog . . . . . *YES *YES, *NO, *UNEXPIRED
ARCFILE name . . . . . *NONE Name, *NONE
      *LIBL Name, *LIBL
ARCFILE file member . . . . . *FILE Name, *FILE, *FIRST
Existing mbr opt for ARCFILE . . *ERROR *REPLACE, *ERROR
File expiration date . . . . . *PERM Date, *PERM, *NONE

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

Selection Specifications (ARCID) Parameter

Specifies the **ID** of the selection specifications to be used when determining eligible spool entries to archive. Only spool entries that meet the selection specifications will be archived. For more information on defining selection specifications, refer to Chapter 8, "Define Archive or Purge Criteria".

***ALL:** No selection specifications will be used to limit the spool entries to archive. Thus all spool entries will be archived.

Device (DEV) Parameter

Specifies the backup device (Tape) to place the spool entries. Specify up to four devices.

***ARCFILE:** The spool entries will be archived to a special disk file. The file must be a physical sequential file with record length **4096**. Multiple members can exist. The file must exist.

Volume Identifier (VOL) Parameter

Specifies the volume **ID(s)** of the backup Media to use for the archive. Specify up to five volumes.

***MOUNTED:** The mounted volume will be used.

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

File Label on Tape (FILELABEL) Parameter

Specifies the file label to assign to the archived spool entries.

***GENERATE:** Specifies that SpoolOrganizer is to assign a file name to the file. The generated name will begin with "BSO" and end with a 5-digit number (BSO00001, etc.).

Tape Sequence Number (SEQNBR) Parameter

Specifies the tape sequence number where the file will reside. This parameter is ignored for **ARCFILES**.

***END:** The archive file will be placed at the end of the tape.

End of Tape Option (ENDOPT) Parameter

Specifies the action the tape will perform after the archive is complete.

***REWIND:** The tape will rewind after the archive completes.

***LEAVE:** The tape will remain positioned after the archive completes.

***UNLOAD:** The tape will rewind and unload after the archive completes.

Archive Expired Entries Only (EXPENTRY) Parameter

Specifies if only expired spool entries matching the **ARCID** parameter, or all spool entries matching the **ARCID** parameter will be archived. The spool entry's expiration date is set by the Online Database Period and Value prompts when defining Monitors and Selection Criteria.

***EXPIRED:** Only spool entries that are expired, and match the search criteria (**ARCID**) will be archived.

***ALL:** All spool entries which match the search criteria (**ARCID**) will be archived.

Delete Archived Spool Entries (DLTARC) Parameter

Specifies if archived spool entries are to be removed from the online database after archived.

***YES:** Archived spool entries will be deleted from the Online Database.

***NO:** Archived spool entries will not be deleted from the Online Database.

Update Archive Catalog (UPDARCCAT) Parameter

Specifies if a record of each archived spool entry is placed into the Archive Catalog.

***YES:** A record of each archived spool entry is placed into the archive catalog.

***NO:** No records are placed into the Archive Catalog.

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UNEXPIRED: SpoolOrganizer calculates the expiration date for the entry (the date the spool entry is eligible for purge out of the Archive Catalog). Only archived spool entries that have an expiration date greater than the current system date will be recorded in the Archive Catalog.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE** to place the archived spool entries into. The **ARCFILE** must exist. Specify a name and a library.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member within the **ARCFILE** to place the archived spool entries. If the member does not exist it will be created.

***FILE:** The member name will be the same as the file name.

***FIRST:** The first member defined will be used.

Existing Member Option for ARCFILE (MBROPT) Parameter

Specifies the action SpoolOrganizer will take if the member already exists.

***ERROR:** An error message is placed into the joblog and an escape message sent to the calling program. In normal situations you should specify **MBROPT(*ERROR)** on the **ARCOLE** command and specify **MBROPT(*REMOVE)** on the **ARCARCFDTA** command. This will insure that entries not written to tape are not lost.

***REPLACE:** The existing entries will be replaced with the new entries.

File Expiration Date (EXPDATE) Parameter

Specifies, for tape devices, the file expiration date placed on the tape dataset. This value will be checked by **OS/400** on future write operations to the tape. If a write operation is specified (**SAVLIB** command, etc.) which would overwrite a file which is not expired, **OS/400** will send a warning message to the **QSYSOPR** msgq. Enter a date or specify one of the following:

DATE: The file can be overwritten after the expiration date has passed.

***PERM:** The file is permanent. A future operation that writes over this label will receive a warning.

***NONE:** The file can be overwritten after it is closed.

Example: The following example archives all joblogs and places them on the tape mounted on **QTAPE1:**

```
ARCOLE ARCID(JOBLOGS) DEV(QTAPE1) VOL(JOBLOG)
```

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

Archive Online Database to Optical Disk

The **OPTOLE** command will archive selected entries from the Online Database. It will place the spool entries into a directory on one or more Optical Disks, or into an **ARCFILE**. The contents of an **ARCFILE** can be written to Optical using the **OPTARCFDTA** command. The spool entries (and their data) can be displayed directly from Optical Disk or **ARCFILE**, and reprinted or placed into the Online Database. For more information, refer to Chapter 18, "Display Archived Media Selections".

The user can control which spool entries are archived. A search spec can be specified to limit the spool entries archived. All or expired entries can be specified. Archived spool entries can be optionally removed from the Online Database.

The **OPTOLE** command writes spool entries and an index into the specified Target Directory on the Optical Disk. The Target Directory can be a subdirectory, within a tree structure. Multiple Target directories can reside on a volume. The Target Directory can only contain one SpoolOrganizer (**OPTOUTQ**, **OPTOLE**, etc.) operation.

An **OPTOLE** operation can span multiple Optical volumes. SpoolOrganizer will fill up the first volume and write an index of this volume's spool entries. It will create the specified path and Target Directory on the next volume, then continue writing the rest of the entries and another index on the next volume. Each index contains only the spool entries on that volume. Mount messages and End-of Volume-List messages will be issued if needed.

OPTOLE can optionally place a record of specified spool entries into the Optical Catalog. Once in the Optical Catalog the spool entry can be searched, displayed, and printed similar to spool entries in the Online Database.

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```
Optical Spool Entry Archive (OPTOLE)

Type choices, press Enter.

Selection Specifications . . . . . > _____ Name, *ALL
Volume Identifier . . . . . > _____
      + for more values _____
DirPath Name(s) . . . . . *ROOT
      + for more values _____

DirPath Not Found Option . . . *ERROR *CREATE, *ERROR
Target Directory Name . . . . *GENERATE

Target Directory Exists Option *ERROR *REPLACE, *ERROR
Archive Expired Entries Only . *EXPIRED *ALL, *EXPIRED
Delete Archived Spool Entries . *YES *YES, *NO
Update Optical Catalog . . . . *YES *YES, *NO, *UNEXPIRED

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

The OPTOLE Screen and Parameters:

Selection Specifications (ARCID) Parameter

Specifies the **ID** of the selection specifications to be used when determining eligible spool entries to archive. Only spool entries that meet the selection specifications will be archived. For more information on defining selection specifications, refer to Chapter 8, "Define Archive/Purge Specifications".

***ALL:** No selection specifications will be used to limit the spool entries to archive. Thus all spool entries will be archived.

Volume Identifier (VOL) Parameter

Specifies the Volume **ID** of the Optical Disk that will receive the spool entries. The volumes must be defined in the Optical Library Dataserver and must be formatted. Specify up to five volumes, or ***ARCFILE**.

***ARCFILE:** The spool entries will be archived to a special disk file. The file must be a physical sequential file with record length of 4096. Multiple members can exist in an **ARCFILE**. The file must exist.

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

DirPath Name(s) (DIRPATH) Parameter

Specifies the directories that make up the path that the Target Directory will be placed into. Specify up to 30 directories, or ***ROOT**. Example: to place the Target Directory into path /A/B/C, specify **DIRPATH(A B C)**.

***ROOT:** The Target Directory will be placed into the root directory.

Note: The length of the path generated (including slashes generated by SpoolOrganizer) cannot be greater than **63**.

DirPath Not Found Option (DIROPT) Parameter

Specifies the action to take if the path specified in the **DIRPATH** parameter does not exist on the first volume. **Please note** that SpoolOrganizer will always create the directories in the second thru n volumes if they do not exist.

***ERROR:** The **OPTOLE** command will end in error. An error message is placed into the joblog and escape message **SPO-1000** is sent to the calling program.

***CREATE:** All directories not found in the specified path will be created.

Target Directory Name (TRGTDIR) Parameter

Specifies the name of the Target Directory to contain the archived spool entries. SpoolOrganizer places multiple files into the specified Target Directory. The Target Directory is a sub directory of the path specified in the **DIRPATH** parameter. For example if the **DIRPATH** parameter defines path /A/B/C, Target Directory **TGT1** will appear as /A/B/C/TGT1. If the Target Directory does not exist it will be created.

***CREATE:** SpoolOrganizer will create a unique name. The generated name will be **"BSO"** followed by a five-digit number (e.g. BSO00001).

Target Directory Exists Option (TDIROPT) Parameter

Specifies the action to take if the specified Target Directory already exists in the specified path on any volume.

***ERROR:** The **OPTOLE** command will end in error. An error message is placed into the joblog and escape message **SPO-1000** is sent to the calling program.

***REPLACE:** The **OPTOLE** command will proceed. SpoolOrganizer/400 will place the spool entries into the specified Target Directory. A new index file will be written to the Target Directory, thus making any previously written spool entries irrecoverable.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE** to place the archived spool entries into. The **ARCFILE** must exist. Specify a name and a library.

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ARCFILE File Member (ARCMBR) Parameter

Specifies the member within the **ARCFILE** to place the archived spool entries. If the member does not exist it will be created.

***FILE:** The member name will be the same as the file name.

***FIRST:** The first member defined will be used.

Existing mbr opt for ARCFILE (MBROPT) Parameter

Specifies the action SpoolOrganizer will take if the member already exists.

***ERROR:** An error message is placed into the joblog and an escape message sent to the calling program. In normal situations you should specify **MBROPT(*ERROR)** on the **OPTOLE** command and specify **MBROPT(*REMOVE)** on the **OPTARCFDTA** command. This will insure that entries not written to Optical are not lost.

***REPLACE:** The existing entries will be replaced with the new entries.

Archive Expired Entries Only (EXPENTRY) Parameter

Specifies if only expired spool entries matching the **ARCID** parameter, or all spool entries matching the **ARCID** parameter will be archived. The spool entry's expiration date is set by the Online Database Period and Value prompts when defining Monitors and Selection Criteria.

***EXPIRED:** Only spool entries that are expired, and match the search criteria (**ARCUD**) will be archived.

***ALL:** All spool entries which match the search criteria (**ARCID**) will be archived.

Delete Archived Spool Entries (DLTARC) Parameter

Specifies if archived spool entries are to be removed from the Online Database after archived.

***YES:** Archived spool entries will be deleted from the Online Database.

***NO:** Archived spool entries will not be deleted from the Online Database.

Update Optical Catalog (UPDOPTCAT) Parameter

Specifies if a record of each archived spool entry is placed into the Optical Catalog.

***YES:** A record of each archived spool entry is placed into the Optical Catalog.

***NO:** No records are placed into the Optical Catalog.

UNEXPIRED: SpoolOrganizer calculates the expiration date for the entry (the date the spool entry is eligible for purge out of the Optical Catalog). Only archived spool entries that have an expiration

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

date greater than the current system date will be recorded in the Optical Catalog.

Example: The following example archives all joblogs and places them on the Optical volume SAVSPLE in directory JOBLOGS. The Target Directory will be JULY95:

OPTOLE ARCID(JOBLOGS) VOL(SAVSPLE) DIRPATH(JOBLOGS) TGTDIR(JULY95)

Write ARCFILE to Tape

Use the **ARCARCFDTA** command to move the contents of an **ARCFILE** created by the **ARCOLE** or **ARCOUTQ** commands to tape. The **ARCARCFDTA** screen and parameters are:

```
Archive ARCFILE data (ARCARCFDTA)

Type choices, press Enter.

Device . . . . . Name
      + for more values
ARCFILE name . . . . . Name
                                *LIBL      Name, *LIBL
ARCFILE file member . . . *FILE      Name, *FILE, *FIRST
Volume Identifier . . . . *MOUNTED Character value, *MOUNTED
      + for more values
File label on tape . . . *GENERATE
Tape sequence number . . . *END      Number, *END
End of tape option . . . *REWIND  *REWIND, *LEAVE, *UNLOAD
Normal end member option . . *REMOVE  *REMOVE, *KEEP
Update Archive Catalog . . . *YES     *YES, *NO, *UNEXPIRED
File expiration date . . . *PERM    Date, *PERM, *NONE

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

Device (DEV) Parameter

Specifies the backup device(s) to place the spool entries. Specify up to four devices.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the ARCFILE.

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ARCFILE File Member (ARCMBR) Parameter

Specifies the member in the **ARCFILE** to move to tape.

Volume Identifier (VOL) Parameter

Specifies the volume **ID**(s) of the backup Media to use for the archive. Specify up to five volumes.

***MOUNTED:** The mounted volume will be used.

File Label on Tape (FILELABEL) Parameter

Specifies the file label to assign to the archived spool entries.

***GENERATE:** Specifies that SpoolOrganizer is to assign a file name to the file. The generated name will begin with "BSO" and end with a 5-digit number (BSO00001, etc.).

Tape sequence Number (SEQNBR) Parameter

Specifies the tape sequence number where the file will reside. This parameter is ignored for **ARCFILES**.

***END:** The archive file will be placed at the end of the tape.

End of Tape Option (ENDOPT) Parameter

Specifies the action the tape will perform after the archive is complete.

***REWIND:** The tape will rewind after the archive completes.

***LEAVE:** The tape will remain positioned after the archive completes.

***UNLOAD:** The tape will rewind and unload after the archive completes.

Normal end Member Option (MBROPT) Parameter

Specifies the action SpoolOrganizer will take if the archive completes normally.

***REMOVE:** The member is removed from the **ARCFILE**.

***KEEP:** The member is not removed from the **ARCFILE**.

Update Archive Catalog (UPDARCCAT) Parameter

Specifies if a record of each archived spool entry is placed into the Archive Catalog.

***YES:** A record of each archived spool entry is placed into the archive catalog.

***NO:** No records are placed into the Archive Catalog.

***UNEXPIRED:** SpoolOrganizer calculates the expiration date for the entry (the date the spool entry is eligible for purge out of the Archive Catalog). Only archived spool entries that have an AC expiration date greater than the current system date will be recorded in the Archive Catalog.

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

File Expiration Date (EXPDATE) Parameter

Specifies the file expiration date placed on the tape dataset. This value will be checked by **OS/400** on future write operations to the tape. If a write operation is specified (**SAVLIB** command, etc.) which would overwrite a file which is not expired, **OS/400** will send a warning message to the **QSYSOPR** msgq. Enter a date or specify one of the following:

***PERM:** The file is permanent. A future operation that writes over this label will receive a warning.

***NONE:** The file can be overwritten after it is closed.

Example: The following example writes the member **JULY95** in **ARCFILE** **JOBLOGS** to tape:

```
ARCARCFDTA DEV(QTAPE1) ARCFILE(JOBLOGS) ARCMBR(JULY95) VOL(SAVSPL)
```

Write ARCFILE to Optical Disk

Use the **OPTARCFDTA** command to move the contents of an **ARCFILE** created by the **OPTOLE** or **OPTOUTQ** commands to Optical disk.

The **OPTARCFDTA** Screen and Parameters are:

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```

Archive ARCFILE to Optical (OPTARCFDTA)

Type choices, press Enter.

ARCFILE name . . . . . _____          Name
                                     *LIBL          Name, *LIBL
ARCFILE file member . . . . . *FILE          Name, *FILE, *FIRST
Volume Identifier . . . . . *ARCFILE
      + for more values _____
DirPath Name(s) . . . . . *ROOT
      + for more values _____

DirPath Not Found Option . . . . *ERROR          *CREATE, *ERROR
Target Directory Name . . . . . *GENERATE

Target Directory Exists Option      *ERROR          *REPLACE, *ERROR
Normal end member option . . . . *REMOVE          *REMOVE, *KEEP
Update Optical Catalog . . . . . *YES          *YES, *NO, *UNEXPIRED

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
  
```

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the ARCFILE.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member in the ARCFILE to move to Optical disk.

Volume Identifier (VOL) Parameter

Specifies the Volume **ID** of the Optical Disk that will receive the spool entries. The volumes must be defined in the Optical Library Dataserver and must be formatted. Specify up to five volumes, or *ARCFILE.

***ARCFILE:** The Volume name will be the same as the ARCFILE name.

DirPath Name(s) (DIRPATH) Parameter

Specifies the directories that make up the path that the Target Directory will be placed into. Specify up to 30 directories, or *ROOT. **Example:** to place the Target Directory into path /A/B/C, specify DIRPATH(A B C).

ARCHIVE ONLINE DATABASE TO TAPE OR OPTICAL

***ROOT:** The Target Directory will be placed into the root directory.

Note: The length of the path generated (including the Target Directory and slashes generated by SpoolOrganizer) cannot be greater than **63**.

DirPath Not Found Option (DIROPT) Parameter

Specifies the action to take if the path specified in the **DIRPATH** parameter does not exist on the first volume. **Please note** that SpoolOrganizer will always create the directories in the second thru n volumes if they do not exist.

***ERROR:** The **OPTARCFDTA** command will end in error. An error message is placed into the joblog and escape message **SPO-1000** is sent to the calling program.

***CREATE:** All directories not found in the specified path will be created.

Target Directory Name (TRGTDIR) Parameter

Specifies the name of the Target Directory to contain the archived spool entries. SpoolOrganizer places multiple files into the specified Target Directory. The Target Directory is a sub directory of the path specified in the **DIRPATH** parameter. For example: if the **DIRPATH** parameter defines path /A/B/C, Target Directory **TGT1** will appear as /A/B/C/TGT1. If the Target Directory does not exist it will be created.

***CREATE:** SpoolOrganizer will create a unique name. The generated name will be "**BSO**" followed by a five-digit number (e.g. BSO00001).

Target Dir Exists Option (TDIROPT) Parameter

Specifies the action to take if the specified Target Directory already exists in the specified path on any volume.

***ERROR:** The **OPTARCFDTA** command will end in error. An error message is placed into the joblog and escape message **SPO-1000** is sent to the calling program.

***REPLACE:** The **OPTARCFDTA** command will proceed. Spool Organizer/400 will place the spool entries into the specified Target Directory. A new index file will be written to the Target Directory, thus making any previously written spool entries irrecoverable.

Normal End Member Option (MBROPT) Parameter

Specifies the action SpoolOrganizer will take if the archive completes normally.

***REMOVE:** The member is removed from the **ARCFILE**.

***KEEP:** The member is not removed from the **ARCFILE**.

Update Optical Catalog (UPDOPTCAT) Parameter

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Specifies if a record of each archived spool entry is placed into the Optical Catalog.

***YES:** A record of each archived spool entry is placed into the Optical Catalog.

***NO:** No records are placed into the Optical Catalog.

***UNEXPIRED:** SpoolOrganizer calculates the expiration date for the entry (the date the spool entry is eligible for purge out of the Optical Catalog). Only archived spool entries that have an expiration date greater than the current system date will be recorded in the Optical Catalog.

Example: The following example writes the member **JULY95** in **ARCFILE JOBLOGS** to Optical disk:

```
OPTARCFDTA ARCFILE(JOBLOGS) ARCMBR(JULY95) VOL(SAVSPLE)  
DIRPATH(JOBLOGS) TGTDIR(JULY95)
```

DISPLAY AND RESTORE MEDIA SELECTIONS

SpoolOrganizer provides the following commands to display spool entries archived to external media:

DSPARCE Display Tape or ARCFILE entries
DSPOPTE Display Optical Disk entries

The user must be defined as a SpoolOrganizer operator or security officer to use the display commands.

Note: Users can also query spool entries on Tape or Optical Disk. For more information, refer to Chapter 24, "Search for Spool Entries".

Display Tape or ARCFILE Entries

The user can display the spool entries archived on a specific file label on a volume. The archived spool entries can reside on tape or an **ARCFILE**. The user can select entries to display on the screen. The user can browse the list of entries and display the spool entry, print the entry, or move it to the Online Database.

Warning: Read or change authority is not checked when displaying archived spool entries. The user can display the contents of all spool entries.

At the command line, enter **DSPARCE** and the following screen will appear:

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```

Display Archived Spool Entries (DSPARCE)

Type choices, press Enter.
Device . . . . . _____ Name, *ARCFILE
      + for more values _____
Volume Identifier . . . . . *MOUNTED Character value, *MOUNTED
      + for more values _____
File label on tape . . . . . _____
Tape sequence number . . . . . *SEARCH Number, *SEARCH
End of tape option . . . . . *REWIND *REWIND, *LEAVE, *UNLOAD
Job Names to Display . . . . . *ALL Character value, *ALL
Job Users to Display . . . . . *ALL Character value, *ALL
Job Numbers to Display . . . . . *ALL Character value, *ALL
Splf Names to Display . . . . . *ALL Character value, *ALL
Forms to Display . . . . . *ALL Character value, *ALL
Group Profiles to Display . . . . . *ALL Character value, *ALL
User Data to Display . . . . . *ALL Character value, *ALL
User Remarks to Display . . . . . *ALL
Job Date to Display . . . . . *ALL Date, *ALL

More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

```

Display Archived Spool Entries (DSPARCE)

Type choices, press Enter.

Outq's to Display *ALL Character value, *ALL
Outq Libraries to Display *ALL Character value, *ALL
ARCFILE name . . . . . *NONE Name, *NONE
                        *LIBL Name, *LIBL
ARCFILE file member . . . . . *FILE Name, *FILE, *FIRST, *LAST

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

The **DSPARCE** command has the following parameters:

Device (DEV) Parameter

Specifies the device(s) that contain the archived spool entries. Specify up to four devices.

DISPLAY AND RESTORE MEDIA SELECTIONS

***ARCFILE:** The archived spool entries are in an **ARCFILE**.

Volume Identifier (VOL) Parameter

Specifies the volume **ID**(s) of the media to display. Specify up to five volume **ID**'s.

***MOUNTED:** Volume **ID** checking is not performed.

File Label on Tape (FILELABEL) Parameter

Specifies the file label the spool entries were archived by, this parameter is optional for tapes.

Tape Sequence Number (SEQNBR) Parameter

Specifies the tape sequence number where the archived spool entries reside. This parameter is required for tapes.

***SEARCH:** The tape is searched until the specified **FILELABEL** is found.

End of Tape Option (ENDOPT) Parameter

Specifies the action performed after the archived entries are displayed.

Selection Specifications Parameters

The **JOBNAME**, **JOBUSER**, **JOBNUM**, **SPLFILE**, **FORMSID**, **GRPPRF**, **UDATA**, **UREMK**, **DATE**, and **OUTQ** parameters can be used to limit the number of spool entries displayed. If more than one of the parameters are specified, the spool entry must match all before the spool entry is displayed.

If the last character is a * the specification is considered generic. For example if **QP*** is specified, it will match **QPJOBLOG**, etc. but ***STD** will only match ***STD**.

***ALL:** The field is not used to limit the number of spool entries displayed.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE**.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member in the **ARCFILE** to display.

See "Spool Entry List Display" below for a description of the list of spool entries displayed.

Display Optical Disk Entries

The user can display the spool entries archived to a specific Target Directory on an Optical volume. The user can select entries to display on the screen. The user can browse the list of entries and display the spool entry, print the entry, or move it to the Online Database.

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Note: To display the contents of an **ARCFILE** member created using the **OPTOLE** or **OPTOUTQ** commands, use the **DSPARCE** command described above.

Warning: Read or change authority is not checked when displaying archived spool entries. The user can display the contents of all spool entries.

```

                                Display Optical Spool Entries (DSPOPTE)

Type choices, press Enter.

Volume Identifier . . . . . _____
Directory Path Name(s) . . . . _____
                                _____
                                +for more values _____

Job Names to Display . . . . .  *ALL      Character value, *ALL
Job Users to Display . . . . .  *ALL      Character value, *ALL
Job Numbers to Display . . . . . *ALL      Character value, *ALL
Splf Names to Display . . . . .  *ALL      Character value, *ALL
Forms to Display . . . . .       *ALL      Character value, *ALL
Group Profiles to Display . . . . *ALL      Character value, *ALL
User Data to Display . . . . .    *ALL      Character value, *ALL
User Remarks to Display . . . . . *ALL      _____
Job Date to Display . . . . .    *ALL      Date, *ALL
First entry to display . . . . .  *FIRST

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

The **DSPOPTE** screen has the following parameters:

Volume Identifier (VOL) Parameter

Specifies the volume **ID** of the Optical disk display.

Directory Path Names (DIRPATH) Parameter

Specifies the directory path (including the Target Directory) that contains the spool entries to display. Do not include a leading or trailing slash (/). For example to display the entries in Target Directory /JOBLOGS/JULY95/ enter **DIRPATH**('JOBLOGS/JULY95').

Selection Specifications Parameters

The **JOBNAME**, **JOBUSER**, **JOBNUM**, **SPLFILE**, **FORMSID**, **GRPPRF**, **UDATA**, **UREMK**, and

DISPLAY AND RESTORE MEDIA SELECTIONS

DATE parameters can be used to limit the number of spool entries displayed. If more than one of the parameters are specified, the spool entry must match all before the spool entry is displayed.

If the last character is a * the specification is considered generic. For example if **QP*** is specified, it will match **QPJOBLOG**, etc. but ***STD** will only match ***STD**.

***ALL:** The field is not used to limit the number of spool entries displayed.

See "Spool Entry List Display" below for a description of the list of spool entries displayed.

First entry to display (FIRSTREC) Parameter

Specifies the first entry to display. Spool Organizer can only build a list of 9999 entries that match the input specifications. If more than 9999 entries match, only the first 9999 will be displayed and a message will be displayed. To see the remaining entries, specify a value of 10000, etc.

***FIRST:** The matching entries, starting with the first entry are displayed.

Spool Entries List Display

After the **DSPARCE** or **DSPORTE** commands are entered a screen similar to the following screen will appear:

SpoolOrganizer		Archived Spool Entry Display		10/13/89	11:44:48		
Volume ID: BDS		Date Archived: 08/11/89		Num Entries: 2			
Label: BSO00010		Time Archived: 12:27:54		Target Outq: _____			
Seq: 0001	File Level: 0001	Archived by: MAB					
X	Job Name	Job User	File Name	User Data	Form ID	Pages	Date
_	BSO23	MAB	QPJOBLOG	BSO23	*STD	2	8/08/89
_	W1	DJP	INVPRT		INVOICE	167	08/08/89
F3=Exit F4=Prompt 1=Dsp Attr 5=Display 6=Print (F4) 7=Move to Online							

Valid, Label, Seq

Shows the attributes the displayed spool entries were saved by when archived.

File Level

Displays the level of SpoolOrganizer that created the Archive file. Prior to SpoolOrganizer release 3.0, the file level is 1. Release 3.0 or later is 2.

Date Archived, Time Archived

Shows the date and time the displayed spool entries were archived.

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Archived By

Shows the user profile that performed the archive.

Num Entries

Shows the number of archived spool entries contained in this file.

Target Outq

Specifies the outq to place spool entries the user requests to print.

The user may take the following options:

1: Display Attributes

The attributes of the spool entry are displayed.

5: Display

The spool entry is displayed on the screen. See Chapter 27, "Display Spool Entries" for more information.

6: Print

The spool entry is printed to the specified outq.

7: Move to Online

The spool entry is moved to the Online Database.

Note: File level 1 entries (created with SpoolOrganizer release 2.0 or earlier) cannot be moved to the Online Database.

F3: Exit

Exits the display.

F4: Prompt

Allows the user to enter attributes when spool entries are selected for print.

F7: Previous (DSPOPTE)

For multivolume archives, the spool entries on the previous volume will be displayed.

F8: Next (DSPOPTE)

For multivolume archives, the spool entries on the next volume will be displayed.

Note: When writing spool entries to multiple Optical volumes, SpoolOrganizer stores a volume list of up to six volumes on each volume. For example if an **OPTOUTQ** command writes to volumes **V1**, **V2**, and **V3**, all three volumes will be stored in the header for V1's spool entries. The **DSPOPTE** command uses this volume list when **F7** (previous) or **F8** (next) is pressed. However certain combinations of volume problems and operator interventions can cause the volume list stored to be inaccurate. If any volumes

DISPLAY AND RESTORE MEDIA SELECTIONS

specified in the volume list are not defined to Optical support, are not mounted, or do not have sufficient space, SpoolOrganizer will request a response on msgq **QSYSOPR**. If the operator specifies a new volume for the volume in error, SpoolOrganizer will attempt to change the volume list on all previously written volumes. This change is attempted after all spool entries are written to Optical disk. If one of the previously written volumes is no longer mounted when SpoolOrganizer attempts to change its volume list, that volume will not be updated. This may cause pressing **F7** (previous) or **F8** (next) to not function correctly.

F7/F8: Prev/Next (DSTARCE)

Are only displayed if more than 9999 spool entries are selected to display. If more than 9999 entries are selected, a list of 9999 entries is displayed. The user can press **F8** to show the next (up to 9999) spool entries. Pressing **F7** will then return to the previous block of spool entries.

Restore an Outq

Use the **RSTARCE** command to restore spool entries that were archived using the **ARCOUTQ** or **ARCOLE** commands. The user must be defined as a Spool Organizer Operator or Security Officer. All archived entries, or a subset can be restored. The spool entries can be restored to the same outq they were retrieved from, or to a specified outq.

Note: To restore individual spool entries, it is recommended to use the restore capabilities of the **DSTARCE** (display archived media) command.

At the command line, enter **RSTARCE** and the following screen will appear:

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Restore Tape/ARCFILE Entries (RSTARCE)

Type choices, press Enter.

Device	_____	Name, *ARCFILE
+ for more values	_____	
Volume Identifier	<u>*MOUNTED</u>	Character value, *MOUNTED
+ for more values	_____	
File label on tape	_____	
Tape sequence number	<u>*SEARCH</u>	Number, *SEARCH
End of tape option	<u>*REWIND</u>	*REWIND, *LEAVE, *UNLOAD
Job Names to Restore	<u>*ALL</u>	Character value, *ALL
Job Users to Restore	<u>*ALL</u>	Character value, *ALL
Job Numbers to Restore	<u>*ALL</u>	Character value, *ALL
Splf Names to Restore	<u>*ALL</u>	Character value, *ALL
Forms to Restore	<u>*ALL</u>	Character value, *ALL
Group Profiles to Restore	<u>*ALL</u>	Character value, *ALL
User Data to Restore	<u>*ALL</u>	Character value, *ALL
User Remarks to Restore	<u>*ALL</u>	
Job Date to Restore	<u>*ALL</u>	Date, *ALL

More. . .

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

Restore Tape/ARCFILE Entries (RSTARCE)

Type choices, press Enter.

Outq's to Restore	<u>*ALL</u>	Character value, *ALL
Outq Libraries to Restore	<u>*ALL</u>	Character value, *ALL
ARCFILE name	<u>*NONE</u>	Name, *NONE
	<u>*LIBL</u>	Name, *LIBL
ARCFILE file member	<u>*FILE</u>	Name, *FILE, *FIRST,
*LAST		
Restore to Outq	<u>*SAVOUTQ</u>	Name, *SAVOUTQ
	<u>*LIBL</u>	Name, *LIBL

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

DISPLAY AND RESTORE MEDIA SELECTIONS

The **RSTARCE** command has the following parameters:

Device (DEV) Parameter

Specifies the device(s) that contain the archived spool entries. Specify up to four devices.

***ARCFILE:** The archived spool entries are in an **ARCFILE**.

Volume Identifier (VOL) Parameter

Specifies the volume **ID**(s) of the media to restore. Specify up to five volume **ID**'s.

***MOUNTED:** Volume **ID** checking is not performed.

File Label on Tape (FILELABEL) Parameter

Specifies the file label the spool entries were archived by. This parameter is optional for tapes.

Tape Sequence Number (SEQNBR) Parameter

Specifies the tape sequence number where the archived spool entries reside. This parameter is optional for tapes.

***SEARCH:** The tape is searched until the specified **FILELABEL** is found.

Note: For tape processing, you must specify the File Label, Sequence Number, or both.

End of Tape Option (ENDOPT) Parameter

Specifies the action performed after the archived entries are restored.

Selection Specifications Parameters

The **JOBNAME**, **JOBUSER**, **JOBNUM**, **SPLFILE**, **FORMSID**, **GRPPRF**, **UDATA**, **UREMK**, **DATE**, and **OUTQ** parameters can be used to limit the number of spool entries restored. If more than one of the parameters are specified, the spool entry must match all before the spool entry is restored.

If the last character is a * the specification is considered generic. For example if **QP*** is specified, it will match **QPJOBLOG**, etc. but ***STD** will only match ***STD**.

***ALL:** The field is not used to limit the number of spool entries restored.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE**.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member in the **ARCFILE** to restore.

Restore to Outq (RSTOUTQ) Parameter

Specifies the outq restore to spool entries into. The outq must exist.

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***SAVOUTQ:** The spool entries will be restored into the outq they were archived from.

Restore to the Online Database

Use the **RSTOLDB** command to restore to the Online Database spool entries that were archived using the **ARCOUQ** or **ARCOLE** commands. The user must be defined as a Spool Organizer Operator or Security Officer. All archived entries, or a subset can be restored. Entries that exist in the online database will be skipped.

If a spool entry contains a record in the Archive Catalog, and Index records based on this spool entry exist, the Index will be updated to show the spool entry in the Online Database.

Note: To restore individual spool entries, it is recommended to use the restore capabilities of the **DSPARCE** (display archived media) command.

At the command line, enter **RSTOLDB** and the following screen will appear:

```

                                Move Archived Entries to OLDB (RSTOLDB)

Type choices, press Enter.

Device. . . . . _____ Name, *ARCFILE
      + for more values   _____
Volume Identifier . . . . *MOUNTED _____ Character value,
*MOUNTED
      + for more values   _____
File label on tape . . . . _____
Tape sequence number . . . . *SEARCH _____ Number, *SEARCH
End of tape option . . . . *REWIND _____ *REWIND, *LEAVE, *UNLOAD
Job Names to Restore . . . . *ALL _____ Character value, *ALL
Job User to Restore . . . . *ALL _____ Character value, *ALL
Job Numbers to Restore . . . . *ALL _____ Character value, *ALL
Splf Names to Restore . . . . *ALL _____ Character value, *ALL
Forms to Restore . . . . *ALL _____ Character value, *ALL
Group Profiles to Restore . . *ALL _____ Character value, *ALL
User Data to Restore . . . . *ALL _____ Character value, *ALL
User Remarks to Restore . . . *ALL _____
Job Date to Restore . . . . *ALL _____ Date, *ALL

More . . .
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

DISPLAY AND RESTORE MEDIA SELECTIONS

```
Move Archived Entries to OLDB (RSTOLDB)

Type choices, press Enter.

Outqs to Restore          *ALL          Character value, *ALL
Outq Libraries to Restore *ALL          Character value, *ALL
ARCFILE name . . . . . *NONE          Name, *NONE
                          *LIBL          Name, *LIBL
ARCFILE file member . . . . . *FILE          Name, *FILE, *FIRST, *LAST

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

The **RSTOLDB** command has the following parameters:

Device (DEV) Parameter

Specifies the device(s) that contain the archived spool entries. Specify up to four devices.

***ARCFILE:** The archived spool entries are in an **ARCFILE**.

Volume Identifier (VOL) Parameter

Specifies the volume **ID**(s) of the media to restore. Specify up to five volume **ID**'s.

***MOUNTED:** Volume ID checking is not performed.

File Label on Tape (FILELABEL) Parameter

Specifies the file label the spool entries were archived by. This parameter is optional for tapes.

Tape Sequence Number (SEQNBR) Parameter

Specifies the tape sequence number where the archived spool entries reside. This parameter is optional for tape.

***SEARCH:** The tape is searched until the specified **FILELABEL** is found.

Note: For tape processing, you must specify the File Label, Sequence Number, or both.

End of Tape Option (ENDOPT) Parameter

Specifies the action performed after the archived entries are restored.

Selection Specifications Parameters

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The **JOBNAME**, **JOBUSER**, **JOBNUM**, **SPLFILE**, **FORMSID**, **GRPPRF**, **UDATA**, **UREMK**, **DATE**, and **OUTQ** parameters can be used to limit the number of spool entries restored. If more than one of the parameters are specified, the spool entry must match all before the spool entry is restored.

If the last character is a * the specification is considered generic. For example if **QP*** is specified, it will match **QPJOBLOG**, etc. but ***STD** will only match ***STD**.

***ALL:** The field is not used to limit the number of spool entries restored.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE**.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member in the **ARCFILE** to restore.

PURGE SELECTIONS

SpoolOrganizer provides the following commands to purge the Online Database and the Archive/Optical Catalogs:

PURROLE	Purge spool entries from the Online Database
PUROPTCAT	Purge spool entry records from the Optical Catalog
PURARCCAT	Purge spool entry records from the Archive Catalog

The user must be defined as a SpoolOrganizer operator or security officer to use the purge commands.

Purge the Online Database

Purging the Online Database removes spool entries from the online database without archiving the spool entry to tape or Optical Disk.

The parameters of the **PURROLE** command are:

Selection Specifications (ARCID) Parameter

Specifies the **ID** of the selection specifications to be used when determining eligible spool entries to purge. Only spool entries which meet the selection specifications will be purged. For more information concerning defining selection specifications, refer to Chapter 8, "Define Archive or Purge Specifications".

ALL: No selection specifications will be used to limit the spool entries to purge. Thus all spool entries will be purged.

Purge Expired Entries Only (EXPENTRY) Parameter

Specifies if only expired spool entries matching the **ARCID** parameter, or all spool entries matching the **ARCID** parameter will be purged. The spool entry's expiration date is set by the Online Database Period and Value prompts when defining Monitors and Selection Criteria.

EXPIRED: Only spool entries which are expired, and match the search criteria (**ARCID**) will be purged.

ALL: All spool entries which match the search criteria (**ARCID**) will be purged.

Purge the Optical Catalog

The **PUROPTCAT** command removes spool entries from the Optical Catalog.

The parameters of the **PUROPTCAT** command are:

Selection Specifications (ARCID) Parameter

Specifies the **ID** of the selection specifications to be used when determining eligible spool entries to

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purge. Only spool entries which meet the selection specifications will be purged. For more information concerning defining selection specifications, refer to Chapter 8, "Define Archive or Purge Specifications".

***ALL:** No selection specifications will be used to limit the spool entries to purge. Thus all spool entries will be purged.

Purge Expired Entries Only (EXPENTRY) Parameter

Specifies if only expired spool entries matching the **ARCID** parameter, or all spool entries will be purged. The spool entry's expiration date is set by the Archive Catalog Period and Value prompts when defining Monitors and Selection Specifications.

***EXPIRED:** Only spool entries which are expired and match the search criteria (**ARCID**) will be purged.

***ALL:** All spool entries which match the search criteria (**ARCID**) will be purged.

Purge the Archive Catalog

The **PURARCCAT** command removes spool entries from the Archive Catalog.

The parameters for the **PURARCCAT** are:

Selection Specifications (ARCID) Parameter

Specifies the **ID** of the selection specifications to be used when determining eligible spool entries to purge. Only spool entries which meet the selection specifications will be purged. For more information concerning defining selection specifications, refer to Chapter 8, "Define Archive or Purge Criteria".

***ALL:** No selection specifications will be used to limit the spool entries to purge. Thus all spool entries will be purged.

Purge Expired Entries Only (EXPENTRY) Parameter

Specifies if only expired spool entries matching the **ARCID** parameter, or all spool entries matching the **ARCID** parameter will be purged. The spool entry's expiration date is set by the Archive Catalog Period and Value prompts when defining Monitors and Selection Criteria.

***EXPIRED:** Only spool entries which are expired and match the search criteria (**ARCID**) will be purged.

***ALL:** All spool entries which match the search criteria (**ARCID**) will be purged.

To selectively delete spool entries from the SpoolOrganizer log the administrator can write a program or can use the BDS supplied command **PURSOLOG**.

PURGE SELECTIONS

Purge the SpoolOrganizer Log

The administrator can write a program to read and remove records from the SpoolOrganizer Log. See Chapter 30, "Display SpoolOrganizer Log" for more information. SpoolOrganizer also supplies the **PURSOLOG** command, which removes Log records. At the command line, enter **PURSOLOG** and the following screen will appear:

```
Purge SpoolOrganizer Log (PURSOLOG)

Type choices, press Enter.

Start Date to Delete . . . . .   *FIRST           Date, *FIRST
End Date to Delete               *LAST           Date, *LAST
Reorganize the Log File. . . . . *DLTRCD         *DLTRCD, *YES, *NO

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

The **PURSOLOG** command has the following parameters:

Start Date to Delete (STRDATE) Parameter

Specifies the date value of the first record to delete. Specify a date, or the following:

***FIRST:** The purge will begin with the first record.

End Date to Delete (ENDDATE) Parameter

Specifies the date value of the last record to delete. Specify a date, or the following:

***LAST:** The purge will end with the last record.

Reorganize the Log File (REORG) Parameter

Specifies if the log file, **BSOLOG**, is to be reorganized after the specified records are purged. Please note that in OS/400 data file management, record deletes do not actually free up disk storage. The OS/400 **RGZPFM** command (executed when **REORG(*YES)** is specified) must be executed to free up storage due to deleted records. However the **RGZPFM** command requires an exclusive lock on file **BSOLOG** which may cause it to fail if other Spool Organizer tasks are active.

***DLTRCD:** The reorganization will occur only if records were deleted.

***YES:** File **BSOLOG** will be reorganized.

***NO:** File **BSOLOG** will not be reorganized.

CONTROL THE BUNDLE MANAGER

The Bundle Manager is a task that receives spool entries from Monitors and places them into Bundles. It also prints and deletes Bundles at their calculated times. The Bundle Manager uses Bundle Descriptions to process spool entries. For more information, refer to Chapter 13, "Define Bundle Specifications". The Bundle Manager is started using the **STRBDLMGR** command. It is ended using the **ENDBDLMGR** command.

Starting the Bundle Manager

Issue the **STRBDLMGR** command to start the Bundle Manager. Only one Bundle Manager task can be active. The **STRBDLMGR** parameters are as follows:

Startup Type (STRTYPE) Parameter

Specifies the type of start up to perform:

***NORMAL:** Specifies a normal start up. If the Bundle Manager did not end normally, recovery will be attempted. For most situations, ***NORMAL** should be specified.

***RESET:** Specifies that the Bundle Manager should skip any spool entry requests (sent by Monitors) that are not complete, and start with the next request. Please note that the Bundle Manager receives spool entry requests from Monitors via a data queue, and some requests span multiple data segments. In most circumstances the Bundle Manager can recover with the ***NORMAL** option even if it ended abnormally in the middle of processing a request block. However, if the Bundle Manager has a problem starting normally, the ***RESET** option may allow the Bundle Manager to start. Please note that user spool entries may be lost if ***RESET** is specified.

***COLD:** Specifies that the Bundle Manager should clear its input data queue. All spool entry requests sent by Monitors will be ignored. Spool entries that were to be placed into Bundles may be lost. All Monitors which send spool entries to the Bundle Manager should be stopped before starting the Bundle Manager with **STRTYPE(*COLD)**

Ending the Bundle Manager

Specify the **ENDBDLMGR** command to end the Bundle Manager. The Bundle manager will end after it finishes processing the current spool entry request from a Monitor.

Wait Until Ended to Continue (WAITEND) Parameter

Specifies if control is returned to the calling program immediately or after the Bundle Manager ends.

***NO:** Control is returned to the calling program immediately.

***YES:** Control is returned to the calling program only after the Bundle Manager has ended. This option may be useful if tasks that need the Bundle Manager to be down, such as a backup of library

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BDSDATA, is performed in a **CL** program after the **ENDBDLMGR** command.

Applying Bundle Descriptions to Production

SpoolOrganizer maintains 2 copies of the Bundle Descriptions, an **Administrative Copy** and the **Production Copy**. The Bundle Manager and Monitors that process Bundle Descriptions must be ended before the **APYBDLCHG** command is executed. The **APYBDLCHG** command has no parameters.

Display Production Specifications

Bundle Descriptions are used by the Bundle Manager, and by Monitors to process spool entries. Two sets of Bundle Descriptions exist in SpoolOrganizer; an **Administrative Copy** and a **Production Copy**. This allows the administrator to make changes while the Monitors/Bundle Manager are active. The **APYBDLCHG** command copies the administrative copy into the production copy. Menu options allow the administrator to display/change the administrative copy and allow users to display the production copy.

Setting Active Classes

Bundles and Bundle Entries have Active Classes as part of their descriptions. These Active Classes are used to tell the Bundle Manager when they are eligible for spool entries. Use the **SETACTCLS** (set Active Classes) command to set the active classes. Bundles and Bundle Entries with at least one matching Class on their corresponding Description will be considered Active.

Note: Bundles and Bundle Entries defined with Active Class **ALL** are always active and are not affected by the **SETACTCLS** command.

The Bundle Manager, and Monitors which process spool entries for Bundles, must be inactive when updating Active Classes. Enter the **SETACTCLS** command and press F4 to prompt. The following screen will appear:

CONTROL THE BUNDLE MANAGER

```
Set Active Classes (SETACTCLS)
Type choices, press Enter.

Option . . . . . *UPDATE      *UPDATE, *DISPLAY
Active Classes . . . . . *SELECT  Character value, *SELECT
                + for more values  =====

More. . .
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

Option (OPTION) Parameter

Specify one of the following:

***UPDATE:** Specifies an update is planned. The Bundle Manager and Monitors processing spool entries for Bundles cannot be active.

***DISPLAY:** Specifies that no update is planned. The user will not be able to change values.

Active Classes (ACTCLS) Parameter

Specifies the Classes to set as active. Specify up to 10 Classes. Each must be 1 to 3 characters, and must be OS/400 type CNAME. Or specify *SELECT:

***SELECT:** A screen will appear showing the currently set Active Classes. The user can set new Classes (if *UPDATE). Please note *SELECT cannot be specified in batch.

Example: The following command will set ME as the Active Class:

```
SETACTCLS OPTION(*UPDATE) ACTCLS(ME)
```

CONTROL THE INDEX MANAGER

The Index Manager is a task which receives spool entries from Monitors and places specified values in them into Indexes. Users can then search the Indexes. The Index Manager uses Index Specifications to process spool entries. For more information, refer to Chapter 14, "Define Index Specifications". The Index Manager is started using the **STRIDXMGR** command. It is ended using the **ENDIDXMGR** command.

Starting the Index Manager

Issue the **STRIDXMGR** command to start the Index Manager. Only one Index Manager task can be active. The **STRIDXMGR** parameters are as follows:

Startup Type (STRTYPE) Parameter

Specifies the type of start up to perform:

***NORMAL:** Specifies a normal start up. If the Index Manager did not end normally, recovery will be attempted. For most situations, ***NORMAL** should be specified.

***RESET:** Specifies that the Index Manager should skip any spool entry requests (sent by Monitors) which are not complete, and start with the next request. Please note that the Index Manager receives spool entry requests from Monitors via a data queue, and some requests span multiple data segments. In most circumstances the Index Manager can recover with the ***NORMAL** option even if it ended abnormally in the middle of processing a request block. However, if the Index Manager has a problem starting normally, the ***RESET** option may allow the Index Manager to start. Please note that user index entries may be lost if ***RESET** is specified.

***COLD:** Specifies that the Index Manager should clear its input data queue. All spool entry requests sent by Monitors will be ignored. Spool entries which were to be processed into Indexes will be skipped. All Monitors which send spool entries to the Index Manager should be stopped before starting the Index Manager with **STRTYPE(*COLD)**.

Ending the Index Manager

Specify the **ENDIDXMGR** command to end the Index Manager. The Index manager will end after it finishes processing the current spool entry request from a Monitor.

Wait Until Ended to Continue (WAITEND) Parameter

Specifies if control is returned to the calling program immediately or after the Index Manager ends.

***NO:** Control is returned to the calling program immediately.

***YES:** Control is returned to the calling program only after the Index Manager has ended. This option may be useful if tasks which need the Index Manager to be down, such as a backup of library

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BDSDATA, is performed in a **CL** program after the **ENDIDXMGR** command.

Applying Index Descriptions to Production

SpoolOrganizer maintains **2** copies of the Index Specifications, an **Administrative Copy** and the **Production Copy**. The index Manager and Monitors which process Index Specifications must be ended before the **APYIXSCHG** command is executed. The **APYIXSCHG** command has no parameters.

Display Production Specifications

Index Specifications are used by the Index Manager, and by Monitors to process spool entries. Two sets of Index Specs exist in SpoolOrganizer; an **Administrative Copy** and a **Production Copy**. This allows the administrator to make changes while the Monitors/Index Manager are active. The **APYIXSCHG** command copies the administrative copy into the production copy. Menu options allow the administrator to display/change the administrative copy and allow users to display the production copy.

CREATING A MICROFICHE TAPE

SpoolOrganizer allows the user to make a tape which can be read by microfiche companies. The **FCHOUTQ** command will process all of the entries in the specified outq. Four user exit programs are called by SpoolOrganizer. Using the User Exit programs, the administrator can tailor the format of the tape created, and determine which spool entries within the outq are to be processed. The first **100** print lines are passed to one of the exit programs to assist the administrator. See "User Exit Programs" below for more information.

The **FCHOUTQ** Screen and Parameters:

```

                                Create Mfiche Tape from Outq (FCHOUTQ)

Type choices, press Enter.

OUTQ to place on tape . . . . . _____ Name
                                *LIBL      Name, *LIBL
Device . . . . . _____ Name
      + for more values _____
Volume Identifier . . . . . _____ Character value
      + for more values _____
Control Character . . . . . *NONE      *NONE, *FCFC, *PRTCTL

                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

OUTQ to Place on Tape (OUTQ) Parameter

Specifies the outq to be processed. All spool entries contained in the outq will be processed by the command.

Device (DEV) Parameter

Specifies the tape device to use. Specify up to four devices. The **FCHOUTQ** command will allocate all devices prior to processing spool entries.

Volume Identifier (VOL) Parameter

Specifies the volume ID to use. Specify up to five volume **IDs**, or ***NONE**.

Control Character (CTLCHAR) Parameter

Specifies the formatting of the data file created by SpoolOrganizer. See the **CTLCHAR** parameter on the **IBM CPYSPLF** command for more information.

***NONE:** No forms control characters are placed in the data.

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***FCFC**: The first character on each print line will direct forms control.

***PRTCTL**: The skip to and space to values are provided at the beginning of each print line.

User Exit Programs

Microfiche tapes are not standardized. Each microfiche company has different requirements concerning the format of the tape. Thus, SpoolOrganizer will allow the user to tailor the created tapes. The **FCHOUTQ** command will call four user written exit programs. The administrator must have programming skills to modify the user exit programs. *Broderick Data Systems* can provide customized exit programs for a fee. Working examples are provided in the source file **BSOSRC** in library **BRODERICK**. As shipped, the **FCHOUTQ** command will make a tape file for each spool entry in the outq. We recommend that the user make a copy of the supplied examples before making any changes. The sequence which the **FCHOUTQ** command calls the User exit program follows:

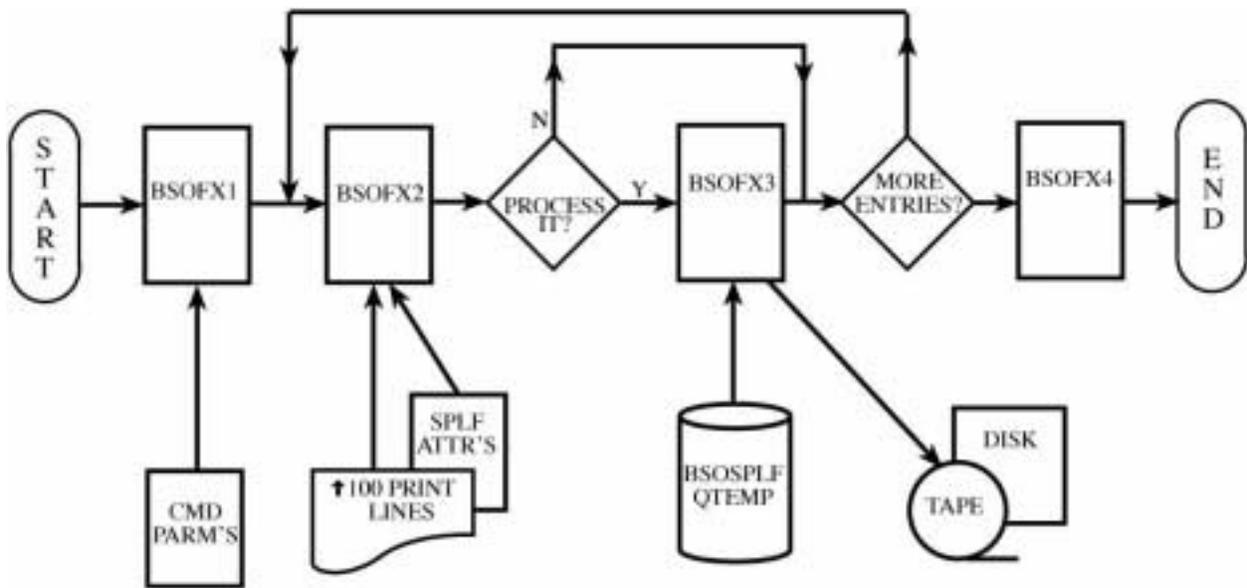


Figure 21-1: User Exit programs

The programs called are:

BSOFX1

This program is called before processing any spool entries. It can be used to initialize any variables, or create any work files used by the other exit programs. The parameters passed to **BSOFX1** are:

Num	Len,Dec	Type	Description
-----	---------	------	-------------

CREATING A MICROFICHE TAPE

1	256	Char	Command Input parameters
2	1024	Char	User data
3	1	Char	End Abnormally flag

Command input parameters are the parameters entered on the **FCHOUTQ** command:

Pos	Len,Dec	Type	Description
1	10	Char	Outq
11	10	Char	Outq Lib
21	44	Char	Device(s) separated by a blank
65	35	Char	Volume(s) separated by a blank
100	10	Char	CTLCHAR value. See the IBM CPYSPLF cmd for more information

User data is a variable which will be passed to all user exit programs. It is not modified by the **FCHOUTQ** command. It is used to pass information between the user exit programs.

The end abnormally flag allows the user to tell the **FCHOUTQ** command to end immediately. The **FCHOUTQ** command will issue the message **SPO-1000**, for which can be monitored. Specify "Y" to tell the **FCHOUTQ** command to end immediately.

BSOFX2

This program is called before processing each spool entry. It is provided so that the user can inspect the spool file's data, and decide which if the entry is to be processed or skipped. The parameters passed to **BSOFX2** are:

Num	Len,Dec	Type	Description
1	4,0	Bin	Number of print lines passed
2	table		Print lines (see below)
3	5000	Char	Spool Entry Attributes
4	10	Char	User ID executing command
5	1024	Char	User Data
6	1	Char	Retrieve flag
7	1	Char	End Abnormally flag

The table of print lines is the spool entry's data passed to you in a table. Up to **100** print lines are passed. The format of each record is:

Pos	Len,Dec	Type	Description
1	4,0	Bin	Page Number
5	4,0	Bin	Line Number
9	256	Char	Print line

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Spool entry attributes are described in source file **BSOSRC** in library **BRODERICK**, member **SPLFA2**.

User data is a variable which will be passed to all user exit programs. It is not modified by the **FCHOUTQ** command. It is used to pass information between the user exit programs.

Retrieve flag instructs the **FCHOUTQ** command to process or skip the spool entry. Specify "Y" to process the spool entry (produce a Data file **BSOSPLF** in **QTEMP** and call **BSOFX3**), or skip the spool entry and proceed to the next (do not call **BSOFX3**).

The end abnormally flag allows the user to tell the **FCHOUTQ** command to end immediately. The **FCHOUTQ** command will issue the message **SPO-1000**, which can be monitored. Specify "Y" to tell the **FCHOUTQ** command to end immediately.

BSOFX3

This program is called to process each spool entry. It is the program which copies the spool entry to tape. **Please note** that it is only called if the process flag is set to "Y" in **BSOFX2**. The parameters passed to **BSOFX3** are:

Num	Len,Dec	Type	Description
1	5000	Char	Spool Entry Attributes
2	44	Char	Device(s) separated by a blank
3	35	Char	Volume ID(s) separated by a blank
4	10	Char	User ID executing the command
5	1024	Char	User Data
6	1	Char	Abend Flag

See above for a description of the passed parameters.

BSOFX4

This program is called after all spool entries have been processed. For example, the user may need to place all spool entries in a single file label on the tape. In this example the user would copy the file **BSOSPLF** to their own work file in **BSOFX3** (adding records). Then the user would copy the work file to tape in **BSOFX4**. The parameters passed are:

Num	Len,Dec	Type	Description
1	1024	Char	User Data
2	1	Char	Abend Flag

See above for a description of the passed parameters.

VERIFY ONLINE DATABASE

The **VEROLE** command tests the internal files which contain data for the Online Database entries, active Bundles, and Index entries. Certain events such as power failures can leave extraneous or corrupted data in these files, even though no damage is detected by users. It is recommended to execute the **VEROLE** command periodically to verify the integrity of SpoolOrganizer user data.

To execute the **VEROLE** command, SpoolOrganizer cannot have any activity (Monitors, Bundle Manager, Index Manager, users, etc.) occurring.

```
Verify the Online DB (VEROLE)

Type choices, press Enter.

Delete Invalid Data . . . . . *YES          *YES, *NO

Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

Delete Invalid Data (DELETE) Parameter

Specifies if invalid data records are to be deleted.

***YES:** Invalid data will be deleted. A report showing the changes made to internal files is produced.

***NO:** No invalid data records are deleted. A report showing the invalid data records found is produced.

Note: It is recommended to save library **BSDDATA** before performing the verify.

DISPLAY ONLINE SPOOL ENTRIES

The **DSPOLE** command will search the Online Database, Archive Catalog and/or the Optical Catalog for spool entries. The user can search for desired spool entries by specifying a group of tests. These tests (Selection Criteria) will be compared to each spool entry, and a list of matching spool entries will be displayed. The selection specifications themselves can be saved. The saved selection specifications name can be specified on later **DSPOLE** commands to automate the search process for the end user. The **DSPOLE** command has the following parameters:

Stored Selection Specification (SRCHSPEC) Parameter

Specifies the Stored Search Specification to use. If given, SpoolOrganizer will retrieve the stored search specification and display the spool entries that match it.

***SELECT:** SpoolOrganizer will display a selection screen. The user will be able to enter selection specifications (or restore a Stored Selection Specification) to search for desired spool entries.

Allow access to Search Screen (ALWSCH) Parameter

If a Stored Search Specification or Heading Specification is given, this parameter specifies the action SpoolOrganizer will take when:

- 1) An invalid Stored Search Specification or Heading Specification is entered.
- 2) The user exits the list of displayed spool entries.

***YES:** If an invalid Stored Search Specification or Heading Specification was entered, the Search Specification Screen will display and the user will be prompted to enter a correct one. When the user exits the list of spool entries the Search Specification Screen will display and the user can enter another search.

***NO:** If an invalid Stored Search Specification or Heading Specification was entered, escape message **SPO-1000** will be sent to the calling program or menu. The user exits the spool entry display and returns directly to the calling program or menu.

Note: The **ALWSCH** parameter is ignored if **SRCHSPEC(*SELECT)** is specified.

Heading Specification (HDGSPEC) Parameter

Specifies the Heading Description to use to format the list of Spool entries. See "Selecting Spool Entries" below for a description of the screen. The Administrator can tailor the information displayed on the screen that displays the spool entries that match the user's search. For example some users may wish to see the User Data attribute, and others may not. See "Define Heading Specifications" below for more information.

***DFT:** The default Heading Description shipped from BDS is used.

User Exit Pgm for IFS opt (IFSEXTPGM) Parameter

Specifies the name of the User Exit Program to call if the IFS option (8) is taken on the results display.

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***NONE:** No user exit program is called. If the user selects the IFS option from the results display, a screen requesting IFS information (file name, etc.) will be displayed.

program-name: The program will be called for each occurrence of the IFS option. This program must supply IFS information (file name, etc.) Refer to the file BSOSRC, member BSOIX1 for an example User Exit Program.

The following screen will appear:

```
SpoolOrganizer/400 (TM)          Search for Spool Entries          9/18/97
Ordered by: ___          Asc/Dsc: A          7:42:46
  A/O  Field  Rel  Value          UC  Wild
-----
                                           Fields
                                           1-Job Name
                                           2-Job User
                                           3-Spool File
                                           4-Form ID
                                           5-User Data
                                           6-User Remark
                                           7-Date(1993..)
                                           8-Job Number
                                           9-GroupProfile
                                           10-Outq 11-Lib
                                           12-Pages

Search Online DB (Y/N):Y  Archive Catalog (Y/N): N  Optical Catalog (Y/N): N
Heading Specifications: *DFT
Name to Save or Restore: _____  User ID: _____
Text: _____
F3=Exit  F4=List Saved  F6=Search  F9=Save  F10=Replace  F13=Restore
```

The above screen has the following parameters:

Ordered by

Specifies the order the results of the search will be sorted into. Specify a number that represents a field (see **Field** below). For example to see the results in Job Name order, specify 1.

0 (spaces): The field specified in the first relationship will be used to order the results.

DISPLAY ONLINE SPOOL ENTRIES

AscDsc (Ascend/Descend)

Specifies if the results of the search are to be in ascending order or descending order. Specify A for ascending, D for descending..

A/O: (AND/OR)

Specifies if the test is to be logically **ANDeD** or **ORed** with the test on the previous line.

Field

Specifies the spool database attribute to compare for the test. The following attributes and their numbers are valid:

- 1-Job Name**
- 2-Job User**
- 3-Spool File Name**
- 4-Form ID**
- 5-User Data**
- 6-User Remark**
- 7-Job Date (YYYYMMDD)**
- 8-Job Number**
- 9-Group Profile**
- 10-Source Outq Name**
- 11-Source Outq Library**
- 12-Number of Pages**

Rel: (Relation)

Specifies the type of test to perform. The following types are valid:

- EQ** Equal
- NE** Not equal
- GT** Greater than
- NG** Not Greater than
- LT** Less than
- NL** Not Less than
- LE** Less than or equal to
- GE** Greater than or equal to
- CT** Contains (The value appears anywhere in the field)

Value

Specifies the value to test for.

***(Job Date only):** Substitutes the job date of the workstation job performing the search.

***+nnnnnn** (Job Date only): Adds n days to the workstation's job date.

***-nnnnnn** (Job Date only): Subtracts n days from the workstation's job date.

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***USRPRF** (Job User only): Substitutes the workstation's User Profile.

UC (Ignore upper/lower case differences)

Specifies if abc is equivalent to ABC, etc. Specify **Y** to ignore case differences, **N** to accept case differences. Blank defaults to **Y**.

Wild (Wild Card Character)

Specifies if wild characters are present in the value. Wild characters can only be specified if the relation is **EQ**. Two types of Wild Characters are valid:

*****: Matches any number of characters. For example **A*C** will match **AC**, **AXC**, **AXXC**, etc.

_: Matches any one character. For example **A_C** will match **AXC**, **ABC** etc. but will not match **AC**, **AXXC**, etc.

Please Note: More than one wild character can be specified. For example **A*B_C*D_E*** is valid.

Search Online DB

Specifies if the Online Database is to be searched for spool entries. Specify **Y** to search the Online Database, **N** to not search the Online Database.

Search Archive Catalog

Specifies if the Archive Catalog is to be searched for matching spool entries. Specify **Y** to search the Archive Catalog, **N** to not search the Archive Catalog.

Search Optical Catalog

Specifies if the Optical Catalog is to be searched for matching spool entries. Specify **Y** to search the Optical Catalog, **N** to not search the Optical Catalog.

Heading Specifications

Specifies the Heading Description to use to format the list of Spool entries. See "Selecting Spool Entries" below for a description of the screen. The Administrator can tailor the information displayed on the screen that displays the spool entries that match the user's search. For example some users may wish to see the User Data attribute, and others may not. See "Defining Heading Specifications" below for more information.

***DFT:** The default Heading Description shipped from **BDS** is used.

Name to Save or Restore

Specifies the Name to save the specifications under for further reference. If the user is a SpoolOrganizer Security Officer a User **ID** field will also appear. The user id field is also considered part of the name, allowing multiple users to use the same name.

***DFT:** The default search specifications. Each user can have their own default specification. If no

DISPLAY ONLINE SPOOL ENTRIES

search specification is specified for the **SRCHSPEC** parameter of the **DSPOLE** command, the default search specifications are loaded. If the user does not have a default search specification, the search program will load the search specifications defined under user ID, ***PUBLIC**.

A special Userid, ***PUBLIC** can be created by Security Officers which can be accessed by all users. Only Security Officers can create or change ***PUBLIC** entries. If the name exists for both the user and ***PUBLIC**, the user name will be retrieved.

Text

Specify up to 30 characters of descriptive text to be associated with the saved search specifications.

The following command keys are valid:

F3= Exit

Returns the user to the previous function.

F4= List Saved

Displays stored search specifications. The user can retrieve or delete the displayed specifications.

F6= Search

Searches the on-line database and/or the archive catalog for spool entries that match the selection criteria.

F9= Save

Saves the displayed search specifications.

F10= Replace

Replaces existing specifications with the ones displayed.

F13= Retrieve

Retrieves the specified search specifications.

Selecting Spool Entries

Spool Entries which match selection criteria are displayed in a screen similar to the one below:

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SpoolOrganizer		Spool Entry Display				10/12/89		
		Outq: _____				8:28:33		
X	O	Job Name	Job User	File Name	Job Number	Form ID	Pages	Date
___	O	PY1241	QSYSOPR	PY1241P	312720	PAYREG	12	08/11/89
___	O	DSP02	QSECOFR	QPRINT	312720	*STD	3	08/11/89

1=Disp Attr 2=Change Attr (F4) 4=Delete 5=Display 6=Print (F4)
F3=Exit F4=Mass Change/Prompt F11=View

The above screen has the following parameters:

A/O

Shows the location of the entry.

- D:** The entry is in the Online Database.
- A:** The entry is in the Archive Catalog.
- O:** The entry is in the Optical Catalog.

The following options are available to the user:

1= Display Attributes

Displays the IBM spool attributes associated with this spool entry, and the attributes assigned by the Monitor.

4= Delete

Allows the user to delete spool entries. The user must have change authority to the spool entry.

2= Change Attributes

Allows the user to change selected attributes. The user must have change authority to the spool entry.

5= Display

Allows the spool entry to be displayed on the screen.

6= Print

Allows the user to print an entry to the specified outq.

8= IFS

Allows the user to write the spool entry as an IFS file. If a User Exit program was specified on the DSPOLE command, the User Exit program will supply the IFS attributes (file name, etc.). Otherwise, the user will be prompted for this information.

F3= Exit

Returns the user to the previous function.

DISPLAY ONLINE SPOOL ENTRIES

F4= Mass Change/Prompt

Allows the user to make the same change to several spool entries, or to specify attributes for printing. Place a '2' by all desired spool entries and press F4. A prompt screen will appear. Enter any desired changes and press Enter. The changes will be applied to all spool entries selected with option '2'. Or place a '6' by all desired spool entries and press F4. A prompt screen will appear. Enter any desired attribute changes and press Enter.

NOTES:

- 1) If **F4** is pressed, only option '2' can be specified.
- 2) Not all errors are detected by the prompt screen. If an error is detected during the update, a screen showing the spool entry in error will be displayed. Correct the error and press **ENTER**. The remaining spool entries will then be updated.

F11= View

Changes the columns of information displayed on the list screen. Please note that the attributes displayed are defined on the Heading Description specified on the previous screen.

Web Browser Access

The Online Database and Archive catalog can be accessed via the Internet using a web browser such as Microsoft Internet Explorer. A TCP connection and an OS/400 HTTP server must be set up to do this. For more information see "Appendix F, Web Browser Considerations". To access the Display page, bring up the page **DSPOLE.HTM** from your browser:

<http://www.your.subdomain.com/dspole.htm>

The Display Spool Entries web page will appear. Click the Help link and refer to the Online Documentation for more information regarding the parameters and their values.

SEARCHING SPOOL ENTRIES FOR TEXT

The user can search many spool entries for a text string. For example the user may wish to search all order edit listings for the occurrence of customer number '000582'. The user specifies selection criteria describing the spool entries to search, and the string to search for. A listing showing the matches found will be submitted to batch using job description **BSOGRCH**.

Select the option to search spool entries for text and the following screen will appear:

```

SpoolOrganizer/400™
Search Spool Entries for Text

A/O  Field  Rel  Value                UC  Wild
---  ---    ---  ---                --  ---
                                Fields
---  ---    ---  ---                --  ---  1-Job Name
---  ---    ---  ---                --  ---  2-Job User
---  ---    ---  ---                --  ---  3-Spool File
---  ---    ---  ---                --  ---  4-Form ID
---  ---    ---  ---                --  ---  5-User Data
---  ---    ---  ---                --  ---  6-User Remark
---  ---    ---  ---                --  ---  7-Date (1993..)
---  ---    ---  ---                --  ---  8-Job Number
---  ---    ---  ---                --  ---  9-Group Profile
---  ---    ---  ---                --  --- 10-Outq 11-Lib
---  ---    ---  ---                --  --- 12-Pages
---  ---    ---  ---                --  ---
---  ---    ---  ---                --  ---
---  ---    ---  ---                --  ---
---  ---    ---  ---                --  ---

Search String: _____
Ignore UC: Y Wild Card Char: _ From/to Col: 1 198 Srch OLDB: Y Opt: N
Name to Save or Restore: _____ User ID: _____
Text: _____

F3=Exit  F4=List Saved  F6=Search  F9=Save  F10=Replace  F13=Restore
    
```

The above screen has the following parameters:

A/O:(AND/OR)

Specifies if the test is to be logically **ANDed** or **ORed** with the test on the previous line.

Field

Specifies the spool database attribute to compare for the test. The following attributes and their numbers are valid:

1-Job Name

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- 2-Job User
- 3-Spool File Name
- 4-Form ID
- 5-User Data
- 6-User Remark
- 7-Job Date (YYYYMMDD)
- 8-Job Number
- 9-Group Profile
- 10-Source Outq Name
- 11-Source Outq Library
- 12-Number of Pages

Rel (Relation)

Specifies the type of test to perform. The following types are valid:

- EQ** Equal
- NE** Not equal
- GT** Greater than
- NG** Not Greater than
- LT** Less than
- NL** Not Less than
- LE** Less than or equal to
- GE** Greater than or equal to
- CT** Contains (The value appears anywhere in the field)

Value

Specifies the value to test for.

* **(Job Date only)**: Substitutes the job date of the workstation job performing the search.

***+nnnnnn** (Job Date only): Adds n days to the workstation's job date.

***-nnnnnn** (Job Date only): Subtracts n days from the workstation's job date.

***USRPRF** (Job User only): Substitutes the workstation's User Profile.

UC (Ignore upper/lower case differences)

Specifies if abc is equivalent to ABC, etc. Specify **Y** to ignore case differences, **N** to accept case differences. Blank defaults to **Y**.

Wild (Wild Card Character)

Specifies if wild characters are present in the value. Wild characters can only be specified if the relation is **EQ**. Two types of Wild Characters are valid:

*: Matches any number of characters. For example **A*C** will match **AC, AXC, AXXC**, etc.

SEARCHING SPOOL ENTRIES FOR TEXT

_: Matches any one character. For example **A_C** will match **AXC, ABC** etc. but will not match **AC, AXXC**, etc.

More than one wild character can be specified. For example **A*B_C*D_E*** is valid.

Search String

Specifies the string to search the spool entries for. Specify up to **50** characters.

Ignore UC (Ignore upper/lower case differences)

Specifies if upper and lower case differences are to be ignored. Specify **Y** for **abc** to be considered equal to **ABC**, **N** for **abc** not to be equal to **ABC**.

Wild Card Char

Specify a non blank character which, if it is in the specified string, will match any one character in the searched spool entry's data. For example, if **&** is the wild character, **a&c** matches **axc** but does not match **axxc**. The wild character cannot be the first character in the specified string. For example if **&** is wild, **&bc** is not allowed.

From/to Col

Specifies the text column to search from and to for the specified text string.

Srch OLDB

Specifies if the user wants to search the Online Database for the specified text string.

OPT

Specifies if the user wants to search the Optical Catalog for the specified text string.

Name to Save or Restore

Specifies the Name to save the specifications under for further reference. If the user is a SpoolOrganizer security officer a User **ID** field will also appear. The user id field is also considered part of the name, allowing multiple users to use the same name.

***DFT:** The default search specifications. Each user can have their own default specification. If no search specification is specified for the **SRCHSPEC** parameter of the **DSPOLE** command, the default search specifications are loaded. If the user does not have a default search specification, the search program will load the search specifications defined under user ID, ***PUBLIC**.

A special Userid, ***PUBLIC** can be created by Security Officers which can be accessed by all users. Only Security Officers can create or change ***PUBLIC** entries. If the name exists for both the user and ***PUBLIC**, the user name will be retrieved.

Text

Specify up to **30** characters of descriptive text to be associated with the saved search specifications.

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The following command keys are valid:

F3=Exit

Returns the user to the previous function.

F4=List Saved

Displays stored search specifications. The user can retrieve or delete the displayed specifications.

F6=Search

Submits a job to search the on-line database for the specified character string.

F9=Save

Saves the displayed search specifications.

F10=Replace

Replaces existing specifications with the ones displayed.

F13=Retrieve

Retrieves the specified search specifications.

PRINT SPOOL ENTRIES

The **PRTOLE** command will print spool entries in the Online Database. It can be used to print several spool entries in batch mode. The parameters of the **PRTOLE** command are:

Search Specifications (SCHID) Parameter

Specifies the Selection Criteria to use. Selection Criteria are defined using the Display Online Entries (**DSPOLE**) command. For more information on creating selection criteria, refer to Chapter 24, "Display Online Spool Entries".

***ALL:** All spool entries in the Online Database will be printed.

Note: Selection Criteria are User ID dependant. The specified selection criteria must be defined for the user issuing the **PRTOLE** command.

Outq to Print Into (OUTQ) Parameter

Specifies the outq to place the spool entries into.

Example: The following example prints all spool entries which match the selection specs defined by the key **ORDERS**:

```
PRTOLE SCHID(ORDERS) OUTQ(PRT02)
```

WORK WITH ACTIVE BUNDLES

The **WRKACTBDL** command displays a list of all Active Bundles which match the commands parameters. The parameters of the **WRKACTBDL** command are:

Status to Display (STATUS) Parameter

Specifies the status to display.

***ALL:** Bundles currently in all statuses will be displayed.

Bundle Name to Display (BDLNAME) and Bundle ID to Display (BDLID) Parameters

Specifies the Bundle Name/ID to display.

***ALL:** All Bundle Name/ID's will be displayed.

User ID to Display (USRPRF) Parameter

Specifies the user profile to display.

***ALL:** Bundles with all user profiles are displayed.

Allow Access to Search Screen (ALWSCH) Parameter

Specifies if the user is allowed to change the selection criteria which controls the Bundles which are displayed.

***YES:** The user can press F6 from the Active Bundles Display to change the Active Bundles displayed.

***NO:** The user cannot change the Bundles being Displayed.

The following display will appear:

SpoolOrganizer		Active Bundles Display							3/30/93		
										14:27:06	
X	Bdl Name	Bdl ID	BNum	Status	User ID	Action		Num	Outq		
						C	T	D	Time	Entr	
_	BUNDLE1	TEST	0001	OPEN	MAB	N	C	T	1900	3	TARGET
_	INVMAS	SALES	0001	WAITPRT	DJP	Y	P	F	2100	1	PRT03
1=Dsp Desc 2=Chg Desc 3=Dsp Dfn 4=Delete 5=Dsp Entries O W H R P											
F3=Exit F5=Refresh F6=Chg Sch											

X (option): Select one of the following:

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1 (Display Description): Displays the options in the Bundle Description used when this Bundle was created.

2 (Change Description): Allows the user to change certain definition options.

3 (Display Definition): Displays the Bundle Entry Descriptions which exist for this Bundle.

4 (Delete): Deletes the Bundle and its Bundle Entries.

5 (Display Entries): Displays the Bundle Entries currently contained in the Bundle.

6 (Times): Allows the user to manually change the Cutoff, Print, and Delete times or specifications. Please note that depending on the Bundle's current status, some fields may be protected or not displayed.

O W H R P: Changes the Bundle status. Please note that the Cutoff, Print, and Delete times may be recalculated depending on the new status:

O-OPEN

W-WAITPRT

H-HELD

R-Ready (WAITPRT with an immediate Print time)

P-PRINTED

F3=Exit: Returns to the previous function.

F4=Mass Change: Allows the user to make the same change to several Bundles. Place a '2' by all desired Bundles and press F4. A prompt screen will appear. Enter any desired changes and press enter. The changes will be applied to all Bundles selected with option '2'.

Notes:

- 1) If **F4** is pressed, only option **2** can be specified.
- 2) Not all errors are detected by the prompt screen. If an error is detected during the update, a screen showing the spool entry in error will be displayed. Correct the error and press **ENTER**. The remaining spool entries will then be updated.

F5=Refresh: Rebuilds the list, showing any changes which have occurred since the list display.

F18=Chg Sch (Change Search Specs): Allows the user to change the Display Specifications which narrow down the number of Bundles displayed.

Bundle Name/ID/Num

Identifies the Bundle.

WORK WITH ACTIVE BUNDLES

Status

The current status of the Bundle.

OPEN: The Bundle will continue collecting entries until it is closed.

WAITPRT: The Bundle is closed and it is waiting for its print time.

HELD: The Bundle is held. It will remain in a held status until its status is manually changed.

PRINTING: The Bundle is currently printing. The user can hold the Bundle while printing. This will keep the printing task from changing or deleting the Bundle after printing. No other operation is allowed.

PRINTED: The Bundle has printed and is waiting for its delete time.

User ID

The user ID that owns the Bundle.

C (Complete)

Specifies if the Bundle contains all of its required Bundle Entries.

Action

Describes the next operation the Bundle Manager will perform on the Bundle.

T (Type)

The type of action the Bundle Manager will perform:

C (Cutoff) The Bundle Manager will close the Bundle.

P (Print) The Bundle Manager will print the Bundle.

D (Delete) The Bundle Manager will delete the Bundle.

D (Date)

The Date the Bundle Manager will perform the action:

P (Past) The last operation has been performed.

T (Today) The above action will occur today.

F (Future) The above action will occur on a future date.

Time

The time the above action will occur.

Num Entr

The number of Bundle Entries currently in the Bundle.

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Outq

Specifies the outq where the Bundle will print.

If option **5 (Display Entries)** is selected the following screen will appear:

Bundle: BUNDLE1 TEST 0001 Active Bundles Entries										3/30/93	
										7:06	
1=Disp Desc 4=Delete 5=Display 7=Disp Attr 8=Chg Attr											
X	Seq#	Lin#	Job Name	Job User	Spl file	Job #	Form ID	P	StPage	EnPage	
_	0010	0001	INVPRT	MAB	PTRSUM	017241	*STD	P	21	46	
_	0020	0001	SALES	QSYSOPR	SALESUM	017473	*STD	E	1	352	
F3=Exit F4=Mass Change F5=Refresh											

X (Option): Select one of the following:

1 (Display Description): Displays the Bundle Entry Description used to create this Bundle Entry.

4 (Delete): Deletes the Bundle Entry.

5 (Display): Displays the spool data contained in the Bundle Entry. For more information of the Display function, refer to Chapter 24, "Display Online Spool Entries".

7 (Display spool entry attributes): Displays the spool entry's attributes.

8 (Change Attributes): Allows the user to change certain spool file attributes.

Note: If this spool entry was placed in several Bundles, the attributes of the other Bundle Entries are not affected by this change.

F3=Exit: Returns to the previous function.

F4=Mass Change: Allows the user to make the same change to several Bundle Entry's spool attributes. Place an '8' by all desired entries and press F4. A prompt screen will appear. Enter any desired changes and press enter. The changes will be applied to all Bundles selected with option '8'.

Notes:

- 1) If **F4** is pressed, only option **8** can be specified.
- 2) Not all errors are detected by the prompt screen. If an error is detected during the update, a screen showing the spool entry in error will be displayed. Correct the error and press **ENTER**. The remaining spool entries will then be updated.

WORK WITH ACTIVE BUNDLES

F5=Refresh: Rebuilds the list, showing any changes which have occurred since the list display.

Sequence Number

The Bundle Entry Sequence Number is displayed.

Line Number

A unique number is assigned to each spool entry contained within a Bundle Entry. This allows SpoolOrganizer to access multiple entries.

Spool File Attributes

The Job Name, User, Number, Spool File Name, and Form ID are displayed to help the user recognize the spool entry.

P (Partial/Entire)

Specifies if this spool entry is a Partial Print or the entire spool entry.

StPage, EnPage

If the Start/End of Segment method was used to create this entry, the starting and ending pages of the segment are shown. If Page by Page Include method was used, the first and last pages included are shown.

Web Browser Access

Active Bundles can be accessed via the Internet using a web browser such as Microsoft Internet Explorer. A TCP connection and an OS/400 HTTP server must be set up to do this. For more information see "Appendix F, Web Browser Considerations". To access the Work with Active Bundles web page, bring up the page **WRKACTBDL.HTM** from your browser:

<http://www.your.subdomain.com/dspole.htm>

The Work with Active Bundles web page will appear. Click the Help link and refer to the Online Documentation for more information regarding the parameters and their values.

DISPLAY INDEX ENTRIES

The **DSPIDX** (Display Index Entries) command will allow users to search SpoolOrganizer Indexes for desired information. The user will specify the Index Name, and a group of tests. These tests (search specifications) will be compared to each value in the Index, and a list of matching values will be displayed. The user can choose a resulting value and display the base spool entry (positioned at the location of the result value), print the spool entry, or print the current page. The search specifications themselves can be saved, and named on later **DSPIDX** commands to automate the search process for the end user.

Prior to searching Indexes, the Index Manager must collect values from specified spool entries and place specified values into the Index. The **DSPIDX** command has the following parameters:

Stored Search Specification (SRCHSPEC) Parameter

Specifies the name of the Stored Search Specification to use. If specified, SpoolOrganizer will retrieve the stored search specification and display the result values. Enter a name or specify the following:

***SELECT:** SpoolOrganizer will display a search screen. The user will be able to enter search specifications (or a Stored Search Specification) to search for desired values.

Allow access to Search Screen (ALWSRCH) Parameter

If a Stored Search Specification is given, this parameter specifies the action SpoolOrganizer will take when:

- 1) An invalid Stored Search Specification is entered on the **DSPIDX** command.
- 2) The user exits the list of result values.

***YES:** If an invalid Stored Search Specification is entered, the Search Specification screen will display and the user is prompted to enter a correct one. When the user exits the list of result values, the Search Specification screen is displayed and the user can enter another search.

***NO:** If an invalid Stored Search Specification is entered, escape message SPO-1000 will be sent to the calling program or menu. When the user exits the list of result values, they will exit the **DSPIDX** command without seeing the Search Specifications screen.

Note: The **ALWSRCH** parameter is ignored if **SRCHSPEC(*SELECT)** is specified.

The following screen will appear:

DISPLAY INDEX ENTRIES

Rel (Relation)

Specifies the relation to use. Specify one of the following:

- EQ:** Equal to
- NE:** Not equal to
- GT:** Greater than
- LT:** Less than
- GE:** Greater than or equal to
- LE:** Less than or equal to
- NG:** Not greater than
- NL:** Not less than
- CT:** Contains (type Character only)

Value

Specifies the value to search for in the Index.

UC (Ignore upper/lower case differences) (Character only)

Specifies if upper/lower case differences are to be ignored. Specify Y to ignore case differences, or N to consider case differences.

Wild (Character only)

Specifies if wild characters are present in the value. Wild characters can only be specified if the relation is **EQ**. Two types of Wild Characters are valid:

*****: Matches any number of characters. For example **A*C** will match **AC, AXC, AXXC**, etc.

_: Matches any one character. For example **A_C** will match **AXC, ABC** etc. but will not match **AC, AXXC**, etc.

Please Note: More than one wild character can be specified. For example **A*B_C*D_E*** is valid.

Note: Relationship are evaluated as follows:

Index Value	Rel	Screen Value
-------------	-----	--------------

Sort by

Specifies how the result list will be sorted. Specify one of the following:

***VALUES:** The result list will be sorted by the result values.

***JOBDATE:** The result list will be sorted by the job date of the spool entry.

Order

Specifies the sort order the result list will be displayed. Specify one of the following:

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***ASCEND:** The result list will be sorted in ascending order.

***DESCEND:** The result list will be sorted in descending order.

Job Date Range

Specifies the date range of the result list. Specify dates in a **YYYYMMDD** format. Only values whose spool entries were created within the specified range will be displayed.

Search Online DB

Specifies if spool entries in the Online Database are to be searched. Specify **Y** to search the Online Database, **N** to not search the Online Database.

Search Archive Catalog

Specifies if spool entries in the Archive Catalog are to be searched. Specify **Y** to search the Archive Catalog, **N** to not search the Archive Catalog.

Search Optical Catalog

Specifies if spool entries in the Optical Catalog are to be searched. Specify **Y** to search the Optical Catalog, **N** to not search the Optical Catalog.

Name to Save or Restore

Specifies the Name to save the search specifications under for further reference. If the user is a SpoolOrganizer Security Officer a User ID field will also appear. The user id field is also considered part of the name, allowing multiple users to use the same name.

***DFT:** The default search specifications. Each user can have their own default specification. If no search specification is specified for the **SRCHSPEC** parameter of the **DSPIDX** command, the default search specifications are loaded. If the user does not have a default search specification, the search program will load the search specifications defined under user ID, ***PUBLIC**.

A special Userid, ***PUBLIC** can be created by Security Officers which can be accessed by all users. Only Security Officers can create or change ***PUBLIC** entries. If the name exists for both the user and ***PUBLIC**, the user name will be retrieved.

Text

Specify up to 30 characters of descriptive text to be associated with the saved search specifications.

The following command keys are valid:

F3= Exit

Returns the user to the previous function.

F4= List Saved

Displays stored search specifications. The user can retrieve or delete the displayed specifications.

DISPLAY INDEX ENTRIES

F6= Search

Searches the Index for matching values.

F8= Char/Numeric

Switches the Index Type between **CHARACTER** and **NUMERIC**.

F9= Save

Saves the displayed search specifications.

F10= Replace

Replaces existing specifications with the ones displayed.

F13= Retrieve

Retrieves the specified search specifications.

Selecting Index Entries

Values which match selection criteria are displayed in a screen similar to the one below:

SpoolOrganizer/400		Index Entries Display		10/12/95	
A		Outq: _____		7:32:02	
X	O	Job Date	Value	Page	Lin Col
—	D	96/05/21	ACME Cabinetry	3	10 25
—	D	96/05/01	A1 Plumbing Supply	1	4 25
—	D	96/04/16	EZ Bathroom Fixtures	2	16 25
—	A	96/04/05	JC Electrical Supply	4	51 25
—	A	96/04/21	U Can Build Lumber	5	2 25
1=Disp Attr 4=Delete 5=Display 6=Print (F4) 7=PrtPage					
F3=Exit F4=Prompt F12=Cancel					

The above screen has the following parameters:

X (Option)

The following options are available to the user:

1= Display Attributes

Displays the IBM spool attributes associated with the base spool entry, and the attributes assigned by

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the Monitor.

4= Delete

Deletes the Index Entry. (This does not delete the base spool entry.)

5= Display

Allows the spool entry to be displayed on the screen. (See Note 1)

6= Print

Allows the user to print an entry to the specified outq. (See Note 2)

7= PrtPage

Prints the page of the spool entry containing the result value. (See Note 1)

Notes:

- 1) Only valid for base spool entries in the Online Database or Optical catalog.
- 2) For base spool entries in the Archive Catalog, this option will result in a job being submitted. The submitted job will prompt the system operator to mount the tape that contains the archived spool entry.

F3= Exit

Returns the user to the previous function.

F4= Prompt

Allows the user to change spool file attributes when printing spool entries.

A/O

Shows the location of the base spool entry.

D: The entry is in the Online Database.

A: The entry is in the Archive Catalog.

O: The entry is in the Optical Catalog.

Job Date

Shows the date the base spool entry was created.

Value

Shows the result value.

Page/Line/Col

Shows the location of the value within the base spool entry.

DISPLAY A SPOOL ENTRY

Spool Entries in the Online Database, spool entries archived to Tape or Optical, and Bundle entries can be displayed on the screen. Spool entry types (Printer device types) *SCS, *IPDS, *AFPDS, and *USERASCII can be displayed. The display format is similar to the OS/400 DSPSPLF display, with some enhancements.

Moving through the Spool Entry

The following commands will position the spool entry so that the desired information is on the screen. The commands are valid for both single and split display modes. The user can also roll up or down through the spool entry by using the roll up and roll down keys. The user enters the commands on the Ctrl field.

Wn W+n W-n (Window) Places the specified column of the spool entry to the leftmost position on the screen.

Pn P+n P-n (Page) Places the first line of the specified page of the spool entry to the top line of the display area.

T (Top) Places the first line of the spool entry to the top of the display area.

B (Bottom) Places the last line of the spool entry to the top of the display area.

n +n -n (Record) Places the specified print record of the spool entry to the top line of the display area. Each non-blank line is considered a print record. If 1 is specified, the top of the spool entry is displayed.

Searching for Text

The user can search the spool entry for a desired text string. **F16** will search forward for the next occurrence, and **F17** will search backwards. The user can limit the search to specified from and to columns, and specify if upper/lower case differences are to be ignored by pressing **F5**, "Options".

Splitting the Screen

Two spool entries can be displayed on the screen at the same time (horizontal split). Only Online Database entries can be presented on the bottom half of a split display. The screen can be split vertically to show columns side by side (vertical split). To split the screen press **F5**. The following screen will appear:

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```
Options

Search
From/To Columns:   1 132
Ignore U/L Case:  Y

Upper Session
Vertical Split:    N
  Split Column:    40
Window Position:   1

Lower Session
Vertical Split:    N
  Split Column:    40
Window Position:   1

Split Screen
  Split:           N
Sequence Number:  246  F5=Select F6=Search
  Hrz Split Line:  12

F3=Exit
```

The From/To columns and Ignore U/L Case fields are used when searching for text. The following fields are used to control the split screen:

Vertical Split

Specify **Y** to split the screen vertically, **N** to not split the screen vertically.

Split column

Specifies the column on the screen where the vertical split line is to be placed.

Window position

Specifies the leftmost column of the spool data that is to be placed in the right half of the vertical split. For example if **121** is specified, the right half of the split screen will display the spool entry starting at column **121**.

Split Screen, Split (Y/N)

Specifies if the screen is to be split horizontally. Two different spool entries, or the same spool entry twice, can be displayed at once. Specify **Y** to split the screen into an upper and lower half, **N** to display one session.

Sequence number

DISPLAY A SPOOL ENTRY

Specifies the identifier of the spool entry in the Online Database that is to be displayed. Please note the sequence number is assigned to the spool entry by the SpoolOrganizer Monitor that places it into the Online Database. Press the F6 key to search the Online Database for the spool entry to display. To change the selection criteria, press the F5 key. The search and selection screens will be similar to the screens used to display a spool entry.

Hz Split Line

Specifies the row on the screen to start the lower session.

Printing Part of a Spool Entry

The user can specify that only certain parts of the spool entry are to be printed. To print part of the spool entry press F14. The following screen should appear:

Print Part of a Spool Entry			
From Page:	<u>1</u>	From Line:	<u>1</u>
To Page:	<u>1</u>	To Line:	<u>999</u>
Starting Column:	<u>1</u>	Ending Column:	<u>132</u>
To Outq:	<u>QPRINT</u>	<u>QGPL</u>	
F3=Exit			

Range

Specify the starting page/line and the ending page/line to print. Please note that the original page breaks will be maintained. Thus if page 2 line 51 is the specified starting page/line, the first line of the generated output will begin down at the 51st line of the page (assuming page 2/line 51 exists in the spool entry).

To Outq

Specifies the outq to contain the generated listing.

Sending Part of a Spool Entry via E-mail

The user can specify that only certain parts of the spool entry are to be sent via E-mail to Internet users. For more information, refer to Section V, "E-Mail". To send via E-mail part of the spool entry press F15. The following screen should appear:

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E-Mail Part of a Spool Entry			
From Page:	<u>1</u>	From Line:	<u>1</u>
To Page:	<u>2</u>	To Line:	<u>999</u>
Starting Column:	<u>1</u>	Ending Column:	<u>132</u>
Email Spec Name:	<u>*NONE</u>		(F4=Prompt)
F3=Exit			

Range

Specify the starting page/line and the ending page/line to send. Specify the start/end column to include.

Email Spec Name

Specify the Email Specification to use. SpoolOrganizer will substitute the values on the Email Spec (To Address, etc.) on the corresponding fields on the following screens. The user can then change desired fields. The Email Specification must already exist. Enter a value or press **F4** to see a list of defined Email specs.

DISPLAY A SPOOL ENTRY

SpoolOrganizer/400	3/05/05
Specify E-Mail Destination	10:55:35
To Address: _____	

_____	Address Type: S (S, U, N)
To Name: _____	

Subject: _____	
Optional _____	
Note: _____	

Separate Note/Sple: <u>Y</u> (Y/N)	
Additional Distribution Spec: <u>*NONE</u>	
F3=Exit F12=Cancel Operation F14=Options	
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SpoolOrganizer/400		3/05/05
Specify E-Mail Destination		10:55:35
Part Type:	<u>*INLUNF</u>	(*INLUNF, *ATHUNF, *PDF, *CSV, *TSV)
Attachment File Name:	<u>*SPLFILE</u>	
Attachment File Type:	<u>*PARTYP</u>	
Max Len:	<u>8</u>	
<u>PDF Keywords</u>		
Font Name:	<u>Courier</u>	Font Point Size: <u> </u>
Page Measurement:	<u>*TGTSIZE</u>	(*TGTSIZE, *SPLFILE)
Page Width/Length:	<u>8.500</u>	<u>11.000</u>
Page Rotate Column:	<u>80</u>	
Spool PDF Ovl/400 Spec Name:	<u>*NONE</u>	(name, *NONE, *DFT)
CSV/PDF/XLS Spec Name:	<u>*NONE</u>	(Name, *NONE, F4=Prompt)
Encryption Spec Name:	<u>*NONE</u>	(Name, *NONE, F4=Prompt)
Encryption Password:	<u>*ENCSPC</u>	(Char, *ENCSPC)
F3=Exit F12=Cancel Operation F14=Options		
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To Address, type and Name

Specifies the recipient. For example, *user@company.com*. . This will appear as *to-name <to address>* if a name is specified or *to-address* if a name is not specified.

Subject

Specify the subject, which will appear in the Subject: area of the message.

Optional Note

Specify up to 5 lines of text, which will be placed in the message before the spool entry data.

*NONE: No optional note is sent with the spool entry in the message.

Separate Note/Sple

Specify if the note will be sent as a separate part in the multipart/mixed message.

Y: The note will be a separate part in the message.

N: The note will not be a separate part in the message.

Additional Distribution Spec

Specify the E-Mail Distribution List name, which contains a list of recipients. Each recipient will be

DISPLAY A SPOOL ENTRY

included in the To: section of the message and will receive a copy of the message. For more information, see Chapter 32, "Define E-Mail Distribution Table".

Part Type

Specifies the type of processing SpoolOrganizer will perform when placing the spool entry into the message. Specify one of the following:

***INLUNF:** Each spool entry will appear in the message with no formatting or attachment processing.

***ATHUNF:** Each spool entry will appear in the message as a separate attachment with no formatting.

***PDF:** Each spool entry will appear in the message as a separate attachment, formatted as an Adobe PDF file. Any user with Adobe Acrobat Reader or Writer can view or print the spool entry.

***CSV:** Each spool entry will appear in the message as a separate attachment, formatted as a Column Separated Values (CSV) file. Most PC Spreadsheet and Database applications can load CSV files.

***XLS:** Each spool entry will appear in the message as a separate attachment, formatted as a Microsoft Excel (XLSX) file.

Attachment File Name

Specifies the name given to the attachment file. This name can be used to name the file when saving it to a PC's disk. The PC file name will be in the form *name.type*. Specify a name or one of the following:

***SPLFILE:** The Spool File Name of the job that created the spool entry will be used as the attachment file name.

***JOBNAME:** The Job Name of the job that created the spool entry will be used as the attachment file name.

***JOBUSER:** The User Profile Name of the job that created the spool entry will be used as the attachment file name.

Attachment File Type

Specifies the type given to the attachment file. This value will be added to the end of the file name. The PC file name will be in the form *name.type*. Specify a value or one of the following:

***PARTYP:** The part type (specified above) will determine the file type:

*ATHUNF	.txt
*PDF	.pdf
*XLS	.xlsx
*CSV	.csv

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Max Length

Specifies, for attachment files with substitute naming (*JOBNAME, *JOBUSER, etc.), the maximum length to make the file name. Specify a value between 1 and 32.

PDF Keywords

Specifies options that are used to build an Adobe PDF file. These options are ignored if a PDF Spec is specified below. Refer to Chapter 37, “Define PDF Specifications for a description of the PDF keywords.

CSV/PDF/XLS Spec Name

Specifies for types CSV, PDF and XLS, the specifications name to use: Many options that control the output formatting are contained on the Specifications Name. For more information refer to Chapters 35, 37 and 40, “Define PDF/CSV/XLS Specifications”. Specify a name or one of the following:

***NONE:** No specification. For PDF types, options specified above will be used.

Encryption Spec Name

Specifies for types CSV and PDF, the specifications name to use: Many options that control the output formatting are contained on the Specifications Name. For more information refer to Chapter 39 “Define Encryption Specifications”. Specify a name or one of the following:

***NONE:** No encryption will be performed.

Encryption Password

Specifies, for encrypted attachments, the password needed to access the attachment. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

To specify additional parameters, press **F14**. The following screen should appear:

DISPLAY A SPOOL ENTRY

SpoolOrganizer/400		3/05/99
Specify E-Mail Destination		10:55:35
		Period to Keep: ___ ___ 0
Read Security Classes:	___ ___ ___ ___ ___ ___ ___ ___ ___	
Change Security Classes:	___ ___ ___ ___ ___ ___ ___ ___ ___	
From Address:	_____	

Address Type: S (S, U, N)		
From Name:	_____	

F3=Exit F12=Cancel Operation		
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Period to Keep

Specifies the length of time to keep sent mail. Mail is eligible for deletion via the PURSNTML (purge sent mail) command after it expires. Specify a type and value. For example, ND 30 is number of days 30. For a discussion of all valid type and value combinations, refer to Chapter 31, "Define E-Mail Specifications".

Read/Change Security Classes

Specifies, for mail kept in the Sent Mail Log, the authority users need to display, resend or delete the entry. For a discussion of Security classes, refer to Chapter 31, "Define E-Mail Specifications".

From Name, type and Address

Specifies the from field of the message. This will appear as *from-name* <*from address*> if a name is specified or *from-address* if a name is not specified.

DISPLAY SPOOLORGANIZER LOG

SpoolOrganizer can optionally log many of its functions to the SpoolOrganizer Log. The log can be valuable to the Administrator in many situations. The history of certain spool entries can be tracked. Spool entry accounting data can be collected. Problem determination procedures can be greatly enhanced. To define logging, select Option 6, "Define Tailoring Options" off of the Define System Menu. For more information, refer to Chapter 9. "Define Tailoring Options".

Querying the SpoolOrganizer Log

The contents of the SpoolOrganizer Log can be accessed using two methods:

1. Users can write queries against file BDSDATA/BSOLOG. This file is externally described and its fields can be displayed by issuing the following command:

DSPFFD BDSDATA/BSOLOG

The file BSOLOG has logical view BSOLOG1 defined for it, which is keyed on date and time. Users can use either file, or create other logical files.

2. Users can use the DSPSOLOG command supplied by SpoolOrganizer to query the log. If selected the following screen appears:

```

                                Display SpoolOrganizer Log
                                Display Specifications

Enter values to limit the search:

Start Date/Time: 19940418 000000   End Date/Time: 99999999 999999
  Operation:      *ALL
Sub-Operation:    *ALL
   User:          *ALL
  Sending Job:    *ALL      User: *All   Num: *ALL
   Bundle:        *ALL      ID:  *All  Num: *ALL
  Spool Entry:    *ALL      User: *All  Num: *ALL
                                File: *All  FNum: *ALL
  Selection Spec: *ALL      ID:  *All  Seq: *ALL

F3=Exit
```

Log File Definitions

The Administrator can view the SpoolOrganizer log and determine the operation of the data placed into

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the log. The logging has specified Sub-Operation with abbreviations of these functions.

The Following screen will appear after the Display Specifications has been selected:

SpoolOrganizer		Display SpoolOrganizer Log			3/23/95	
5=Display					9:12:35	
X	Date	Time	Operation	Sub-Oper	User	Misc Information
	1995/03/08	09:40:37	MONITOR	STRSOMON	MAB	
	1995/03/08	09:40:48	MONITOR	RCVSPLE	MAB	
	1995/03/08	09:41:03	MONITOR	OLDBADD	MAB	
	1995/03/08	09:41:04	MONITOR	ATRCHG	MAB	MAB
	1995/03/08	09:41:04	MONITOR	TOOQ	MAB	MAB QGPL
	1995/03/08	09:50:23	MONITOR	ENDSOMON	MAB	NORMAL EOJ

F3=Exit

Place a '5' (display) next to desired entries or press ENTER to return to the Search display.

Log Operations and Sub-Operations

Below is a list of the operations and their sub-operations that the SpoolOrganizer tasks will generate:

OPERATIONS SUB-OPERATIONS

Monitor Tasks:

RCVSPLE	A spool entry was received from the source outq.
OLDBADDA	pool entry was added into the Online Database.
TOOQ	A spool entry was moved to another outq by a Monitor or Outq Distribution List job.
DSTLST	A spool entry was submitted to be processed using an Outq Distribution List.
ATRCHG	An Attribute Change Spec was processed.
TOBDLMGR	A spool entry was sent to the Bundle Manager for processing.
TOIDXMGR	A spool entry was sent to the Index Manager for processing.
STRSOMON	A Monitor was started.
ENDSOMON	A Monitor was ended.
USRDLT	A spool entry was deleted by some other task while being processed.

ARCOLE Command:

ARCOLDB	A spool entry was archived to tape
OLDBDLT	A spool entry was deleted from the Online Database.
ARCCATADD	An archived spool entry was recorded into the Archive Catalog.

DISPLAY SPOOLORGANIZER LOG

DSPARCE Command:

OLDBADDA spool entry was moved from tape to the Online Database.

PURARCCAT Command:

ARCCATDLT A spool entry's record was deleted from the Archive Catalog.

PURLOLE Command:

OLDBDLT A spool entry was deleted from the Online Database.

OPTOLE Command:

OPTOLDB A spool entry was archived to Optical Disk.

OLDBDLT A spool entry was deleted from the Online Database.

OPTCATADD An Archived spool entry was recorded into the Optical Disk.

DSPOPTE Command:

OLDBADDA spool entry was moved from tape to the Online Database.

PUROPTCAT Command:

OPTCATDLT A spool entry's record was deleted from the Optical Catalog.

Bundle Manager Task:

STRBDLMGR The Bundle Manager was started.

ENDBDLMGR The Bundle Manager was ended via an ENDBDLMGR command.

PREVABEND The previous Bundle Manager Job did not end normally.

RCVSPLA A spool entry was received from a Monitor.

RESET The input message stream was reset to the next message group.

CLOSE A Bundle was closed.

PRINT A Bundle was submitted to print.

DELETE A Bundle was deleted.

ADDBDL A Bundle was created.

ADDBDLENT A Bundle Entry was added to a Bundle.

ATRCHG An Attribute Change Spec was processed for a Bundle Entry.

DELETEENT A Bundle Entry was deleted.

WARNINGA warning message was written to the Bundle Manager's Job Log.

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Bundle Manager Print Task:

PRINT	A Bundle was printed.
ABEND	The Print task ended abnormally.

User Tasks:

CHGBDL	An active Bundle was changed.
CHGBDLENT	An active Bundle Entry or the spool entry attributes were changed.
CHGOLE	An Online Database entry was changed.
CHGSTAT	The status (OPEN, HOLD, etc.) of an active Bundle was changed.
CHGTIMES	The Cutoff, Print, or Deleted times for a Bundle were changed.
DLTBDL	A Bundle was deleted.
DLTBDLENT	A Bundle Entry was deleted.

Index Manager Task:

STRIDXMGR	The Index Manager was started.
ENDIDXMGR	The Index Manager was ended via an ENDIDXMGR command.
PREVABEND	The previous Index Manager Job did not end normally.
RCVSPL	A spool entry was received from a Monitor.
RESET	The input message stream was reset to the next message group.
WARNINGA	A warning message was written to the Index Manager's Job Log.

Managing the SpoolOrganizer Log

The Administrator should periodically clear or save the SpoolOrganizer log if logging is in effect. As mentioned above the SpoolOrganizer Log data is placed into file BSOLOG in library BDSDATA. To clear the log enter the following command:

CLRPFM BDSDATA/BSOLOG

The user can also use the PURSOLOG (Purge SpoolOrganizer Log) command to remove entries from the log file.

At the command line, enter PURSOLOG and the following screen will appear:

DISPLAY SPOOLORGANIZER LOG

```
Purge SpoolOrganizer Log (PURSOLOG)
Type choices, press Enter.

Start Date to Delete          *FIRST          Date, *FIRST
End Date to Delete           *LAST           Date, *LAST
Reorganize the Log File. . . . *DLTRCD        *DLTRCD, *YES, *NO
                               *LIBL           Name, *LIBL

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

The PURSOLOG command has the following parameters:

Start Date to Delete (STRDATE) Parameter

Specifies the first record to remove from the SpoolOrganizer log.

*FIRST: The first record in the log will be the start.

DATE: Specify a date, in *SYSVAL format, which is specifies the first record in the log to delete.

End Date to Delete (ENDDATE) Parameter

Specifies the last record to remove from the SpoolOrganizer log.

*LAST: The last record in the log will be the end.

DATE: Specify a date, in *SYSVAL format, which is specifies the last record in the log to delete.

Reorganize the Log File (REORG) Parameter

Specifies if SpoolOrganizer is to issue an OS/400 RGZPFM (Reorganize file) command after the log records are deleted. This will free up space occupied by deleted records.

*DLTRCD: If the purge command deletes log records, then a reorg will be performed. Otherwise, no reorg will be performed.

*YES: A reorganization of the log file will be performed.

*NO: No reorganization will be performed.

DEFINE E-MAIL SPECIFICATIONS

SpoolOrganizer/400 can send spool entries and Bundles to Internet users via E-Mail. The following SpoolOrganizer functions support E-Mail:

- + **Monitors/Monitor Selection Criteria**
- + **Bundles**
- + **BDS Display spool entry**
- + **SpoolOrganizer EMLSPLE command**

To send a spool entry or Bundle via E-Mail, the administrator must first define an E-Mail Specification. Once defined, the administrator can refer to the Spec name on Monitor or Bundle Descriptions. The E-Mail Specification describes various attributes of the Message, such as the recipient address(es).

SpoolOrganizer uses OS/400 Mail Server Framework (MSF) to send E-Mail. MSF must be properly configured and running for E-Mail received from SpoolOrganizer to be delivered to the recipients. Refer to Appendix E, "OS/400 E-Mail Setup" for more information.

Select F6 to add a new Specification. Enter the name of the Spec to create and press **ENTER**. The following screen should appear:

SpoolOrganizer/400		ADD	5/06/96
Define E-Mail Specifications			10:16:46
Spec Name: E1			
From Address: _____			
_____ Address Type: <u>S</u> (S, U, N)			
From Name: _____			

To Address: _____			
_____ Address Type: <u>S</u> (S, U, N)			
To Name: _____			

Distribution List Name: <u>*NONE</u>			
Descriptive Text: _____			
F3=Exit F12=Cancel Current Operation			
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The above parameters have the following definitions:

From Name and Address

Specifies the from section of the message. The Address is required, the Name is optional. The specified fields will appear on the message as *from-name* <*from-addr*> or *from-addr*. Special values for the address field are:

***JOBUSER:** For address type U, the sending job's user profile is used to determine the SMTP address.

***SPLUSER:** For address type U, the spool entry's user profile attribute is used to determine the SMTP address.

From Address Type

Specifies the type of address. Specify one of the following:

S: The specified value is a standard SMTP address in the form *name@domain*. The address must follow Internet conventions.

U: An AS/400 user profile is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

N: A SNADS user is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

To Name and Address

Specifies the to section (recipient) of the message. The Address is required, the Name is optional. The specified fields will appear on the message as *to-name* <*to-addr*> or *to-addr*. Special values for the address field are:

***NONE:** No address is specified.

***JOBUSER:** For address type U, the sending job's user profile is used to determine the SMTP address.

***SPLUSER:** For address type U, the spool entry's user profile attribute is used to determine the SMTP address.

To Address Type

Specifies the type of address. Specify one of the following:

S: The specified value is a standard SMTP address in the form *name@domain*. The address must follow Internet conventions.

DEFINE E-MAIL SPECIFICATIONS

U: An AS/400 user profile is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

N: A SNADS user is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

Distribution List Name

Specifies a E-Mail Distribution List Name, which is a list of additional recipients. All additional recipients will be placed in the to section of the message. For more information, refer to Chapter 32, "Define E-Mail Distribution Table".

***NONE:** No list of additional recipients is specified.

Descriptive Text

Specify up to 30 characters of text that describes the Specification.

Press **ENTER**. The following screen should appear:

SpoolOrganizer/400		ADD	5/06/96
Define E-Mail Specifications			10:16:46
Spec Name:	E1		
Bcc Address:	_____		

	Address Type:	<u>S</u>	(S, U, N)
Bcc Name:	_____		

	Bcc Dist List Name:	<u>*NONE</u>	
Subject:	_____		
Optional	<u>*NONE</u>		
Note:	_____		

Logging Parameters			
	Period to keep in E-Mail Log:	___	_____ 0
	Read Security Classes:	___	_____
	Change Security Classes:	*	_____
F3=Exit	F12=Cancel Current Operation		
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The above parameters have the following definitions:

Bcc Name and Address

Specifies Bcc (Blind Carbon Copy) recipients. Bcc recipients do not appear in the message header section of the message. Special values for the address field are:

***NONE:** No address is specified.

***JOBUSER:** For address type U, the sending job's user profile is used to determine the SMTP address.

***SPLUSER:** For address type U, the spool entry's user profile attribute is used to determine the SMTP address.

Bcc Address Type

Specifies the type of address. Specify one of the following:

S: The specified value is a standard SMTP address in the form *name@domain*. The address must follow Internet conventions.

U: An AS/400 user profile is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

N: A SNADS user is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

Bcc Dist List Name

Specifies a E-Mail Distribution List Name, which is a list of additional recipients. Additional Bcc recipients will not be placed in the header section of the message. For more information, refer to Chapter 32, "Define E-Mail Distribution Table".

***NONE:** No list of additional recipients is specified.

Subject

Specifies the subject area of the message. Specify up to 70 characters, which can include one or more of the following substitution values:

***SPLFILE:** The Spool File Name of the spool entry will be substituted.

***JOBNAME:** The Job Name of the job that created the spool entry will be substituted.

***JOBUSER:** The User Profile Name of the job that created the spool entry will be substituted.

DEFINE E-MAIL SPECIFICATIONS

***JOBNUM:** The Job Number of the job that created the spool entry, prefixed by 'J' will be substituted.

***SPLNUM:** The Spool File Number of the spool entry, prefixed by 'F' will be substituted.

***FORMTYP:** The Form Type attribute of the spool entry will be substituted.

***USRDTA:** The User Data attribute of the spool entry will be substituted.

***OUTQ:** The Outq Name attribute of the spool entry will be substituted.

Optional Note

Specifies an optional note that can be attached to the beginning of the message. Specify up to 5 lines of text or ***NONE**.

Logging Parameters

Spool Organizer can optionally keep sent mail in a Sent Mail Log. Users can search, display, resend, and delete mail in the log. The logging parameters below specify if the sent mail is to be placed into the log, the retention period in the log, and the users that can access the messages in the log.

Period to keep in E-Mail Log

Specifies how long (if at all) the message is to be kept active in the E-Mail Sent Mail Log. Expired mail must be purged using the PURSNTML command. Specify the following Period types:

BLANK: Do not place the message into the Sent Mail Log.

ND: Number of days. Specifies the number of days from the date the message was sent.

NM: Number of Months. Specifies that the value given is the number of months. For example; if NM 3 is specified and a message is mailed on June 14th, it will expire on September 14th.

NY: Number of Years. Specifies the number of years the message will be active in the Sent Mail Log.

DT: Date. Specifies the last day the message is active. The specified value must be in the format YYYYMMDD.

ME: Month End. Specifies the last day of the month is the last day the message will be considered active.

QE: Quarter End. Specifies the last day of the current quarter will be the last day the message will be considered active.

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YE: Year End. Specifies the last day of the year is the last day the message is considered active.

Read Security Table

Specifies the security access codes that a user must have to display or resend the message entry. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can display the message.

Change Security Table

Specifies the access codes a user must have to change a message's attributes. Specify up to ten codes, each can be generic. For example A* will match A, AX, AXX, etc. A value of * means all users can change or delete the message.

Note: Spool Organizer security officers (type S) have read and change authority to all messages in the Sent Mail Log. The sender of the message has read and change authority to that message. The sender is considered the user profile of the job that issued the send. SpoolOrganizer Users (type U) will not see any messages in the search results list that they do not have read authority to (or sent). Spool Organizer Operators (type O) will see the results but will not be able to read/change the message unless they have the required authority.

Press **ENTER**. The following screen should appear:

```

                                SpoolOrganizer/400                ADD    5/06/96
                                Define E-Mail Specifications      10:16:46

Spec Name:  E1

Part Type:  *INLUNF      (*INLUNF *ATHUNF *PDF *CSV *TSV)

Attachment File Name/Type
File Name:  *SPLFILE
File Type:  *PARTYP      Truncate Length:  10

CSV/TSV or PDF Spec Name:  *NONE      (Name, *NONE, F4=Prompt)
Encryption Spec Name:     *NONE      (Name, *NONE, F4=Prompt)

INLUNF Type Parameters
Note as Separate Part:  Y      (Y/N)
Spool Entries as Separate Parts:  Y      (Y/N)

F3=Exit  F12=Cancel Current Operation
                                (C) Copyright 1989, 1999 Broderick Data Systems
```

The above parameters have the following definitions:

DEFINE E-MAIL SPECIFICATIONS

Part Type

Specifies the type of processing SpoolOrganizer will perform when placing the spool entry into the message. Specify one of the following:

***INLUNF**: Each spool entry will appear in the message with no formatting or attachment processing.

***ATHUNF**: Each spool entry will appear in the message as a separate attachment with no formatting.

***PDF**: Each spool entry will appear in the message as a separate attachment, formatted as an Adobe PDF file. Any user with Adobe Acrobat Reader or Writer can view or print the spool entry.

***CSV**: Each spool entry will appear in the message as a separate attachment, formatted as a Comma Separated Values (CSV) file. Most PC Spreadsheet and Database applications can load CSV files.

***TSV**: Each spool entry will appear in the message as a separate attachment, formatted as a Tab Separated Values (TSV) file. Most PC Spreadsheet and Database applications can load TSV files.

Attachment File Parameters

Attachment File Name

Specifies the name given to the attachment file. This name can be used to name the file when saving it to a PC's disk. The PC file name will be in the form *name.type*. Specify a name or one of the following:

***SPLFILE**: The Spool File Name of the job that created the spool entry will be used as the attachment file name.

***JOBNAME**: The Job Name of the job that created the spool entry will be used as the attachment file name.

***JOBUSER**: The User Profile Name of the job that created the spool entry will be used as the attachment file name.

***JOBNUM**: The Job Number of the job that created the spool entry, prefixex by 'J' will be used as the attachment file name.

***SPLNUM**: The Spool File Number of the spool entry, prefixed by 'F' will be used as the attachment file name.

***FORMTYP**: The Form Type attribute of the spool entry will be used as the attachment file name.

***USRDTA**: The User Data attribute of the spool entry will be used as the attachment file name.

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***OUTQ:** The Outq Name attribute of the spool entry will be used as the attachment file name.

Attachment File Name Truncate Length

Specifies, for attachment files with substitute naming (*JOBNAME, *JOBUSER, etc.), the maximum length to make the file name. Specify a value between 1 and 32.

Attachment File Type

Specifies the type given to the attachment file. This value will be added to the end of the file name. The PC file name will be in the form *name.type*. Specify a value or one of the following:

***PARTYP:** The part type (specified above) will determine the file type:

*ATHUNF	.txt
*PDF	.pdf
*CSV	.csv
*TSV	.tsv

CSV/TSV or PDF Specifications Name

Specifies, for Part Types *CSV, *TSV and *PDF, the name of the Specification. The CSV/TSV, PDF or XLS specs contain options used to format the output. See Chapter 34, "Define CSV/TSV Specifications", Chapter 37, "Define PDF Specifications" and Chapter 40, "Define MS Excel Specifications" for more information.

***NONE:** No Specification will be used.

Encryption Specifications Name

Specifies for ATHUNF, CSV/TSV, PDF or XLS types, the name of the Specification to use to perform encryption. The Spec contains Encryption options Spool Organizer will use when building the part in the message. The specified name must exist. Press F4 to prompt. See Chapter 39, "Define Encryption Specifications" for more information.

***NONE:** No encryption will be performed.

Inline-Unformatted Parameters

Note as a Separate Part

Specifies, for type *INLUNF, if the note will be placed in the message as a separate part from the spool entry. This will cause a separator line to appear on most browsers when the recipient displays the message. This parameter is ignored if no Optional Note is specified.

Y: The note will appear in the message as a separate part.

DEFINE E-MAIL SPECIFICATIONS

N: The note will appear in the message in the same part as the spool entry.

Spool Entries as a Separate Parts

Specifies, for type *INLUNF, if the each spool entry will be placed in the message as a separate part. This will cause a separator line to appear on most browsers when the recipient displays the message. This parameter is ignored if only one spool entry is included in the message.

Y: Each spool entry will appear in the message as a separate part.

N: All spool entries will appear in the message in the same part.

DEFINE E-MAIL DISTRIBUTION TABLE

SpoolOrganizer/400 can send an E-Mail message to multiple Internet users. To do this the administrator must set up a Distribution List in the Distribution Table. Once defined, the administrator can refer to the List Name on E-Mail Specifications. See Chapter 31 "Define E-Mail Specifications" for more information concerning E-Mail Specifications. SpoolOrganizer will send the message to each user in the list.

Select **F6** to add a new List Entry. The following screen should appear:

```

                                SpoolOrganizer/400          ADD      5/06/96
                                Add/Copy E-Mail Distribution List Entry      10:16:46

E-Mail Distribution List Entry to add/copy:

                                List Name: _____
                                Sequence Number: 00000100

F3=Exit   F12=Cancel Add/Copy

                                (C) Copyright 1989, 2002 Broderick Data Systems
```

List Name

Specifies the Name. Refer to this name on desired E-Mail Specs. All entries with the name will get a copy of the sent message.

Sequence Number

Specify a unique number for each entry within a given List Name. The sequence number will define the order the names/addresses will appear in the message's recipient list.

Press **ENTER**. The following screen should appear:

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SpoolOrganizer/400	ADD	5/06/96
Define E-Mail Distribution List Entry		10:16:46
List Name: D1	Seq Num: 00000100	
To/Bcc Address:	_____	
_____	_____	
_____	Address Type: <u>S</u>	(S, U, N)
To/BCC Name:	_____	
_____	_____	
_____	_____	
Descriptive Text:	_____	
F3=Exit	F12=Cancel Current Operation	
Copyright 1989, 2002 Broderick Data Systems		

The above parameters have the following definitions:

To/Bcc Name and Address

Specifies the recipient of the message. The Address is required, the Name is optional. To recipients will appear on the message as *to-name <to-addr>* or *to-addr*. Bcc recipients will not appear in the message. .
Special values for the address field are:

***JOBUSER:** For address type U, the sending job's user profile is used to determine the SMTP address.

***SPLUSER:** For address type U, the spool entry's user profile attribute is used to determine the SMTP address.

Address Type

Specifies the type of address. Specify one of the following:

S: The specified value is a standard SMTP address in the form *name@domain*. The address must follow Internet conventions.

U: An AS/400 user profile is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

DEFINE E-MAIL DISTRIBUTION TABLE

N: A SNADS user is specified. SpoolOrganizer will look up the associated SMTP address in the system directory.

Descriptive Text

Specify up to 30 characters of text which describes the List Entry

DISPLAY/PURGE THE SENT MAIL LOG

SpoolOrganizer/400 can optionally keep E-Mail in the Sent Mail Log. Users can display sent mail using the **DSPSNTML** command. The command has no parameters. The following screen should appear:

```

                                Display Sent E-Mail
                                Display Specifications

Enter values to limit the search:

Start Date/Time:  19990305  000000   End Date/Time:  99999999  999999

Sending Job:  *ALL      User:  *ALL      Num:  *ALL

From Address:  _____
               _____
               _____

To Address:   _____
               _____
               _____

F3=Exit   F12=Cancel Add/Copy

(C) Copyright 1989, 1999 Broderick Data Systems
```

Start/End Date and Time

Specifies the date the mail was sent. Only messages which were sent between the from and to times will be included.

Sending Job

Specifies that attributes from the job which sent the message will be used to search. Only messages which match the specified job name, user profile, or job number will be selected.

From Address

Specifies the from address to search for. Only messages which match the specified from address will be selected.

To Address

Specifies the to address to search for. Only messages which match the specified to address will be selected.

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Press **ENTER** to search. A screen displaying the results of the search will display:

SpoolOrganizer/400		Display Sent Mail				3/05/99
1=Disp Attr	2=Chg Attr	4=Delete	5=Entries	8=Resend	16:47:00	
X	SendDate	SendTime	SendJob	SendUser	SndNum	FromName
_	1999/01/15	10:40:58	GLMONEND	QSYSOPR	025147	System Operator
_	1999/01/17	11:22:53	APHIST	QUSER	025538	Work Station User
_	1999/02/26	08:50:14	PR02715D	EJONES	419572	Ed Jones
_	1999/02/26	14:15:32	GLMONEND	QSYSOPR	025147	System Operator

F3=Exit F12=Cancel

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Select from one of the following

1=Display Attr

Displays the attributes used to create the message. See Chapter 31, "Define E-Mail Specifications" for a description of the message's attributes.

2=Chg Attr

Displays the attributes used to create the message and allows the user to change them. See Chapter 31, "Define E-Mail Specifications" for a description of the message's attributes.

4=Delete

Deletes the message from the Sent Mail Log.

5=Entries

Displays the spool entries included in the message. The user can then display the spool entries and their attributes.

8=Resend

Resends the message.

Place a 5 next to an entry to display the spool entries included in the message. The following screen will display:

DISPLAY/PURGE THE SENT MAIL LOG

SpoolOrganizer/400		Spool Entries Sent in Mail			3/05/99	
1=Attr 5=Display		16:47:00				
<u>X</u>	<u>Job Name</u>	<u>Job User</u>	<u>File Name</u>	<u>User Data</u>	<u>Form Type</u>	<u>Pages</u>
_	DSP01	QUSER	INV03412	INVPRT	*STD	418
F3=Exit F12=Cancel		(C) Copyright 1989, 1999 Broderick Data Systems				

Select from one of the following

1=Attr

Displays the attributes of the included spool entry Refer to IBM publications for a description of the spool entry's attributes.

5=Display

Displays the spool entry. See Chapter 29, "Display a Spool Entry" for more information.

Purging Sent Mail

Sent E-mail must be removed from the log using the **PURSNTML** (purge sent mail) command. Entries purged from the sent mail log are gone (they are not moved to a "deleted mail" bin).

Purge Sent E-Mail (PURSOLOG)		
Type choices, press Enter.		
From Date (YYYYMMDD)	<u>0</u>	Number
To Date (YYYYMMDD)	<u>99999999</u>	Number
Purge Expired entries only. . .	<u>*EXPIRED</u>	*ALL, *EXPIRED
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display		
F24=More keys		

The **PURSNTML** command has the following parameters:

From Date (FROMDATE) Parameter

Specifies the date value (message sent date) of the first record to delete.

0: The purge will begin with the first record.

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To Date (TODATE) Parameter

Specifies the date value (message sent date) of the last record to delete.

99999999: The purge will end with the last record.

Note: The mail sent date is stored by SpoolOrganizer in YYYYMMDD format, for example 19990305. Numbers representing valid dates should be specified but this is not a requirement. For example 19990000 can be specified as the From or To date.

Purge expired entries only (TODATE) Parameter

Specifies if the message's expiration date is considered when selecting the date value (message sent date) of the last record to delete.

***EXPIRED:** Only expired messages will be purged. SpoolOrganizer uses the mail sent date and adds the specified retention period to determine the expiration date. The day following the expiration date is the first day the message can be purged. For more information regarding retention periods, see Chapter 31, "Define E-Mail Specifications" section "Period to keep in E-Mail Log".

***ALL:** The message's expiration date is not considered when purging messages. All messages which match the other selection criteria will be purged.

DEFINE E-MAIL CSV/TSV SPECIFICATIONS

E-Mail sent by SpoolOrganizer/400 can be placed into Spreadsheet and Database applications. SpoolOrganizer supports Part Types CSV (Comma Separated Values) and TSV (Tab Separated Values), which can be loaded or imported by most PC Spreadsheet and Database applications. To send a spool entry in CSV or TSV format, specify Part Type *CSV or *TSV on the E-Mail Specification. For more information, see Chapter 31, "Define E-Mail Specifications". The CSV or TSV Spec must be created before it is used.

Since CSV and TSV are row-column oriented formats, the administrator must think of the spool entry's page as columns of data. For each column, determine the type (character or numeric), and the start/end columns on the page. Up to 30 columns can be specified.

Select **F6** to add a new Specification. Enter the name of the Spec to create and press **ENTER**. The following screen should appear:

```

                SpoolOrganizer/400                ADD                5/06/96
                Define E-Mail CSV/TSV Specifications                10:16:46
Name:  CSV1

    From Line:  ____                To Line:  ____
    Text:  _____

Type  FromCol  ToCol  Type  FromCol  ToCol  Type  FromCol  ToCol
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____
____  ____    ____    ____  ____    ____    ____  ____    ____

Starting Page:  _____ 1
Generate Headings: *NO
                  From Line:  __1  To Line:  __66
                  *NO, *ONCE, *ALL

F3=Exit  F12=Cancel Current Operation
                (C) Copyright 1989, 2003 Broderick Data Systems
    
```

The above parameters have the following definitions:

From/To Line

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Specifies the line range to include. Only print lines that fall within this range will be included in the CSV or TSV file.

Text

Specify up to 30 characters of text that describes the Specification.

Type

Specifies the type of data to create. Specify one of the following:

C: (Character) the column will be character data. Trailing blanks will be truncated.

N: (Numeric) the column will be numeric data. Editing characters such as commas will be removed. An all-blank value will be treated as zero. Negative numbers can be specified as leading minus, trailing minus, trailing CR, or enclosed in parentheses.

Starting Page

Specifies the starting page. This option allows you to skip initial pages such as Specifications pages that do not contain wanted data.

Generate Headings

Specifies if Headings are to be placed into the output. If specified, the same columns specified for the data columns will be used to build the heading lines. Note that heading cells will always be character. If Generate Headings is specified, you will specify From and To lines. Specify one of the following:

*NO: No headings will be generated.

*ONCE: Heading lines will be generated before the first page's data lines are generated.

*ALL: Heading lines will be generated before each page's data lines are generated.

From/To Line

Specifies the line range to include as Headings. Only print lines that fall within this range will be included.

E-MAIL SPOOL ENTRIES COMMAND

The **EMLSPLE** (E-Mail a spool entry) command can send a spool entry in an OS/400 outq via E-Mail to one or more Internet users. The users can use common E-Mail viewers such as Microsoft Internet Explorer or Netscape Navigator to view the sent E-Mail. The spool entry can appear in the mail inline or as an attachment. Attachments can be unformatted or can be in Adobe PDF, Microsoft Excel (XLSX), CSV (Comma Separated Values) or TSV (Tab Separated Values) format. The user can specify up to 50 recipients or can specify a data file that contains the list of recipients. Blind carbon copy (Bcc) recipients can also be specified.

If executed the following screens will appear:

```
Send a spool entry via E-Mail (EMLSPLE)

Type choices, press Enter.

E-Mail Specification Name . . . _____ Character value
Spool entry's file name . . . _____ Name
Spool entry's Job Name . . . . *CURRENT Name, *CURRENT
  User . . . . . _____ Name
  Number . . . . . _____ 000000-999999
Spool entry's file number . . . *LAST Name, *ONLY, *LAST
Job system name . . . . . *ONLY Name, *ONLY, *CURRENT, *ANY
Spooled file created:
  Creation date . . . . . *ONLY Date, *ONLY, *LAST
  Creation time . . . . . Time, *ONLY, *LAST
From Address . . . . . *EMLSPC
_____
_____
_____
From Name . . . . . *EMLSPC
_____
_____
_____
More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```


E-MAIL SPOOL ENTRIES COMMAND

```

          Send a spool entry via E-Mail (EMLSPLE)
Type choices, press Enter.

Blind Carbon Copy (Bcc) Addr . . . _____
_____
Blind Carbon Copy (Bcc) Name _____
_____

          + for more values  _

File containing Bcc list . . . . . *NONE          Name, *NONE
                                   *LIBL          Name, *LIBL
Bcc file member . . . . . *FILE          Name, *FILE, *FIRST
File Attachment Name . . . . . *EMLSPC
                                                    Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

```

          Send a spool entry via E-Mail (EMLSPLE)
Type choices, press Enter.
Addl Spool Entry Atchmnt List:  _
E-Mail Specification Name . . . *PREVENT          Name, *PREVENT
Spool entry's file name . . . *PREVENT          Name, *PREVENT
Spool entry's Job Name . . . *PREVENT          Name, *PREVENT, *CURRENT
  User . . . . . _____          Name
  Number . . . . . _____          000000-999999
Spool entry's file number . . *PREVENT          Number, *ONLY, *LAST...
Job system name . . . . . *ONLY          Name, *ONLY, *CURRENT, *ANY
Spooled file created:
  Creation date . . . . . *ONLY          Date, *ONLY, *LAST
  Creation time . . . . . _____          Time, *ONLY, *LAST
CSV/TSV, PDF or XLS Spec Name. *PREVENT          Charcter value, *PREVENT..
Attachment File Name . . . . . *PREVENT
Encryption Spec Name . . . . . *PREVENT          Character value, *PREVENT
Encryption Password . . . . . *PREVENT
          + for more values  _
.
                                                    Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

The EMLSPLE command has the following parameters:

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E-Mail Specification Name (EMLSPC) Parameter

Specifies the name of the E-Mail Specifications to use. The E-mail Spec describes many characteristics of the E-Mail message. The E-Mail Specification must exist. See Chapter 31, "Define E-Mail Specifications" for more information.

Spool entry's file name (SPLFILE) Parameter

Specifies, with the **SPLJOB** and **SPLNBR** parameters, the spool entry to E-Mail. OS/400 uses the combination of Job name, spool file name, and spool file number to uniquely identify a spool entry in the system

Spool entry's Job name (SPLJOB) Parameter

Specifies, with the **SPLFILE** and **SPLNBR** parameters, the spool entry to E-Mail. Specify the Job name, user, and number. The user may also specify one of the following special values:

***CURRENT:** The job that issues the EMLSPLE command will be used to identify the spool entry.

Spool entry's file number (SPLNBR) Parameter

Specifies, with the **SPLFILE** and **SPLJOB** parameters, the spool entry to E-Mail. Specify the file number or one of the following special values:

***LAST:** The last spool file that the job created will be sent.

***ONLY:** The only spool file that the job created will be sent.

Job system name (JOBSYSNAME) Parameter

Specifies the system where the job that created the spooled file (JOB parameter) ran. This parameter is considered after the job name, user name, job number, spooled file name, and spooled file number parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date and time.

***CURRENT:** The spooled file created on the current system with the specified job name, user name, job number, spooled file name, spooled file number, and create date and time is used.

***ANY:** The job system name is not used to determine which spooled file is used. Use this value when the spooledfile create date and time parameter is to take precedence over the job system name when selecting a spooled file.

system-name: Specify the name of the system where the job that created the spooled file ran.

E-MAIL SPOOL ENTRIES COMMAND

Spooled file created (CRTDATE) Parameter

Specifies the date and time the spooled file was created. This parameter is considered after the job name, user name, job number, spooled file name, spooled file number, and job system name parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date/time.

***LAST:** The spooled file with the latest create time of the specified job name, user name, job number, spooled file name, spooled file number, job system name, and spooled file create date is used.

date/time: Specify the date/time the spooled file was created.

From Address (FROMADDR) Parameter

Specifies, with the **FROMNAME** parameter, the sender. Specify up to 256 characters or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the value to place into the message.

***USRPRF(xxxxx):** The SMTP address associated with the specified user profile will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

USRPRF(*JOBUSER): The SMTP address associated with the sending job's user profile will be used as the address.

USRPRF(*SPLUSER): The SMTP address associated with the spool entry's user profile attribute will be used as the address.

***SNADSUSR(xxxxx yyyy):** The SMTP address associated with the specified SNADS User will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

From Name (FROMNAME) Parameter

Specifies, with the **FROMADDR** parameter, the sender. Specify up to 256 characters or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the value to place into the message.

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***BLANK:** The name portion of the from address will be omitted.

To Address (TOADDR) Parameter

Specifies, with the **TONAME** parameter, the recipient. Specify up to 256 characters. Specify up to 50 E-mail addresses or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the to-address value to place into the message. Please note that the distribution list will not be used. See *EMLDST below.

***EMLDST:** The E-Mail specification entered above contains the to-address and the distribution list to use as the recipient list.

***FILE:** The recipient list is contained in a physical file specified by the **TOFILE** and **TOMBR** parameters listed below.

***NONE:** No address is specified.

***USRPRF(XXXXX):** The SMTP address associated with the specified user profile will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

USRPRF(*JOBUSER): The SMTP address associated with the sending job's user profile will be used as the address.

USRPRF(*SPLUSER): The SMTP address associated with the spool entry's user profile attribute will be used as the address.

***SNADSUSR(XXXXX yyyyy):** The SMTP address associated with the specified SNADS User will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

To Name (TONAME) Parameter

Specifies, with the **TOADDR** parameter, the recipient. Specify up to 256 characters. Specify up to 50 names or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the value to place into the message.

***BLANK:** The name portion of the recipient will be omitted.

Notes:

- 1) Name/Addresses will appear on the message in the form *from-address* or *from-name <from-address>*.

E-MAIL SPOOL ENTRIES COMMAND

- 2) **TOADDR** and **TONAME** parameters will be paired together when building the recipient list. Care must be taken when specifying a large list of recipients.
- 3) SpoolOrganizer performs very little edit checking of names and addresses. OS/400 will not notify the **EMLSPL** command if the recipient list's addresses are found to be invalid. The user must insure the correct name/addresses are entered.

Subject (SUBJECT) Parameter

Specifies the subject. Specify ***EMLSPC** or up to 70 characters, which can include one or more of the following substitution values:

***EMLSPC:** The E-Mail specification entered above contains the value to place into the message.

***SPLFILE:** The Spool File Name of the spool entry will be substituted.

***JOBNAME:** The Job Name of the job that created the spool entry will be substituted.

***JOBUSER:** The User Profile Name of the job that created the spool entry will be substituted.

***JOBNUM:** The Job Number of the job that created the spool entry, prefixed by 'J' will be substituted.

***SPLNUM:** The Spool File Number of the spool entry, prefixed by 'F' will be substituted.

***FORMTYP:** The Form Type attribute of the spool entry will be substituted.

***USRDTA:** The User Data attribute of the spool entry will be substituted.

***OUTQ:** The Outq Name attribute of the spool entry will be substituted.

Optional Note (OPTNOTE) Parameter

Specifies an optional note that can be sent in front of the spool entry. Specify up to 5 lines of up to 70 characters or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the value to place into the message.

***NONE:** No optional note is placed into the message.

***BLANK:** A blank line is to be placed into the optional note.

File containing Recipient List (TOFILE) Parameter

Specifies, if **TOADDR(*FILE)** is specified, the file which contains the recipient addresses and names. The file must exist.

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The file must be a physical file. Each record in the file corresponds to a recipient of the message. The record length of the file is optional but 512 bytes is recommended. Place the address in the first 256 characters of the record. Place the name (if desired) in positions 257 thru 512. The name portion can be left blank. Record lengths other than 512 will be padded with blanks or truncated as needed.

Specify the file and library names or one of the following special values:

***NONE:** No file is specified.

Recipient File Member (TOMBR) Parameter

Specifies, the member within the To-file to use. Specify a name or one of the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

CSV/TSV, PDF or XLS Specification Name (SPECNAME) Parameter

Specifies, for CSV, TSV, PDF and XLS types, the Specifications name to use. CSV/TSV, PDF and XLS specs contain options used when formatting the spool entry. The spec must be defined prior to use.

Specify a name or one of the following.

***EMLSPC:** The E-mail Specification contains the value to use.

Encryption Spec Name (ENCRSPEC) Parameter

Specifies the name of the Encryption Spec to use to encrypt the attachment. The Encryption Spec must already exist. Refer to Chapter 39, Manage Encryption Specifications for more information. Select one of the following:

***EMLSPC:** The E-mail Specification contains the Encryption Spec information.

***NONE:** No encryption will be performed on the attachment.

Encryption Password (ENCRPASS) Parameter

Specifies, for encrypted attachments, the password needed to access the attachment. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Bcc Address (BCCADDR) Parameter

Specifies Bcc (Blind Carbon Copy) recipients. Bcc recipients will not appear in the message header. Specify up to 256 characters. Specify up to 50 E-mail addresses or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the to-address value to place into the message. Please note that the distribution list will not be used. See *EMLDST below.

E-MAIL SPOOL ENTRIES COMMAND

***EMLDST:** The E-Mail specification entered above contains the to-address and the distribution list to use as the recipient list.

***FILE:** The recipient list is contained in a physical file specified by the **BCCFILE** and **BCCMBR** parameters listed below.

***NONE:** No address is specified.

***USRPRF(xxxxx):** The SMTP address associated with the specified user profile will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

USRPRF(*JOBUSER): The SMTP address associated with the sending job's user profile will be used as the address.

USRPRF(*SPLUSER): The SMTP address associated with the spool entry's user profile attribute will be used as the address.

***SNADSUSR(xxxxx yyyy):** The SMTP address associated with the specified SNADS User will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

***BLANK:** The name portion of the recipient will be omitted.

File containing Bcc Recipient List (BCCFILE) Parameter

Specifies, if **BCCADDR(*FILE)** is specified, the file which contains the recipient addresses and names. The file must exist.

The file must be a physical file. Each record in the file corresponds to a Bcc recipient of the message. The record length of the file is optional but 512 bytes is recommended. Place the address in the first 256 characters of the record. Place the name (if desired) in positions 257 thru 512. The name portion can be left blank. Record lengths other than 512 will be padded with blanks or truncated as needed.

Specify the file and library names or one of the following special values:

***NONE:** No file is specified.

Bcc Recipient File Member (BCCMBR) Parameter

Specifies, the member within the Bcc-file to use. Specify a name or one of the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

Attachment Name (ATHNM) Parameter

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Specifies the file name of the attachment: Specify up to 128 characters or one of the following:

***EMLSPC:** The E-Mail specification entered above contains the attachment name.

Addl Spool Entry Atchmnt List (ATCHLST) Parameter

Specifies additional spool entry attachments to place into the message. Specify up to 50 entries. For each entry, specify an E-mail Specification, Spool File Name and Number, Job Name User and Number, a PDF/CSV/TSV/XLS Spec name, an Encryption Spec and Password name, and a File Attachment Name. See the corresponding attributes described earlier for a complete description of each element. Specify up to 50 entries. Note the following special values:

***PREVENT:** Use the value specified on the previous entry for this entry. If this is the first additional entry, use the value specified on the corresponding first attribute (EMLSPC attr, SPLFILE attr, etc) for this value.

Example: The following command will send a spool entry (a screen print) created by you to an Internet user. Please note that the E-Mail Spec E1 must be created prior to entering this command:

```
EMLSPLE EMLSPC(E1) SPLFILE(QSYSVRT) SPLJOB(*CURRENT)  
FROMADDR('me@here') FROMNAME('Me at Here') TOADDR('you@there')  
TONAME('You at There')
```

DEFINE HTML SPECIFICATIONS

SpoolOrganizer can generate output in **HTML** format. Options that control the appearance of the **HTML** output are contained in **HTML** Specifications. The following SpoolOrganizer functions refer to **HTML** specs when generating output:

- + DIROUTQ command
- + DIRSPLE command

Please note: that **HTML** keywords are not fully syntax checked by SpoolOrganizer. The administrator should test the generated output. For more information on **HTML** keywords and their valid values, refer to an **HTML** reference manual.

Press **F6** to enter new specifications and enter a unique name. The following screen will appear:

Spec: H1	SpoolOrganizer/400™	10/20/94
	Define HTML Specs	15:06:31
General Keywords:		
Title:	_____	==
Content Type:	text/html	==
Character Set:	iso-8859-1	==
Meta Keywords:		
Keywords:	_____	==
Title:	_____	==
Body Keywords:		
Text Color:	_____	==
Backgr Color:	_____	==
Font Keywords:		
Family:	_____	==
Style:	_____	==
Variant:	_____	==
Weight:	_____	==
Size:	_____	==
Descriptive Text:	_____	==
F3=Exit F12=Cancel Current Operation		

General Keywords

Title

Specifies the *title* keyword, used to give the web page a title. Specify a value or spaces for none.

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Meta Keywords

Content Type

Specifies the values placed on the META *content-type* keyword. For most installations, text/html is recommended. Specify a value or spaces for none.

Note: If Content Type is non-blank, Character Set must be non-blank.

Character Set

Specifies the values placed on the META *character-set* .extension of the *content-type* keyword. For most installations, iso-8859-1 is recommended. Specify a value or spaces for none.

Note: If Character Set is non-blank, Content Type must be non-blank.

Keywords

Specifies the Meta *keywords* keyword, used to assign search keywords to the web page. Specify values separated by commas, or spaces for none.

Title

Specifies the Meta *title* keyword, used to assign a title to the web page. Specify a value, or spaces for none.

Body Keywords

SpoolOrganizer generates an imbedded style sheet in the **HEAD** section of the web page. A **BODY** subsection is added to the style sheet, which will make the attributes specified here valid for the entire web page. For more information, refer to Style Sheets in an **HTML** reference manual. The following keywords are placed into the *Body* subsection of the style sheet. **Please note:** that the Font Keywords listed below are also placed into the *Body* subsection of the style sheet.

Text Color

Specifies the *color* keyword, used to assign the color of typed text. Specify a value, or spaces for none.

Background Color

Specifies the *bgcolor* keyword, used to assign the color of the background. Specify a value, or spaces for none.

DEFINE HTML SPECIFICATIONS

Font Keywords

The following keywords are part of the font family of keywords and are placed into the **Body** subsection of the style sheet.

Family

Specifies the *font-family* keyword. Specify a value, or spaces for none. Some examples of font families are:

Times New Roman
Courier

Style

Specifies the *font-style* keyword. Specify a value, or spaces for none. Some examples of font styles are:

italic
oblique

Variant

Specifies the *font-variant* keyword. Specify a value, or spaces for none. Some examples of font variants are:

Small-caps

Weight

Specifies the *font-weight* keyword. Specify a value, or spaces for none. Some examples of font weights are:

bold
lighter

Size

Specifies the *font-size* keyword. Specify a value, or spaces for none. Some examples of font sizes are:

xx-small
medium
12pt

Text

Specify up to **30** characters of descriptive text.

DEFINE PDF SPECIFICATIONS

SpoolOrganizer can generate output in **PDF** format. **PDF** is a format developed by Adobe Systems Inc. and can be read by their Acrobat readers on PC's. Options that control the appearance of the **PDF** output are contained in **PDF** Specifications. The following SpoolOrganizer functions refer to **PDF** specs when generating output:

- + E-mail Specifications (Monitors, Bundles)
- + Display a spool entry, E-mail feature
- + DIROUTQ command
- + DIRSPLE command

Please note: that **PDF** keywords are not fully syntax checked by SpoolOrganizer. The administrator should test the generated output. For more information on **PDF** keywords and their valid values, refer to a **PDF** reference manual.

Press **F6** to enter new specifications and enter a unique name. The following screen will appear:

Spec: P1	SpoolOrganizer/400™	10/20/94
	Define PDF Specs	15:06:31
Font Keywords:		
Font ID:	<u>Courier</u>	
Font Size:	<u>.000</u>	
Page Keywords		
Measure Method:	<u>*TGTSIZE</u>	(*TGTSIZE, *SPLFILE)
Width:	<u>8.500</u>	
Length:	<u>11.000</u>	
Rotate Column:	<u>80</u>	
Spool PDF Overlay/400 Spec Name:	<u>*NONE</u>	(*NONE, *DFT, name)
Compress Page Data:	<u>*YES</u>	(*YES, *NO)
Descriptive Text:	<u></u>	
F3=Exit F12=Cancel Current Operation		

Font ID

Specifies the Font **ID** to use. SpoolOrganizer uses the Type1 Base Fonts when generating **PDF** output. Select from one of the following Adobe Type1 Base Fonts:

- + Courier
- + Courier-Bold
- + Courier-BoldOblique

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- + Courier-Oblique
- + Helvetica
- + Helvetica-Bold
- + Helvetica-BoldOblique
- + Helvetica-Oblique
- + Times-Roman
- + Times-Bold
- + Times-Italic
- + Times-BoldItalic
- + Symbol
- + ZaphDingbats

Font Size

Specifies the size of the font in points. Specify a point size or one of the following:

0: SpoolOrganizer will calculate the font point size based on page width and characters per line values.

Measure Method:

Specifies how SpoolOrganizer will calculate the page size. Most AS/400 output is generated to print on 14 by 11 inch paper, and most PC printers are 8.5 by 11 inches. SpoolOrganizer can convert the output size if desired. Specify one of the following:

***TGTSIZE:** The size of the target system's paper (specified below) will be used to calculate the page size.

***SPLFILE:** The spool file's attributes will be used to calculate the page size.

Width:

Specifies, if ***TGTSIZE** is specified above, the Page Width in inches.

Length:

Specifies, if ***TGTSIZE** is specified above, the Page Length in inches.

Rotate Column:

Specifies if Spool Organizer is to rotate output 90 degrees and print in landscape mode. If the spool entry's characters per line attribute is greater than the specified value the output page size will be rotated 90 degrees so that the spool entry will print in landscape mode.

Spool PDF Overlay/400 Spec Name:

Specifies, for Adobe PDF files, if the Spool PDF Overlay/400™ Product will be used to create the PDF file. Spool PDF Overlay/400 is a separate product from BDS that supports Overlays, Images, and multiple Fonts. It must be installed on your machine in order to use this feature. Spool PDF Overlay/400 options will override any PDF options specified in Spool Organizer/400. Specify one of the following:

DEFINE PDF SPECIFICATIONS

***NONE:** Specifies that Spool PDF Overlay/400 will not be used to create the PDF file.

name: Specifies the Spool PDF Overlay/400 Options Spec name to use. The Options Spec must have been created in the Spool PDF Overlay/400 product. Refer to the Spool PDF Overlay/400 documentation for more information on available features and options.

***DFT:** Specifies the default Spool PDF Overlay/400 Options Spec will be used.

Compress Page Data:

Specifies, for Adobe PDF files, if internal page data will be compressed using the FLATE algorithm. Compressing page data can greatly reduce the size of the output PDF file. Specify one of the following:

***YES:** Page data will be compressed.

***NO:** Page data will not be compressed.

Text

Specify up to **30** characters of descriptive text.

IFS DIRECTORY COMMANDS

SpoolOrganizer can move spool entries to an **IFS** Directory. Once moved, other tasks can access the spool entries. For example if **OS/400 HTTP** server is setup, Internet users can access the spool entries in the **IFS** directory from web browsers. **FTP** clients can also access the files written by SpoolOrganizer into **IFS** directories. The following SpoolOrganizer commands can write to **IFS** directories:

- + **DIROUTQ** command
- + **DIRSPLE** command

Files written to **IFS** directories can be in the following formats:

- + Text
- + Adobe PDF
- + Microsoft Excel (XLSX)
- + HTML
- + CSV or TSV (Spreadsheet, database)

Move Outq to IFS Directory

The **DIROUTQ** command moves spool entries in an outq to an **IFS** directory. The spool entries can be removed from the outq after the move. An index file, containing a record for each moved spool entry, can be placed in the directory. Only spool entries older than a specified number of days can be moved/deleted.

Enter the **DIROUTQ** command and press **F4**. The following screen will appear:

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```
Outq to IFS Directory (DIROUTQ)
Type choices, press Enter.

Outq to Archive . . . . . _____ Name, *ALL
                                     *LIBL Name, *LIBL, *ALL

Directory to place entries . . . _____

File Name Prefix . . . . . _____

Index File name . . . . . *NONE

File Format . . . . . *TXT *PDF, *HTML, *CSV, *TXT
PDF, XLS, CSV, or HTML Spec Name . . *NONE Character value
Delete Moved Spool Entries . . . . *NO *YES, *NO
Effective Period . . . . . DT DT, ND, MB, YB
Effective Value . . . . . *ALL Number, *ALL, *TODAY
Combine Overprint Lines . . . . . *DFT *DFT, *YES, *NO
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

Outq to Move (OUTQ) Parameter

Specifies the qualified name of the outq that contains the spool entries to move. Specify both name and library:

Name Qualifier

Specifies the name of the outq. Specify a name or one of the following:

***ALL:** All outq's in the specified library will be moved.

Library Qualifier

Specifies the name of the library. Specify a name or one of the following:

***LIBL:** The library list is searched for the outq.

***ALL:** All outq's in the specified library will be moved.

Directory to place entries (PATH) Parameter

Specifies the path name of the IFS directory that will contain the moved spool entries. Specify a name or one of the following:

***ROOT:** The root directory is the path.

Note: Include a leading forward slash but not a trailing slash when specifying a path name.

Note: File subsystem QDLS is not supported.

IFS DIRECTORY COMMANDS

File Name Prefix (FILEPRE) Parameter

Specifies the name of the file. File names are in the format *pppnnnnn.ttt* where *ppp* is the prefix specified here, *nnnnn* is a 7-digit number (leading zeros included), and *ttt* is a 3-character type suffix. The first file moved will have a number of **000001**, etc. See File Format below for type suffix values.

Index File Name (IDXNAME) Parameter

Specifies the name of the Index file. The Index file is an IFS file placed into the same directory as the moved spool entries. A record is placed into the file for each moved spool entry. The record format is:

<u>Pos</u>	<u>Len</u>	<u>Description</u>
1	512	File name
513	512	Spool file attributes

Note: For a layout of the Spool file attributes see source file **BRODERICK/BSOSRC** member **SPLAOFF1**.

File Format (FILETYPE) Parameter

Specifies the format and the name type suffix of the output files generated. Specify one of the following:

***TXT:** Text files will be created, with a suffix of .txt.

***PDF:** Adobe PDF files will be created with a suffix of .pdf.

***XLS:** Microsoft Excel files will be created with a suffix of .xlsx.

***HTML:** HTML files will be created with a suffix of .htm.

***CSV:** Column Separated Values (CSV) files will be created with a suffix of .csv.

***TSV:** Tab Separated Values (TSV) files will be created with a suffix of .tsv.

PDF, XLS, CSV/TSV, or HTML Spec Name (SPECNAME) Parameter

Specifies, for types ***PDF**, ***XLS**, ***HTML**, ***CSV** and ***TSV**, the specifications name to use. The spec name contains parameters used to create the output file, for example Font point size. This field is required for type ***CSV**, ***TSV** or ***XLS**. The spec must exist. Specify a name or one of the following:

***NONE:** No specification will be used. For types ***PDF** and ***HTML**, default values will be used.

Delete Moved Spool Entries (DLTSPLE) Parameter

Specifies if the moved spool entries should be deleted from the outq. Specify one of the following:

***NO:** Do not delete the spool entries from the outq after moving them.

***YES:** Delete the spool entries from the outq after moving them.

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Effective Period (EFPRD) Parameter

Specifies, with the **EFVAL** parameter, the age of the spool entries to move. SpoolOrganizer will calculate a date and compare it to the spool entry's job date. Only job dates older than the calculated effective date will be moved. Specify one of the following:

DT: (Date) The Effective Value parameter contains a date. Use this date as the effective date. Specify a date or one of the following:

***ALL:** All entries in the specified outqs will be moved.

***TODAY:** The current job date is the effective date.

Note: Dates must be entered in a **YYYYMMDD** format.

ND: (Number Days) The Effective value contains the number of days ago to use as the effective date.

MB: (Month Beginning) The first day of the current month is the effective date.

YB: (Year Beginning) The first day of the current year is the effective date.

Effective Value (EFVAL) Parameter

Specifies the value required in the **EFPRD** value specified above.

Data Authorities Assigned (DTAAUT) Parameter

Specifies Specifies, for created IFS Files only, the Data Authorities assigned to the created file. Select one or more of the following:

***DFT:** The *IRWXU and *IRWXO values (see below) will be used.

***IRUSR:** The creating user will have read access to the created file.

***IWUSR:** The creating user will have write access to the created file.

***IXUSR:** The creating user will have execute access to the created file.

***IRWXU:** The creating user will have all access to the created file.

***IRGRP:** The creating user's group will have read access to the created file.

***IWGRP:** The creating user's group will have write access to the created file.

***IXGRP:** The creating user's group will have execute access to the created file.

***IRWXG:** The creating user's group will have all access to the created file.

IFS DIRECTORY COMMANDS

***IROTH**: The public will have read access to the created file.

***IWOTH**: The public will have write access to the created file.

***IXOTH**: The public will have execute access to the created file.

***IRWXO**: The public will have all access to the created file.

Combine Overprint Lines (CMBOVPRT) Parameter

Specifies that overprinted lines (multiple print lines that have the same line number) should be combined into one output print line. For example, it is a programming technique to print a line of data, and then print a line of underlines onto the same print line. Specify one of the following:

***DFT**: Use the Spool Organizer default. This value is set on the Tailoring Options display.

***YES**: Combine overprint lines. The first record of the group is inserted into the output. Additional records on the same print line are inserted only if the characters at their position to be inserted are blank, otherwise the characters are discarded.

Note: The IBM spool entry display shows the last printed characters, not the first.

***NO**: Do not combine overprint lines. All overprint records will appear as separate print lines in the output.

Move Spool Entry to IFS Directory

The **DIRSPLE** command moves a spool to an IFS directory. It is similar to the **DIROUTQ** command described above except it moves one spool entry.

Enter the **DIRSPLE** command and press **F4**. The following screen will appear:

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```

Move Spool Entry to IFS Directory (DIRSPLE)
Type choices, press Enter.

Spool entry's file name . . . . . _____ Name
Spool entry's Job Name . . . . . *CURRENT Name, *CURRENT
  User . . . . . _____ Name
  Number . . . . . _____ 000000-999999
Spool entry's file number . . . *LAST Number, *ONLY, *LAST
Job system name . . . . . *ONLY Name, *ONLY, *CURRENT, *ANY
Spooled file created:
  Creation date . . . . . *ONLY Date, *ONLY, *LAST
  Creation time . . . . . _____ Time, *ONLY, *LAST
File Path and Name . . . . . _____

File Format . . . . . *TXT *PDF, *HTML, *CSV, *TXT
PDF, XLS, CSV, or HTML Spec Name . . *NONE Character value, *NONE
Combine Overprint Lines . . . . . *DFT *DFT, *YES, *NO
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

Spool entry's file name (SPLFILE) Parameter

Specifies the spool file name to move.

Spool entry's Job name (SPLJOB) Parameter

Specifies the Job name to move. Specify Name, User, and Number:

Name Qualifier

Specifies the name of the job. Specify a name or one of the following:

*CURRENT: The current job's job, user, and number will be used.

User Qualifier

Specifies the Job name to move.

Number Qualifier

Specifies the Job number to move.

Spool entry's File Number (SPLNBR) Parameter

Specifies the spool file number to move. Specify a number or one of the following:

*LAST: The last file will be used.

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***ONLY:** The only file will be used.

Note: The 5 values, Spool file name, *Job Name/user/number*, and *spool file name*, uniquely identify a spool entry to OS/400.

Job system name (JOBSYSNAME) Parameter

Specifies the system where the job that created the spooled file (JOB parameter) ran. This parameter is considered after the job name, user name, job number, spooled file name, and spooled file number parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date and time.

***CURRENT:** The spooled file created on the current system with the specified job name, user name, job number, spooled file name, spooled file number, and create date and time is used.

***ANY:** The job system name is not used to determine which spooled file is used. Use this value when the spooledfile create date and time parameter is to take precedence over the job system name when selecting a spooled file.

system-name: Specify the name of the system where the job that created the spooled file ran.

Spooled file created (CRTDATE) Parameter

Specifies the date and time the spooled file was created. This parameter is considered after the job name, user name, job number, spooled file name, spooled file number, and job system name parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date/time.

***LAST:** The spooled file with the latest create time of the specified job name, user name, job number, spooled file name, spooled file number, job system name, and spooled file create date is used.

date/time: Specify the date/time the spooled file was created.

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File Path and Name (FILENAME) Parameter

Specifies the path and file name of the moved spool entry.

Note: Include a leading forward slash.

Note: File subsystem QDLS is not supported.

File Format (FILETYPE) Parameter

Specifies the format of the output files generated. Specify one of the following:

***TXT:** Text files will be created.

***PDF:** Adobe PDF files will be created.

***XLS:** Microsoft Excel files will be created.

***HTML:** HTML files will be created.

***CSV:** Column Separated Values (CSV) files will be created.

***TSV:** Tab Separated Values (TSV) files will be created.

Spec Name (SPECNAME) Parameter

Specifies, for types ***PDF**, ***XLS**, ***HTML**, ***CSV**, and ***TSV**, the specifications name to use. The spec name contains parameters used to create the output file, for example Font point size. This field is required for type ***CSV**, ***TSV** or ***XLS**. The spec must exist. Specify a name or one of the following:

***NONE:** No specification will be used. For types ***PDF** and ***HTML**, default values will be used.

Data Authorities Assigned (DTAAUT) Parameter

Specifies Specifies, for created IFS Files only, the Data Authorities assigned to the created file. Select one or more of the following:

***DFT:** The ***IRWXU** and ***IRWXO** values (see below) will be used.

***IRUSR:** The creating user will have read access to the created file.

***IWUSR:** The creating user will have write access to the created file.

***IXUSR:** The creating user will have execute access to the created file.

***IRWXU:** The creating user will have all access to the created file.

***IRGRP:** The creating user's group will have read access to the created file.

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***IWGRP:** The creating user's group will have write access to the created file.

***IXGRP:** The creating user's group will have execute access to the created file.

***IRWXG:** The creating user's group will have all access to the created file.

***IROTH:** The public will have read access to the created file.

***IWOTH:** The public will have write access to the created file.

***IXOTH:** The public will have execute access to the created file.

***IRWXO:** The public will have all access to the created file.

Combine Overprint Lines (CMBOVPRT) Parameter

Specifies that overprinted lines (multiple print lines that have the same line number) should be combined into one output print line. For example, it is a programming technique to print a line of data, and then print a line of underlines onto the same print line. Specify one of the following:

***DFT:** Use the Spool Organizer default. This value is set on the Tailoring Options display.

***YES:** Combine overprint lines. The first record of the group is inserted into the output. Additional records on the same print line are inserted only if the characters at their position to be inserted are blank, otherwise the characters are discarded.

Note: The IBM spool entry display shows the last printed characters, not the first.

***NO:** Do not combine overprint lines. All overprint records will appear as separate print lines in the output.

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the Windows PC, a form will appear asking for the password. This value cannot be blank.

Save File Dft Path

Specifies the path to display on the Save dialog if the Save button is selected. Specify a valid Windows path or one of the following:

***MYCOMPUTER:** The path for the MyComputer directory will be displayed

***MYDESKTOP:** The path for the user's desktop directory will be displayed

***MYFAVORITES:** The path for the user's favorites directory will be displayed

***SYSTEMDRIVE:** The path for the system drive will be displayed

***HOMEDRIVE:** The path for the user's home directory will be displayed

Save File Name

Specifies the File Name that will be displayed in the Save Dialog if the user clicks the Save button on the target system. Specify a valid Windows file name or one of the following:

***ATHFILE:** The name of the attach file will appear in the Save Dialog's File Name field.

Save File Extension

Specifies the extension that will be displayed in the Save Dialog if the user clicks the Save button on the target system. Specify a valid Windows file extension.

Note: The extension exe is recommended. However some e-mail servers will block e-mail attachments that have an extension of exe. For most of these servers, this blocking of exe files is an option that can be changed by the e-mail server's administrator. Also note that many e-mail clients (such as Microsoft Outlook) also block incoming attachments of type exe, and the user can change settings to allow incoming attachments of type exe. The SpoolOrganizer administrator may elect to specify a different attachment type (i.e. exz) and instruct the user to save the attachment to disk and rename the file to xxx.exe.

Allow Open option

Specifies if the user will see an option to Open the file in addition to an option to save the file to disk. Select *YES or *NO.

Form Text

Specifies the text that will appear on the top of the form displayed when the user executes the file. Specify up to 64 characters.

Descriptive Text

Specify up to 30 characters of descriptive text.

DEFINE MS EXCEL SPECIFICATIONS

SpoolOrganizer can generate output in **Microsoft Excel** format (xlsx). Options that control the appearance of the **Excel** output are contained in **MS Excel Specifications**. The following SpoolOrganizer functions refer to **MS Excel** specs when generating output:

- + E-mail Specifications (Monitors, Bundles, EMLSPL command)
- + Display a spool entry, E-mail feature
- + DIROUTQ command
- + DIRSPLE command

For more information regarding the parameters and their syntax, please refer to Microsoft Excel documentation.

Press **F6** to enter new specifications and enter a unique name. The following screen will appear:

Name: X1	SpoolOrganizer/400™	10/20/21
	Define MS Excel Specs	15:06:31
Include Non-column Lines: <u>*YES</u>	Non-col Style: <u>*NONE</u>	Height: <u>1-</u>
From Line: <u>1</u>	To Line: <u>66</u>	Height: <u>1-</u>
Starting Page: <u>1</u>	Ending Page: <u>0</u> (number, 0, -1...)	
Generate Headings: <u>*NO</u>	(*NO, *YES, *ONCE)	
Hdg From Line: <u>0</u>	Hdg To Line: <u>0</u>	Hdg Height: <u>1-</u>
Sheet Name: <u>Sheet1</u>	Text: _____	
Column offset: <u>0</u>	Width: <u>10</u>	Columns
Typ FrC ToC Width Hdg Style Data Style	Typ FrC ToC Width Hdg Sty Data Sty	
<u>0 0 10 *NONE *NONE</u>	<u>0 0 10 *COL1 *COL1</u>	
<u>0 0 10 *COL1 *COL1</u>	<u>0 0 10 *COL1 *COL1</u>	
<u>0 0 10 *COL1 *COL1</u>	<u>0 0 10 *COL1 *COL1</u>	
<u>0 0 10 *COL1 *COL1</u>	<u>0 0 10 *COL1 *COL1</u>	
<u>0 0 10 *COL1 *COL1</u>	<u>0 0 10 *COL1 *COL1</u>	
F3=Exit F12=Cancel Current Operation		

Include Non-column Lines

Specifies if print lines that are not within the from/to line ranges specified below are to be placed in the spreadsheet. Specify one of the following:

***YES:** Print lines not within the from/to line ranges will be placed in the spreadsheet.

***NO:** Print lines not within the from/to line ranges will not be placed in the spreadsheet.

Non-column Lines Style

Specifies, for **Non-column Print Lines**, the **Excel Style Spec** to use to format the generated cells. Font

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size, cell width, Border/Fill and other attributes can be specified on an Excel Style Spec. Refer to Chapter 41 Define MS Excel Specifications for more information. Specify one of the following:

***NONE:** No cell formatting will be performed.

<name>: Specify the name of the **Excel Style Spec** to use. The specification must exist.

Non-column Lines Height

Specifies, for **Non-column Print Lines**, the row height in points. Specify one of the following:

-1: The row height is not specified.

<number>: Specify the row height in points. Specify a number that is greater than or equal to zero.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software's Help Documentation for more information.

From Line, To Line

Specifies the range of print lines to include. Print lines with line numbers within the from/to range will be placed into the spreadsheet.

Height

Specifies, for **data Print Lines**, the row height in points. Specify one of the following:

-1: The row height is not specified.

<number>: Specify the row height in points. Specify a number that is greater than or equal to zero.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software's Help Documentation for more information.

Starting Page

Specifies the starting page to include in the spreadsheet. Print lines with page numbers within the from/to page range will be placed into the spreadsheet. Specify a number greater than zero.

Ending Page

Specifies the ending page to include in the spreadsheet. Print lines with page numbers within the from/to page range will be placed into the spreadsheet. Specify one of the following.

0 (zero): Specify zero to indicate the last page to include is the last page of the report.

page number: Specify the ending page number. Specify a number greater than the Starting Page number.

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-nnn (negative number): Specify a negative number to skip the last nnn pages. For example, specify -1 to skip the last page of the report.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software’s Help Documentation for more information.

Generate Headings

Specifies if certain print lines are to be placed into the spreadsheet as Headings. Specify one of the following:

***YES:** Print lines within the from/to line range will be placed in the spreadsheet as headings.

***NO:** No headings will be placed in the spreadsheet.

***ONCE:** Headings will only be placed into the spreadsheet once.

Hdg From Line, Hdg To Line

Specifies, if Generate Headings *YES or *ONCE is specified, the range of print lines to include as headings. Each print page will be examined. Print lines with line numbers within the from/to range will be placed into the spreadsheet as headings.

Note: The heading line range cannot overlap the data line range.

Hdg Height

Specifies, for **heading Print Lines**, the row height in points. Specify one of the following:

-1: The row height is not specified.

<number>: Specify the row height in points. Specify a number that is greater than or equal to zero.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software’s Help Documentation for more information.

Sheet Name

Specifies the spreadsheet’s Sheet Name. This value cannot be blank.

Text

Specify up to **30** characters of descriptive text. This value cannot be blank.

Column offset

Specifies, for print lines within the data and headings’ from/to line ranges, the starting column id (“A”, “B”, etc.) of the generated columns (see below). Specify 1 to start in column B, 2 to start in column C,

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and so on. This allows the print line ranges to be centered if desired, and keeps the non-column row data in a separate column.

Note: Non-column Lines (see above) will be placed into the leftmost column on the spreadsheet, column “A”.

0 (zero): Specify zero to indicate the generated columns start with “A”.

number: Specify the number of columns to skip. For example, specify 1 to start in column “B”.

Width

Specifies, if **Column Offset** is greater than zero, the width of the inserted columns.

number: Specify the inserted columns’ width in points.

Note: Columns with zero width will not display.

Columns

Specifies the columns to be generated in the spreadsheet. Each Column describes an area of the print line that is to be placed into a spreadsheet cell, and the cell's attributes.

Up to 20 columns may be specified. At least one column must be specified. For each desired column, enter the following:

Typ (Type)

Specifies the data type of the generated column. Specify one of the following:

C: The generated column is a character string.

N: The generated column is a number.

Note: Specify a blank to delete the column definition.

FrC (From Column), ToC (To Column)

Specifies the print line’s column range that contains the value to place into the spreadsheet.

Width

Specifies the generated column’s width in points.

number: Specify the inserted columns’ width in points.

Note: Columns with zero width will not display.

Hdg Style

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Specifies, if Generate Headings *YES is specified, the Excel Style Specification to use to create heading cells. Font size, cell width, Border/Fill and other attributes can be specified on an Excel Style Spec. Refer to Chapter 41 Define Excel Style Specifications for more information. Specify one of the following:

***NONE:** No cell formatting will be performed.

name: Specify the name of the **Excel Style Spec** to use. The specification must exist.

***COL1:** Use the Spec defined in column 1.

Data Style

Specifies the Excel Style Specification to use to create data cells. Font, Border and Fill attributes can be defined in Excel Style Spec. Font size, cell width, Border/Fill and other attributes can be specified on an Excel Style Spec. Refer to Chapter 41 Define Excel Style Specifications for more information. Specify one of the following:

***NONE:** No cell formatting will be performed.

name: Specify the name of the **Excel Style Spec** to use. The specification must exist.

***COL1:** Use the Spec defined in column 1.

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Spool Organizer Excel Style Specifications contain spreadsheet cell attribute definitions. Excel Style Specs are used in MS Excel Specs to describe the attributes of cell ranges. Refer to Chapter 40 Define MS Excel Specifications for more information. Format, align, Font, Color and Border/Fill attributes can be described in Style Specifications.

Press **F6** to enter new specifications and enter a unique name. The following screen will appear:

Name: DFT	SpoolOrganizer/400™	10/20/21
	Define Style Specs	15:06:31
<u>Number Format</u>		
Code: *NONE	Text: _____	
Id: 0	<u>Font</u>	
	Name: *NONE (F4)	
<u>Align</u>	Size: 1-	
Indent:	Color: *NONE (F4)	
Horizontal: *NONE (F4)	Weight: *NONE (BCIOSU)	
Vertical: *NONE (F4)		
Wrap Text: *		
<u>Border</u>		
Left	Right	
Style: *NONE (F4)	Style: *LEFT (F4)	
Color: *NONE (F4)	Color: *NONE (F4)	
Top	Bottom	
Style: *LEFT (F4)	Style: *LEFT (F4)	
Color: *NONE (F4)	Color: *NONE (F4)	
F3=Exit F4=Prompt F12=Cancel Current Operation		

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Name: DFT	SpoolOrganizer/400™	10/20/21
	Define Style Specs	15:06:31
<u>Fill</u>		
Type: *		
<u>Pattern</u>		<u>Gradient</u>
Type: *NONE	(F4)	Type: *NONE (F4)
Fg Color: *NONE	(F4)	Degrees: 1- Top: .00
Bg Color: *NONE	(F4)	Bottom: .00
		Right: .00
	Stops:	Left: .00
	Color 1: *NONE	(F4) Pos 1: .00
	Color 2: *NONE	(F4) Pos 2: .00
	Color 3: *NONE	(F4) Pos 3: .00
	Color 4: *NONE	(F4) Pos 4: .00
	Color 5: *NONE	(F4) Pos 5: .00
	Color 6: *NONE	(F4) Pos 6: .00
F3=Exit F4=Prompt F12=Cancel Current Operation		

Text

Specify up to 30 characters of descriptive text. This value cannot be blank.

Number Format

Specifies the formatting of numbers (and text) within the cell. Corresponds to the numFmt xml keyword. Specify either an Id, or the actual xml coded text.

Code

Specifies the formatted coded text. Corresponds to the formatCode xml parameter. Specify one of the following:

***NONE:** No number formatting is generated. The **Id** field if specified is ignored.

***ID:** Number formatting is defined by the number contained in the **Id** field.

<code>: Specify the xml coded text to format the value. Specify up to 4 sections separated by semicolons. The 4 sections define formats for positive numbers, negative numbers, zero values, and text, in that order.

Example: To specify 1.2 as 1.200 in black, -1.2 as -1.200 in red, 0 in green and xyz (text) as magenta, specify the following:

#.00[black];#.00 [red];[green];[magenta]

DEFINE EXCEL STYLE SPECIFICATIONS

ID

Specifies, if **CODE *ID** is specified, the predefined Id number to use. Corresponds to the numFmtId xml parameter. There are approximately 160 Ids predefined by MS Excel. Refer to xlsx documentation for a list of predefined Ids.

-1: No predefined Id number is defined.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software’s Help Documentation for more information.

<number>: Specify the predefined Id to use.

Examples: To specify 1.2 as 1.200, specify Id 2. To specify 1234 as 1,234 specify Id 3. To specify the number 123193 as a date as 12-31-93, specify Id 14.

Font

Specifies the font attributes to use when formatting a cell. Corresponds to the font xml keyword.

Note: Only basic syntax checking is performed on the specified font values.

Name

Specifies the font name. Corresponds to the name xml parameter. Press **F4** to select a common font name. You may specify a font name that is not in the list if desired.

***NONE:** No font name is generated. The **Size, Color and Weight** fields if specified are ignored.

Size

Specifies the font size in points. Corresponds to the font’s sz xml parameter. Press Specify the size or one of the following:

-1: No font size is specified.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software’s Help Documentation for more information.

Color

Specifies font’s color. Corresponds to the font’s color xml parameter. See Defining Colors below for more information.

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Weight

Specifies the font's weight attributes. Specify ***NONE**, or one or more of the following:

B: Bold.

C: Condense.

I: Italic.

O: Outline.

S: Strikethrough.

U: Underline.

Align

Specifies the align attributes to use when formatting a cell. Corresponds to the cellxf's borderId alignment xml keyword. Specify the following:

Indent

Specifies the indent value. Corresponds to the indent xml parameter. Specify the indent value or one of the following:

-1: No indent value is specified.

Note: To enter a negative number, enter the desired digits then press the Field-minus key. On most keyboards the field-minus key is the – (minus) key at the far right, on the number pad section of the keyboard. Refer to your 5250 terminal emulator software's Help Documentation for more information.

Horizontal

Specifies the horizontal alignment for the cell. Corresponds to the horizontal xml parameter. Press **F4** to see a list of supported values.

***NONE:** No horizontal alignment value is generated.

<value>: Specify one of the following:

center

centerContinuous

distributed

fill

general

justify

left

DEFINE EXCEL STYLE SPECIFICATIONS

right

Vertical

Specifies the vertical alignment for the cell. Corresponds to the vertical xml parameter. Press **F4** to see a list of supported values.

***NONE:** No vertical alignment value is generated.

<value>: Specify one of the following:

bottom
center
distributed
justify
top

Wrap Text

Specifies the wrap text value. Corresponds to the wrapText xml parameter. Specify one of the following:

***:** No wrap text value is specified.

Y: The cell will wrap text.

N: The cell will not wrap text.

Border

Specifies the border attributes to use when formatting a cell. Corresponds to the border xml keyword. Specify the Left, Right, Top, and Bottom borders' attributes. For each border, specify the following:

Style

Specifies the cell's border style. Corresponds to the style xml parameter. Specify one of the defined styles. Press **F4** to see a list of supported styles.

***LEFT:** The Style and Color values specified for the Left border will be used for this border.

***NONE:** No style is generated. The **Color** field if specified is ignored.

<value>: Specify one of the following:

dashDot
dashDotDot
dashed
dotted
double
hair

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medium
mediumDashDot
mediumDashDotDot
mediumDashed
none
slantDashDot
thick
thin

Color

Specifies style's color. Corresponds to the style's color xml parameter. See Defining Colors below for more information.

Fill

Specifies the fill attributes to use when formatting a cell. Corresponds to the fill xml keyword. Specify a fill type: Pattern or Gradient, then specify the corresponding parameters. For fill type Gradient, specify either Degrees or Type then specify the corresponding parameters.

Type

Specifies the type of fill pattern. Corresponds to the fill xml parameter. Specify one of the following:

***:** No fill is specified.

P: The fill type is Pattern. Corresponds to the patternFill xml keyword. The Gradient Fill parameters will be ignored.

G: The type is Gradient. Corresponds to the gradientFill xml keyword. The Pattern Fill parameters will be ignored.

Pattern - Type

Specifies Type of pattern fill. Corresponds to the patternType xml parameter. Specify one of the following.

***NONE:** No pattern is generated. The foreground and background colors are ignored.

<patternType>: Press **F4** to see a list of supported patterns. Specify one of the following:

darkDown
darkGray
darkGrid
darkHorizontal
darkTrellis
darkUp
darkVertical
gray0625

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gray125
lightDown
lightGray
lightGrid
lightHorizontal
lightTrellis
lightUp
lightVertical
mediumGray
none
solid

Pattern – Fg Color

Specifies pattern's foreground color. Corresponds to the fgColor xml parameter. See Defining Colors below for more information.

Pattern – Bg Color

Specifies pattern's background color. Corresponds to the bgColor xml parameter. Note that some pattern types, for example solid types, do not require you to specify a background color. See Defining Colors below for more information.

Gradient - Type

Specifies Type of gradient fill. Corresponds to the gradientType xml parameter. Specify one of the following.

***NONE:** No type is specified.

<gradienttype>: Press **F4** to see a list of supported types. Specify one of the following:

linear
path

Gradient - Degrees

Specifies, for Gradient Type – linear, the overall rotation of the gradient fill. Corresponds to the degree xml parameter. Specify one of the following.

-1: No degrees value is specified.

<degree>: Specify the number of degrees to rotate the image. Specify a value in the range of 0 to 360.

Gradient – Top, Bottom, Right, Left

Specifies, for Gradient Type – path, the gradient's layout. Corresponds to the top, bottom, left and right xml parameters. These values are ignored if Gradient Type– linear is specified.

The values represent two pairs, left to right and top to bottom. Think of the spreadsheet cell as 2

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rectangles, an inner rectangle and the cell's walls as the outer rectangle. Color changes occur as you transition from the inner rectangle to the outer rectangle. Specify the following.

<number>: Specify a number in the range of 0.00 to 1.00. The specified value corresponds to the percentage distance from left to right or top to bottom.

In the cell, as you move from left to right, the cell's left edge is at 0.00 and the cell's right edge is at 1.00. For values Left = 0.20 and Right=0.80, the inner rectangle's left edge is 20% from the cell's left edge and the inner rectangle's right edge is 80% from the cell's left edge (20% from the right edge). The Top and Bottom parameters work in the same fashion.

Gradient – Stops

Specifies the transition of color changes. Corresponds to the stop xml parameter. Specify up to 6 Stops. For each stop, specify a color and position. If no stops are specified, a solid black background is generated.

Gradient – Stop Color

Specifies the color. Corresponds to the Color xml parameter. See Defining Colors below for more information.

Gradient – Stop Position

Specifies the position where the color change is complete. Specify one of the following.

<pos>: Specify the position, in percentage, in the range of 0 to 1. For example if a value of 0.25 is specified, the color will be completely changed to the specified color at 25% of the total movement.

Defining Gradient Fills

Gradient Fills define a background where the image changes from color to color to color as the gradient “moves” across the cell. There are two supported fill types, **linear** and **path**. The color changes are called stops, and up to 6 stops are supported.

Linear Gradient

A linear gradient starts at the left edge of the cell, and the color changes as it moves to the right. For example: if you specify Stop 1 as red-0.00 and Stop 2 as blue-1.00, the generated fill will be:



The Degrees field rotates the linear gradient. If you specify Degrees as 45 the generated fill will be:



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Specifying Degrees as 90 would make image go from red at the top to blue at the bottom, 180 from red at the right to blue at the left, and so on.

Path Gradient

A path gradient starts at an inner rectangle within the cell, and the color changes as the gradient moves outward to the outer rectangle (cell walls). The inner rectangle is defined by the Top, Bottom, Left, and Right parameters. For example: if you specify Stop 1 as red-0.00 and Stop 2 as blue-1.00, and Top=.020, Bottom=0.80, Left=0.20, Right=0.80, the generated fill will be:



Stop Color and Position

Stops define the change of colors the gradient makes as it “moves” from the starting to ending position. Each Stop defines a certain color at a certain position, where position is defined as a percentage. The gradient is considered to move from 0.00 to 1.00. If the first defined stop is not at position 0.00, a stop with color black is assumed at position 0.00 and the gradient transitions from black to the first color. The gradient proceeds to change to each new color. If the last stop position is not 1.0, an ending stop color black is assumed at 1.0. For example, a line gradient with 3 stops defined (red at .2, green at .5 and blue at .8)

0 - - - - - .2 - - - - - .5 - - - - - .8 - - - - - 1.0
black -> -> red -> -> green -> -> blue -> -> black

would look like:



Notice the color transforms from black to red to green to blue to black.

Defining Colors

Many Excel objects can optionally define a color. For color fields specify one of the following.

***NONE:** No color formatting is generated.

auto: Specifies the color is determined by spreadsheet parameters.

<color>: Specify one of the defined colors. Press **F4** to see a list of supported colors.

RRGGBB: Specify 6 hex digits (0-9, A-F) that correspond to the color's red, green and blue components. For example specify FF0000 for red, 008000 for green (00FF00 is lime), 0000FF for blue, 808080 for gray, etc.

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Note: There are many color picker applications to show the RRGGBB code for selected colors. Search the internet for keywords rgb color picker to find them.

APPENDIX A: USER EXIT PROGRAMS

Monitor Exit Programs

A SpoolOrganizer Monitor can call user written programs at certain times during execution. The user is free to perform a wide range of tasks at these points. To activate an exit program select the option to Define Monitors on the Administrator Menu. The Exit programs are parameters of the Monitor. Specify the name of the program to call, or *NONE. The user must insure the exit programs end normally and return to the Monitor. The Monitor does not monitor for CPF messages. This is because the monitor assumes if an error occurs the user does not want the Monitor to continue executing.

Note: Source for example programs are in file **BRODERICK/BSOSRC**, members **BSOMX1-4**.

WARNING: The monitor task (and therefore the User Exit Programs) executes with **QSECOFR** authority.

The exit programs and the parameters passed to them are:

Exit Program 1: Program Initiation

Exit Program 1 is called when the Monitor is started, before any spool entries are processed. This program can be used to open any files or initialize any variables. The parameters passed to it are:

Parm	Type	Len/Dec	Description
Monitor	Char	10	Monitor Name
Usr Dta	Char	1024	User Data. This parameter will be available to all exit programs. The Monitor will not change the contents of this variable.

Exit Program 2: Before Processing Options

Exit Program 2 is called immediately before performing the Processing Options Specified for the spool entry. It is called after any attribute changes to the spool entry (via Attribute Change Specs) have been made. Thus the user can process the spool entry before the Monitor. The parameters passed to it are:

Parm	Type	Len/Dec	Description
Monitor	Char	10	Monitor Name
Usr Dta	Char	1024	User Data. This parameter will be available to all exit programs. The Monitor will not change the contents of this variable.
SplAtr2	Char	15360	Spool Entry Attributes. See file BRODERICK/BSOSRC , mbr SPLAOFF2 for a layout of this parameter. You may also refer to IBM documentation for

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API Format SPLA0200 for more information.

AtrChg	Char	512	Attributes specified on the user Attribute Change record. See “Attribute Change Area Layout” below for a description and layout.
SplAtr1	Char	512	Spool Entry Attributes in the pre-3.0 format. See file BRODERICK/BSOSRC , member SPLAOFF1 for a layout of this parameter.
UsrSpc	Char	128	Specifies the Selection Spec which the spool entry matched. See “User Selection Spec Layout” below for a layout.
Do Proc	Char	1	Do processing options. Instructs the monitor to continue performing the processing options. Specify Y to tell the monitor to perform the options, N to tell the monitor not to perform the processing options.

Note: If **Y** is specified, Exit Program 3 will not be performed.

WARNING: If the user specifies **N** to Do Processing Options, the user must insure the spool entry is not still in the outq in a ready status when control is returned to the Monitor.

Exit Program 3: Before Move/Print Spool Entry

Exit Program 3 is called after moving the spool entry to the online database, and immediately before deleting or moving the spool entry to the specified outq(s). Thus the user can process the spool entry before the Monitor deletes them. The parameters passed to it are

Parm	Type	Len/Dec	Description
Monitor	Char	10	Monitor Name
Usr Dta	Char	1024	User Data. This parameter will be available to all exit programs. The Monitor will not change the contents of this variable.
SplAtr2	Char	15360	Spool Entry Attributes. See file BRODERICK/BSOSRC , mbr SPLAOFF2 for a layout of this parameter. You may also refer to IBM documentation for API Format SPLA0200 for more information.
AtrChg	Char	512	Attributes specified on the user Attribute Change record. See “Attribute Change Area Layout” below for a description and layout.

APPENDIX A: USER EXIT PROGRAMS

SplAtr1	Char	512	Spool Entry Attributes in the pre-3.0 format. See file BRODERICK/BSOSRC , member SPLAOFF1 for a layout of this parameter.
UsrSpc	Char	128	Specifies the Selection Spec which the spool entry matched. See “User Selection Spec Layout” below for a layout.
Do Dlt	Char	1	Do move/delete. Instructs the monitor to perform the delete or move. Specify Y to tell the monitor to perform the delete or move, N to tell the monitor not to perform the delete or move.

WARNING: If the user specifies **N** to Do Delete or move, the user must insure the spool entry is not still in the outq in a ready status when control is returned to the Monitor.

Exit Program 4: Monitor Termination

Exit Program 4 is called at Monitor termination. The parameters passed to it are:

Parm	Type	Len/Dec	Description
Monitor	Char	10	Monitor Name
Usr Dta	Char	1024	User Data. This parameter will be available to all exit programs. The Monitor will not change the contents of this variable.

Attribute Change Area Layout

Note: When evaluating a user Attribute Change Description, the Monitor separates changes that will cause a job to be submitted from changes that can be performed by the Monitor. If no submit is required the contents of the Attribute Change Area are used. If a Submit is required, the Spool File Attributes are used. The placement of User Exit Programs is between this identification and the actual change. Therefore the Spool File Attributes and the attributes that can be changed directly are both passed to User Exit programs 2 and 3. The exit programs must change both parameters if the intent is to change the spool entry's attributes via these exit programs.

Note: All changes made by the Attribute Change Description are reflected in the Spool File Attributes passed to the exit programs.

All fields are ten character long and will contain ***SAME** if no change was specified by the Attribute Change Description. Numeric attributes will be edited decimal, **10** digits, with leading zeros and decimal points if a change has been requested. The order of the attributes is listed below.

Align
Print quality

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Form Feed
Multiup
Duplex
Form type
Copies
Starting page
Ending Page
Number of File separators
Schedule
Hold
Save
Output priority
User data
Front overlay name
Front overlay library
Front overlay offset down
Front overlay offset across
Back overlay name
Back overlay library
Back overlay offset down
Back overlay offset across

User Selection Spec Layout

The layout of the selection specification passed by the Monitor is as follows:

Pos	Type	Len	Description
1	Char	1	M=Monitor, S=Selection Spec
2	Char	10	Monitor Name
12	Char	10	Selection Spec ID field
22	Zone	8,0	Selection Spec Sequence Number

Bundle Manager Exit Programs

The Bundle Manager calls the program **BRODERICK/BSOBX1** prior to adding each Bundle entry to a Bundle. The user can use this program to modify spool entry attributes. The parameters passed to **BSOBX1** are defined in source file **BRODERICK/BSOSRC**, member **BSOBX1**.

The Bundle Manager calls the program **BRODERICK/BSOBX2** for each page when processing Bundle Entries which have Partial Print options specifying type **U** (User Exit Program). The user can write this program to describe the desired pages within the spool entry. The parameters passed to **BSOBX2** are defined in source file **BRODERICK/BSOSRC**, member **BSOBX2**.

APPENDIX A: USER EXIT PROGRAMS

Archive Exit Program

The **ARCOLE** and **ARCARCFDTA** commands call User Exit program **BRODERICK/BSOAX1** after the archive is completed. Information passed to this program can be used as input to a third party Tape Management system. The parameters passed to **BSOAX1** are defined in source file **BRODERICK/BSOSRC**, member **BSOAX1**.

Banner Page Exit Programs

The Banner Page generation routines call User Exit Program **BSOCX1** to generate the grid for the large block letters printed. The user can modify the characters generated. The parameters passed to **BSOCX1** are defined in source file **BRODERICK/BSOSRC**, member **BSOCX1**.

The Banner Page generation routines call User Exit Program **BSONX1** to allow the user to change the characteristics of the Banner page. The user can change the data printed on the Banner page using this exit program. The parameters passed to **BSONX1** are defined in source file **BRODERICK/BSOSRC**, member **BSONX1**.

APPENDIX B: MONITOR SETUP EXAMPLE

The following example shows the steps needed to set up SpoolOrganizer on an AS/400. The example shows a typical system, the product Objectives (what the user wants SpoolOrganizer to do), a summary of tasks to perform, and a screen by screen example. **Please note** that certain functions, such as the Microfiche function or Archiving an outq to Tape/Optical, do not require a Monitor and can be done without performing this setup. Refer to the appropriate chapter for examples of these functions.

The Example System

The example system has five printers, **BPRT01** thru **BPRT05** attached to outqs **BPRT01** thru **BPRT05**. The system also has an outq **BJOBLOGS** which is not attached to a printer. The system has **4** user profiles, **QSECOFR**, **QSYSOPR**, **QPGMR**, and **QUSER**.

Certain spool entries which arrive in **BPRT01**, **BPRT02**, and **BJOBLOGS** will be processed by SpoolOrganizer. There is no output in **BPRT03**, **BPRT04**, and **BPRT05** which needs to be processed by SpoolOrganizer. The spool entries to be processed are:

Outq BPRT01

- 1) Inventory Report: Form ID-INV0201, Splfile name-INVLST

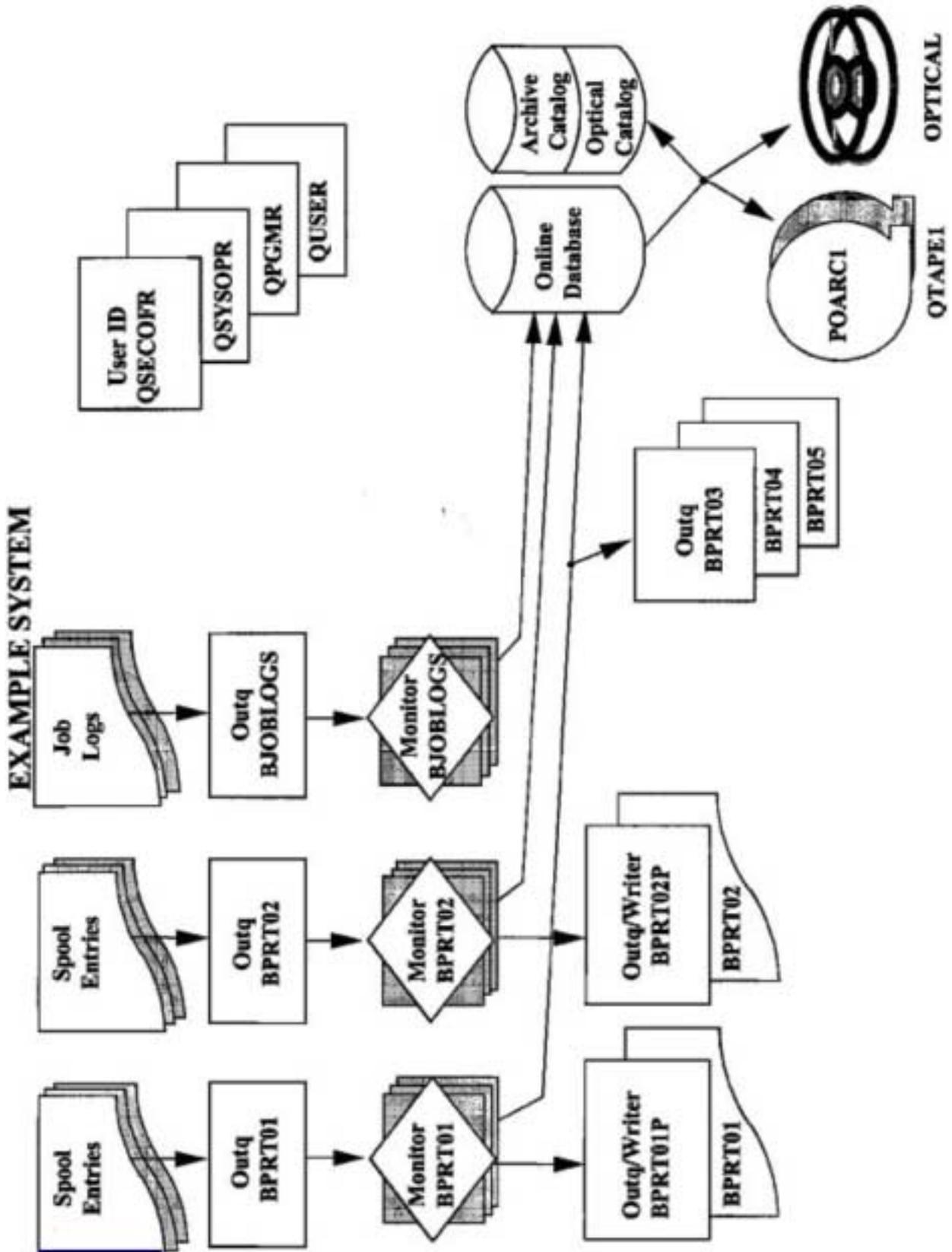
Outq BPRT02

- 2) Purchase Orders: Form ID-PO7055, Splfile name-PO

Outq BJOBLOGS

- 3) Job logs: Splfile name-QPJOBLOG

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APPENDIX B: MONITOR SETUP EXAMPLE

Objectives

The following tasks are to be performed by SpoolOrganizer:

- 1) Move all joblogs into the Online Database for **15** days. All users are allowed to look at them. Purge each joblog from the Online Database after **15** days.
- 2) Produce **3** copies of the Inventory report. Move a copy to **BPRT03**, **BPRT04**, and **BPRT05** (the original will print on printer **BPRT01**). Also, place the Inventory Report in the Online Database for 30 days, then archive to Optical Disk. Track the archived spool entries for **2** years. All users can display the Inventory report in the Online Database.
- 3) Place a copy of the Purchase Orders into the Online Database for **30** days, then archive to tape. Track the archived spool entries for **2** years. Allow **QSECOFR**, **QPGMR**, and **QUSER** to display the spool entries.

Note: All other spool entries which arrive in outqs **BPRT01** and **PRT02** are to be printed on printers **BPRT01** and **BPRT02**.

- 4) Create stored search specifications for **QPGMR** to allow him to display purchase orders directly from a menu option. Sort them by date and show the most recent first. Change the list display so that the **USRDTA** (User Data) attribute appears on the list screen for **QPGMR**.
- 5) Allow **QSECOFR** to display or change (attributes) any spool entry in the system.
- 6) Allow only **QSECOFR** to perform setup activities. Allow **QSECOFR** and **QSYSOPR** to perform operational activities. Allow **QPGMR** and **QUSER** to perform user activities.

Task Summary

The following tasks must be done to achieve the objectives above:

- 1) Develop a security table and user IDs.
- 2) Create a new outq for printers **BPRT01** and **BPRT02**.
- 3) Define users.
- 4) Define monitors for outqs **BPRT01**, **BPRT02**, and **BJOBLOGS**.
- 5) Create Outq Distribution List entries to distribute the Inventory report.
- 6) Define Selection Specs to tell the Monitors to process the Inventory report and Purchase Orders.

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- 7) Create Archive/Purge specs to archive the Purchase Orders to tape, to archive the Inventory Report to Optical, to purge joblogs from the Online Database, and to purge the Archive and Optical Catalog.
- 8) Create the Stored Search Specs for **QPGMR**. Place the **DSPOLE** command in the desired menu program.
- 9) Start the monitors **BPRT01**, **BPRT02**, and **BJOBLOGS**.
- 10) On a daily, weekly or monthly basis execute the Archive and Purge procedures. You may wish to place the commands in a **CL** program or include them in an automatic job scheduler.

Detailed Steps

1) Create a security table and user IDs.

Example User IDs:

<u>User</u>	<u>Type</u>
QSECOFR	Security Officer
QSYSOPR	Operator
QPGMR	User
QUSER	User
*PUBLIC	User

Security Codes and their meanings follow. **Please note** the codes below are arbitrary and can be tailored to each installation's needs.

<u>Code</u>	<u>Users</u>	<u>Description</u>
J	all users	Job logs
I	all users	Inventory Report
P	QPGMR, QSYSOPR	Purchase Orders

Note: The **QSECOFR** User ID will be defined with a special code which will allow it to change all spool entries.

2) Create new outqs for **BPRT01** and **BPRT02**.

```
CRTOUQ BRODERICK/BPRT01P TEXT('System Printer')  
CRTOUQ BRODERICK/BPRT02P TEXT('Accounting Printer')
```

APPENDIX B: MONITOR SETUP EXAMPLE

Note: Command **CRTSOEXP** (Create Spool Org. Example) is provided to create outqs **BPRT01** thru **BPRT05** and **BJOBLOGS** into library **BRODERICK**. This will allow the example to simulate your production environment without disrupting your operations. The command also creates a sample Inventory report, PO report, and job log. These objects will be needed to complete this example. To execute enter the following:

BRODERICK/CRTSOEXP

To use the **CRTSOEXP** command, the user must have authority to the following commands:

CRTOUTQ

3) Define Users. (Chapter 4, “Define Users”)

a) Sign on as **QSECOFR**. You must initially sign as **QSECOFR**, even if you want another user profile to be a SpoolOrganizer Security Officer. Once another user profile is defined as a security officer, it can perform all of the following tasks.

b) Add library **BRODERICK** to the library list:

ADDLIBLE BRODERICK

c) Display the SpoolOrganizer Administrator Menu:

SPLADM

d) Select option 1, “Define System” and press **ENTER**. Then select option 1, “Define Users” and press **ENTER**. Press **ENTER** to display all users.

e) Press **F6** (Add a user). The Add/Copy User Definition screen will be displayed.

f) With the cursor positioned at the User ID field, press **F4** (Prompt). A window will be presented, displaying the Library and Name of all User Profiles created on the AS/400.

g) Scroll through the displayed list until User ID Name **QSECOFR** appears in the window. Place a **1** (Select) in the **Opt** field next to User ID Name **QSECOFR**, and press **ENTER**. When you are returned to the Add/Copy User Definition display, the selected value (**QSECOFR**) will be substituted for the User ID field.

Note: The F4=Prompt option is provided on many SpoolOrganizer/400 maintenance displays to allow the selection of previously defined key values, expedite maintenance functions, and assist in the elimination of errors which can cause unexpected results.

h) Press **ENTER**. The “Define Users” maintenance screen will be displayed.

Note: For the purpose of this tutorial, if a field is not specified, accept the default value provided as data for the field.

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i) Enter the following data for the specified fields:

Change Security Table: * (all spool entries)
User Class: **S** (Security Officer)
Press **ENTER**

j) Repeat the above described steps (**f** thru **h**), substituting the following data for the specified fields on the appropriate screens:

“Add/Copy User Definition” Display “Define Users” Display

User ID: **QSYSOPR** Read Security Table: **P**
User Class: **O** (Operator)

Press **ENTER** after entering the data on each screen.

User ID: **QPGMR** Read Security Table: **P**
User Class: **U** (User)

Press **ENTER** after entering the data on each screen.

User ID: **QUSER** User Class: **U** (User)

Press **ENTER** after entering the data on each screen.

User ID: ***PUBLIC** Read Security Table: **J I**
User Class: **U** (User)

Press **ENTER** after entering the data on each screen.

Note: The ***PUBLIC** User ID above will:

- + Allow users not explicitly enrolled in SpoolOrganizer to access the system as type user.
- + Allow all users read access to spool entries with codes **J** (Joblogs) and **I** (Inventory report)

k) After creating the User Definitions, press **F12** to exit Add mode. Press **ENTER** to return to the “Define System Menu”.

4) Define Monitors for outqs BPRT01, BPRT02, and BJOBLOGS. (Chapter 5, “Define Monitors”)

- a)** Select option **2** “Define Monitors” and press **ENTER**. Press enter to display all defined Monitors.
- b)** A list of all Monitors will appear. Press **F6** (Add a monitor)

APPENDIX B: MONITOR SETUP EXAMPLE

c) Monitor: BPRT01
Press ENTER

d) From Outq: **BPRT01** **BRODERICK**
 Descr. Text: System Printer
 To Outq: **BPRT01P** **BRODERICK**
 Press **ENTER**

e) The Add Monitors screen appears. Monitor: **BPRT02**
 Press **ENTER**

f) From Outq: **BPRT02** **BRODERICK**
 Descr. Text: Accounting Printer
 To Outq: **BPRT02P** **BRODERICK**
 Press **ENTER**

g) The Add Monitors screen appears. Monitor: **BJOBLOGS**
 Press **ENTER**

h) From Outq: **BJOBLOGS** **BRODERICK**
 Descr. Text: System Printer
 To Outq: *DLT
 Online DB Per: **ND 15**
 Arc Cat Per: **DT 19900101**
 Read Sec Table: **J**
 Chg Sec Table: **J**
 Press **ENTER**

i) The Add Monitor screen appears. Press **F12**.

j) A list of your Monitors appears. Press **ENTER** to return to the "Define System Menu".

5) Create Outq Distribution List entries to distribute the Inventory Report. (Chapter 7, "Define Outq Distribution Table")

a) Select option 5, "Define Outq Distribution Table" and press **ENTER**. Press **ENTER** to display all entries.

b) A list of outq distribution entries will appear. Press **F6** (Add an outq distribution entry).

c) List Name: **INV**
 Seq: **100**
 Press **ENTER**

To Outq: **BPRT03** BRODERICK
 Descr. Text: To Sales Printer
 Press **ENTER**

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d) List Name: **INV**
Seq: **200**
Press **ENTER**

To Outq: **BPRT04** **BRODERICK**
Descr. Text: To Engineering Printer
Press **ENTER**

e) List Name: **INV**
Seq: **300**
Press **ENTER**

To Outq: **BPRT05** **BRODERICK**
Descr. Text: To Administration Printer
Press **ENTER**

f) Press **F12** to exit Add mode. Press **ENTER** to return to the “Define System Menu”.

6) Define Selection Specs to tell the monitor to process the Inventory Report and Purchase Orders. (Chapter 6, “Define Selection Criteria”)

a) Select option **3** “Define Monitors Selection Criteria” and press **ENTER**. Press **ENTER** to display all Selection Specs.

b) Press **F6** (Add a Monitor Selection Criteria)

c) **Note:** For this example we will not need the **ID** field and will leave it blank. Enter Monitor/ID/Seq. Number:

BPRT01 (Blank) **100**
Press **ENTER**

d) Spool File Name: **INVLST**
Form ID: **INV0201**
Descriptive Text: **Inventory Report Selection Spec**
To Outq: **BPRT01P**
Library: **BRODERICK**
Outq Dist. List: **INV**
Online DB Per: **ND 30**
Arc Cat Per: **NY 2**
Read Sec Table: **I**
Chg Sec Table: **I**
Press **ENTER**

Note: When defining the selection criteria, specify only enough fields to uniquely identify the spool entry(s). For example if the Inventory listing is the only spool entry in the system with a spool file name

APPENDIX B: MONITOR SETUP EXAMPLE

of **INVLST**, the Jobname parameter would not be needed.

e) The Add screen appears. Enter Monitor/ID/Seq. Number:

BPRT02 (blank) **100**

Press **ENTER**

f) Spool File Name: **PO**

Form ID: **PO7055**

Descriptive Text: Purchase Order Report Selection Spec

To Outq: **BPRT02P**

Library: **BRODERICK**

Online DB Per: **ND 30**

Arc Cat Per: **NY 2**

Read Sec Table: **P**

Chg Sec Table: **P**

Press **ENTER**

g) The add screen appears. Press **F12**.

h) The List screen appears. Press **ENTER** to return to the "Define System Menu".

7) Create Archive/Purge specs to archive the Purchase Orders to tape, To Archive the Inventory Report to Optical Disk, to purge joblogs from the Online Database, and to purge the Archive Catalog. (Chapter 8, "Defining Archive or Purge Specifications")

a) Select option **6**, "Define Archive/Purge Criteria"

Fill out the screen as follows:

A/O	Field	Rel	Value	UC	Wild
	4	EQ	INVLST		
A	3	EQ	INV020		

Name to Save or Restore **INV**

Text: Inventory Reports

Press **F9** (Save)

Fill out the screen as follows:

A/O	Field	Rel	Value	UC	Wild
	4	EQ	PO7055		
A	3	EQ	PO		

Name to Save or Restore: **PO**

Text: Purchase Orders

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Press **F9** (Save)

Fill out the screen as follows:

A/O	Field	Rel	Value	UC	Wild
	3	EQ	QPJOBLOG		

---Space out the second line ---

Name to Save or Restore: **QPJOBLOG**

Text: **Joblogs**

Press **F9** (Save)

Press **F3** to exit

8) Create a Heading Spec and Stored Search Specs for QPGMR. Place the DSPOLE command in the desired menu program. (Chapter 23, “Search for Spool Entries”)

- a) Select option **11**, “Define Heading Specs” and press **ENTER**. Press enter to display all specs.
- b) A list of heading specs will appear. Place a **3** (copy) by ***DFT** and press **ENTER**.
Name: PGMRHDG
Press **ENTER**.
- c) Place a **2** (change) next to the first and third Opt fields and press **ENTER**.
- d) A screen describing the first heading line appears. Change the field with a **6** (Form ID) to a **14** (user data) and press **ENTER**. Notice that the heading at the top of the screen changes to show the changed format.
- e) Press **F6** to save and exit. Then a screen describing the third heading line appears.
- f) Change the field with a **14** (User Data) to a **6** (Form ID) and press **ENTER**. Notice that the heading at the top of the screen changes to show the changed format.
- g) Press **F6** to save and exit.
- h) The list screen appears. Change the Text field to:
QPGMR Headings
Press **F6** to save and exit.
- i) Press **F12** to exit Copy mode. A list of Heading Descriptions appears Press **ENTER** to return to the Define Systems Menu.
- j) Press **F3** to exit Define Systems Menu. At the Administrative Main Menu, Select Option **3** (End User Functions), and press **ENTER**.
- k) At the User Menu, Select Option **1**, and press **ENTER**. Press **ENTER** on the parameters screen.

APPENDIX B: MONITOR SETUP EXAMPLE

Fill out the search screen as follows:

Ordered by: **7** Asc/Dsc: **D**

A/O	Field	Rel	Value	UC	Wild
	4	EQ	PO7055		
A	3	EQ	PO		

Name to Save or Restore: **PO** User ID: **QPGMR**
Text: **Purchase Orders**

Press **F9** (Save)
Press **F3** to exit.

l) Place the following command in a **CL** program or Menu which is convenient to the end user:

BRODERICK/DSPOLE SRCHSPEC(PO) HDGSPEC(PGMRHDG)

9) Change the IBM printers to use the new outqs, then start the monitors BPRT01, BPRT02, and BJOBLOGS. (Chapter 15, "Monitor Selections")

a) Change the **IBM** Print Writers. Consider (**do not enter**) the following commands:

CHGWTR BPRT01 OUTQ(BPRT01P)
CHGWTR BPRT02 OUTQ(BPRT02P)

Note: In this example, Print Writers **BPRT01** and **BPRT02** were not created. The above commands are presented for illustrative purposes.

b) Start the SpoolOrganizer Monitors. Enter the following commands:

STRSOMON BPRT01
STRSOMON BPRT02
STRSOMON BJOBLOGS

Note: The **STRSOMON** commands may be placed in a **CL** program or Menu.

c) Observe the Monitors. Enter the following command:

WRKACTJOB

You will see Subsystem **BDS**, Your Monitor tasks and some **BDS** internal tasks will be executing within subsystem **BDS**. Periodically press **F5** to refresh until all 3 Monitors enter a status of **DEQW** (Dequeue Wait). The Monitors have initialized and are waiting for spool entries to process. When you are finished, press **ENTER**.

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Enter the following command and press **ENTER**.

DSPSOMSTS

You will see all Monitors and their statuses.

Note: This command/display is provided as a feature to allow the control of all Monitors from one display. Option 1 starts the selected Monitor(s) via the **STRSOMON** command, and option 4 ends the selected Monitor(s) via the **ENDSOMON** command using the default command parameters.

When you are finished, press **ENTER**.

d) Give the Monitors work to do. Enter the following command:

WRKOUTQ BPRT01

You will notice a spool entry in the outq in a held status. This spool entry was created by the **CRTSOEXP** command entered earlier and will be used to simulate a production Inventory List report. You may wish to place a **'5'** (Display) by the spool entry to display it.

e) Place an **'8'** by the spool entry to display its attributes. Notice that the "File" and "Form Type" values match the values specified when creating the Selection Specification (see step **6** above).

Note: It is very important that the spool entry's attributes match the attributes specified on the Selection Specs. You may wish to review your Monitor Descriptions and Selection Specs to verify. If a change is made to a Monitor or one of its Selection Specs, you must end then restart the Monitor for the change to take effect.

f) Place a **'6'** by the spool entry and press **ENTER** to release it. Press **F5** to refresh. Within a few Moments the spool entry will disappear. This indicates the Monitor has processed the spool entry.

g) Observe the results of Monitor **BPRT01**'s actions. Remember what the Monitor was set up to do:

- + Move the original copy to **BPRT01P** (to print on the system printer).
- + Distribute copies to outqs **BPRT03**, **BPRT04**, and **BPRT05**.
- + Place the entry into the Online Database.

To verify these actions were performed, enter the following commands:

WRKOUTQ BPRT01P
WRKOUTQ BPRT03
WRKOUTQ BPRT04
WRKOUTQ BPRT05

Notes:

1) It may take a minute for the Monitors to complete processing and place out-put into the desired outqs. If unsure, display active jobs, the Monitors are done when their job is in a **DEQW** status.

APPENDIX B: MONITOR SETUP EXAMPLE

- 2) If output does not appear in the outqs as expected, carefully review the setup. If changes are made to a Monitor or one of its Selection Specs, the Monitor must be ended and restarted for the changes to take effect.
- h) Test Monitors **BPRT02** and **BJOBLOGS**. Display outqs **BPRT02** and **BJOBLOGS**. Release the spool entries created by the command **CRTSOEXP**.
- i) Display the Online Database. Enter the following command (or select option 1 from the End User menu):

DSPOLE

Press **F6** to search. A list of spool entries in the Online Database should appear, including the example Invoice List. You may wish to place a '**5**' (display) by the sample Invoice list to display it.

Note: In a production environment the Online Database may contain thousands of spool entries. The search screen allows the user to query the Online Database. The searches can be saved. (This example creates a search spec for **QPGMR**.)

- j) Press **F11** (view). Notice the change in the display. Keep pressing **F11** until the heading shows "Job Name Job User ...". Press **ENTER** to return to the search screen.
- k) Press **F4** (list saved). A list of Stored Search Specs should appear. Place a **1** (select) by the spec defined for **QPGMR** and press **ENTER**. The stored search spec is loaded.
- l) On the Search screen enter the following:
Heading Specifications: **PGMRHDG**
Press **F6** (search)
- m) Press **F11** a few times. Notice the headings and the attributes displayed are differently (User data is on the first screen and Form ID is on the third). Press **ENTER** to return to the Search Screen. Press **F3** to exit.

10) Create Archive and Purge Procedures . (Chapter 8, "Define Archive/Purge Criteria")

On a daily, weekly or monthly basis execute the Archive and Purge procedures. You may wish to place the commands in a **CL** program or include in an automatic job scheduler.

To Archive Purchase Orders to Tape:

```
ARCOLE ARCID(PO) DEV(QTAPE1) VOL(POARC1) ENDOPT(*UNLOAD)
```

To Inventory Reports to Optical Disk:

```
OPTOLE ARCID(INV) VOL(SPLE) DIRPATH(SPOOL_ENTRIES JUNE INV)
```

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DIROPT(*CREATE)

To Purge Joblogs from the Online Database:

PUROLE ARCID(*ALL)

To purge Purchase Orders from the archive catalog:

PURARCCAT ARCID(PO)

To purge Inventory Reports from Optical Catalog:

PUROPTCAT ARCID(INV)

Note: You may wish to use **ARCID(*ALL)** in this example when purging the Online Database, Optical Catalog, or Archive Catalog.

11) End the Monitors.

Enter the following command:

ENDSOMON *ALL

12) Test Selection Specs. Chapter 6, “Define Selection Criteria”

The **CHKSELSPEC** command will determine which Monitor’s Selection Specification if any will match a specified spool entry.

a) Enter the following command:

WRKOUTQ BPRT01P

Select one of the spool entries and take option **8** (attributes) and press **ENTER**.

b) Write down the values of following attributes:

Job
User
Number
File
Number

Press **ENTER** to exit.

Press **ENTER** to exit the WRKOUTQ screen.

c) Enter the following command and press **F4** to prompt:

CHKSELSPEC

APPENDIX B: MONITOR SETUP EXAMPLE

Enter the Following:

Monitor Name: **BPRT01**

Enter the File, File number , etc. retrieved from **Step b)** above.

Press **ENTER**.

- d)** If the command ends normally, a message (SPO1157) will be displayed identifying the output queue which received the report (BSOCHKSPEC) generated by the command.

13) Clear and Delete outq's created by this example.

Please note that other examples also use the outq's and spool entries created in this example. It is recommended to only clear the outq's and not delete them. To recreate the example spool entries, execute the **CRTSOEXP** command again at a later date. Enter the following:

CLROUTQ BRODERICK/xxxxx

DLTOUTQ BRODERICK/xxxxx

xxxxx: BPRT01, BPRT02, BPRT03, BPRT04, BPRT05, BJOBLOGS

14) Delete SpoolOrganizer Objects.

Delete all descriptions created by this example. Other examples may be affected by the setup performed here.

Note: The Indexing example uses the SpoolOrganizer objects created in this example. Do not delete the objects specified below if you plan on performing the Indexing example.

- a)** Bring up the Administrator Menu (**SPLADM**).
- b)** Select option **1**, "Define System Menu".
- c)** Select each of the following options below. Place a **'4'** (delete) by each object created and then press enter to delete:

Users (Leave **QSECOFR** and your User **ID**)

Monitors

Monitor Selection Criteria

Outq Distribution Table

Archive/Purge Criteria

Heading Specs

APPENDIX B: BANNER PAGES EXAMPLE

The following is a simple exercise that will demonstrate the major tasks needed to create Banner pages. It is intended to be an introduction to Banner Pages, and will refer the user to places to get more detailed information. To use this exercise, the user must have use authority to the following commands:

CRTOUTQ
DSPSPLF
CHGSPLFA
CLROUTQ
DLTOUTQ

This exercise should require approximately 15 minutes to complete. To complete the exercise, perform the following commands:

1) Create outqs.

The exercise needs two outq's; a **SOURCE** outq, which will simulate an outq that your applications are currently placing output into, and a **TARGET** outq, which will simulate a new outq defined to the printer. See figure 1-1 in Chapter 1, "Introduction" for an explanation of how a Monitor moves output from a source to a target outq in a production environment.

Note: Many of the objects needed were created in the example in Appendix B, "Monitor Example".

Enter the following commands, or substitute your own names for the two outqs:

CRTOUTQ OUTQ(BRODERICK/BPRT01) TEXT(TEST) DSPDTA(*YES)

CRTOUTQ OUTQ(BRODERICK/BPRT01P) TEXT(TEST) DSPDTA(*YES)

2) Define yourself to SpoolOrganizer as a SpoolOrganizer Security Officer.

You must be a SpoolOrganizer Security Officer to define the objects needed for this exercise. If you are already defined to SpoolOrganizer as a security officer, you may skip this step. Otherwise perform the following:

a) Sign on as **QSECOFR**.

b) Enter the SpoolOrganizer Administrator Menu:

BRODERICK/SPLADM

c) Select Option **1**, "Define System Menu", then select option **1**, "Define Users".

d) A list of users defined to SpoolOrganizer will appear. Press **F6**, Add.

e) Enter your user profile and press enter.

f) For more information regarding SpoolOrganizer Users, refer to chapter 4, "Define Users". For now, enter the following:

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+Place a * in the first field of Change Security Table
+User class: S
Press **ENTER**.

- g) Your user profile should now appear in the list. Press **ENTER** to exit Define Users.
- h) Select option **90** to sign off.

3) Sign on as your User profile.

4) Access the SpoolOrganizer Administrator Menu.

Enter the following command:

BRODERICK/SPLADM

5) Define a Banner Page Description.

We will define a simple Banner Page in this exercise. Enter the following:

- a) Select option **1**, “Define System Menu”, then select option **9**, “Define Banner Page Specifications”.
- b) A list of your Banner Page Descriptions (if any) will appear. Press **F6** to Add.
- c) Enter the following:
+ Name: BANNER1
Press **ENTER**.
- d) For an explanation of the features of the Banner Pages function, refer to Chapter 10, “Define Banner Page Specifications”. For now enter the following:

+ Descriptive Text: **Test**
Press **ENTER**

- e) Your Banner Page Description should appear in the list. Press **ENTER** to exit back to the menu.

6) Create a Monitor.

In this exercise the Monitor will move all output in outq **BPRT01** to outq **BPRT01P**, and place Banner Pages around the spool entries. Enter the following:

- a) Select option **1**, “Define System Menu”, then select option **2**, “Define Monitors” and press **ENTER**. Press **ENTER** to display all Monitors.
- b) A list of Monitors (if any) should appear. Press **F6**, Add.
- c) Enter the following:
+ Name: BPRT01
Press **ENTER**.

APPENDIX B: BANNER PAGES EXAMPLE

d) For a description of all of the features of Monitors, refer to the following chapters:

- + Chapter 1, "Introduction"
- + Chapter 5, "Define Monitors"
- + Chapter 6, "Define Selection Criteria"
- + Appendix B, Section 2, "Monitor Setup Example"

For now, enter the following:

- + From Outq/Library: **BPRT01** **BRODERICK**
 - + Descriptive Text: **Test**
 - + To Outq: **BPRT01P**
 - + Library: **BRODERICK**
 - + Banner Page Specs: **BANNER1**
- Press ENTER.

e) Your Monitor should appear in the list. Press ENTER to return to the menu.

7) Start the Monitor.

Select option **2**, "Control System Execution", then select option **1**, "Start a Monitor". **Please note** that option **1** executes the **STRSOMON** command, which you can enter from a command line or place in a **CL** program. Enter the following:

- + Monitor to start: **BPRT01**
- Press ENTER.

8) Place output into outq BPRT01.

You can place any spool entry you desire into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

Note: The command **CRTSOEXP** creates a spool entry in outq **BPRT01**. See Appendix B, "Monitor Example" for more information.

9) Watch the Monitor Execute.

Exit from the menu, get to a command line, and enter the following command:

WRKACTJOB

Press **ENTER**.

You will see subsystem **BDS**, with jobs **BDSUSRPRF** and **BPRT01** (your Monitor) executing. Periodically (every 10 seconds) press **F5** to refresh the screen. The Monitor job will change to a **DEQW** status when it is finished processing the Spool Entry. At that time press **ENTER** to exit.

10) Display the output in outq BPRT01P

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Enter the following command:

WRKOUTQ OUTQ(BRODERICK/BPRT01P)

Press **ENTER**.

The spool entry and Banner Pages should appear in the outq. You may place option **5** by each to display their data. You may also move all three entries to an outq connected to a printer to see the printed output.

11) End the Monitor.

Enter the following command (or select option **2** off of the “Control System Execution Menu”):

BRODERICK/ENDSOMON BPRT01

12) Delete the Monitor.

Select option **2** “Define Monitors” from the “Define System Menu” and select option **4** to delete the Monitor **BPRT01**.

13) Delete the outqs.

If you have created the outqs for this exercise, enter the following commands:

+ **CLROUTQ OUTQ(BRODERICK/BPRT01)**
+ **DLTOUTQ OUTQ(BRODERICK/BPRT01)**
+ **CLROUTQ OUTQ(BRODERICK/BPRT01P)**
+ **DLTOUTQ OUTQ(BRODERICK/BPRT01P)**

Note: Other examples use these outqs. You may wish to only clear them for now.

This completes the exercise. You may now review the chapters referred to in this exercise to get a more detailed description of the areas covered here.

APPENDIX B: REPORT DISTRIBUTION (BUNDLING) EXAMPLE

The following is a simple exercise that will demonstrate the major tasks needed to perform Report Distribution (Bundling). It is intended to be an introduction to SpoolOrganizer Bundling, and will refer the user to places to get more detailed information. To use this exercise, the user must have authority to the following commands:

CRTOUTQ
DSPSPLF
CHGSPLFA
CLROUTQ
DLTOUTQ

This exercise should require approximately **30** minutes to complete. To complete the exercise, perform the commands:

1) Create outqs.

The exercise needs two outq's; a **SOURCE** outq, which will simulate an outq that your applications are currently placing output into, and a **TARGET** outq, which will simulate a new outq defined to a printer.

Enter the following commands, or substitute your own names for the two outqs:

CRTOUTQ OUTQ(BRODERICK/BPRT01) TEXT(TEST) DSPDTA(*YES)

CRTOUTQ OUTQ(BRODERICK/BPRT01P) TEXT(TEST) DSPDTA(*YES)

2) Define yourself to SpoolOrganizer as a SpoolOrganizer Security Officer.

You must be a SpoolOrganizer Security Officer to define the objects needed for this exercise. If you are already defined to SpoolOrganizer as a security officer, you may skip this step. Otherwise perform the following:

a) Sign on as **QSECOFR**.

b) Enter the SpoolOrganizer Administrator Menu:

BRODERICK/SPLADM

c) Select Option **1**, "Define System Menu", then select option **1**, "Define Users".

d) A list of users defined to SpoolOrganizer will appear. Press **F6**, Add.

e) Enter your user profile and press enter.

f) For more information regarding SpoolOrganizer Users, refer to chapter **4**, "Define Users". For now, enter the following:

Place an * in the first field of Change Security Table

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User class: **S**
Press **ENTER**.

- g) Your user profile should now appear in the list. Press **ENTER** to exit Define Users
- h) Select option **90** to sign off.

3) Sign on as your User profile.

4) Access the SpoolOrganizer Administrator Menu.

Enter the following commands:

ADDLIBLE BRODERICK

SPLADM

5) Create a Monitor.

SpoolOrganizer Monitors monitor outqs and pass the selected spool entries to the Bundle Manager (Monitors can perform other functions as well). In this exercise the Monitor will move the spool entries we place in outq **BPRT01** to outq **BPRT01P**, and pass the spool entries to the Bundle Manager. Enter the following:

- a) Select option **1**, “Define System Menu”, then Selection **2**, “Define Monitors”
- b) A list of Monitors (if any) should appear. Press **F6**, Add.
- c) Enter the following:
+ Name: **BPRT01**
Press **ENTER**.
- d) For a description of all of the features of Monitors, refer to the following chapters:

Chapter 1, “Introduction”

Chapter 5, “Define Monitors”

Chapter 6, “Define Selection Specifications”

Appendix B, Section 2, “Monitor Setup Example”

For now, enter the following:

From Outq/Library: **BPRT01** **BRODERICK**
Descriptive Text: **Test**
To Outq: **BPRT01P**
Library: **BRODERICK**
Press **ENTER**.

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e) Your Monitor should appear in the list. Press **ENTER** to return to the menu.

6) Create a Bundle Description.

Perform the following:

- a) Select option **12**, “Define Bundle Specifications”.
- b) The “Display Specifications Screen” should appear. If you have many Bundle Descriptions, you can use this screen to limit the amount displayed. Press **ENTER**.
- c) A list of Bundle Descriptions should appear. Press **F6**, Add.
- d) Enter the following:
Bundle Name: **BUNDLE1**
Bundle ID: **TEST**
Press **ENTER**
- e) For a description of the features of Bundles, refer to Chapter 13, “Define Bundle Specifications”. For now, enter the following:

Descriptive Text: **Test**
To Outq/Library: **BPRT01P BRODERICK**
User Profile: (your user profile)
Keep OPEN until Cutoff time: ***YES**
Cutoff Parameters:
- Type: **D**
- Value: **0**
- Time: (enter a time about **10** minutes from now)

Print Parameters:
- Days: **0**
- Time: (enter a time **3** minutes greater than the Cutoff Time)

Change Security: * (in the first field)
Press **ENTER**.

- f) A list of Bundle Entries defined to this Bundle will appear. At this point there should not be any. Press **F6**, Add.
- g) Enter the following:
Sequence Number: **10**
Press **ENTER**.

The “Define Bundle Entry Description” screen will appear. Enter the following:

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Monitor Name: **BPRT01**
Job User: (your user profile)
Descriptive Text: **Test**
Press **ENTER**.

- h) The list of Bundle Entry Descriptions will appear, with the entry we just added. Press **ENTER** to exit. Press **F12** to exit Add mode.
- i) The list of Bundle Descriptions will appear, with the Bundle we just added. Press **ENTER** until exited to the Administrative menu.

7) Apply changes to production.

Select option **2**, “Control System Execution” and then select option **44**, “Apply Bundle Changes”. There are no parameters to the **APYBDLCHG** command, so press **ENTER**. The menu will appear.

Note: You may wish to select option **45**, “Display Production Specifications” at this time to see your Bundle in the production copy of the Bundle Descriptions.

8) Start the Monitor and Bundle Manager.

Enter the following commands (or select the options off of the “Control System Execution Menu”):

```
STRSOMON BPRT01  
STRBDLMGR
```

9) Place output into outq BPRT01.

You can place any spool entry (which has your user profile in the User spool file attribute) into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

10) Watch the Monitor and Bundle Manager Execute

Exit from the menu, get to a command line, and enter the following command:

```
WRKACTJOB  
Press ENTER.
```

You will see subsystem **BDS**, with jobs **BDSBDLMGR**, **BDSUSRPRF** and **BPRT01** (your Monitor) executing. Periodically (every **10** seconds) press **F5** to refresh the screen. The Monitor job and the Bundle Manager job will change to a **DEQW** status when they are finished processing the Spool Entry. At that time press **ENTER** to exit.

11) Work with your Bundle.

Enter the following command, or select option **3**, End User Function from the Administrator Menu and then select option **4**, “Work with active Bundles” from the End User Menu:

```
WRKACTBDL
```

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The Active Bundles Display will appear with your Bundle listed. For a list of the features of the Active Bundles Display, refer to Chapter 25, “Work with Active Bundles” at a later time.

Depending on the Cutoff Time you specified when you defined the Bundle, and the amount of time that has elapsed since then, you will see your Bundle in one of the following statuses: **OPEN**, **WAITPRT**, **PRINTING**, or **PRINTED**. Hopefully we were fast enough to get to this screen and see the Bundle in an **OPEN** status.

If the Bundle is in an **OPEN** status, it will close at the time you specified. Periodically press **F5** (refresh), noting the current time at the top of the screen. You will notice the Bundle status changes to **WAITPRT** shortly after the Cutoff time arrives. Keep pressing **F5** (refresh) and you will notice the status will change to **PRINTING** shortly after the print time you specified arrives. Keep pressing **F5** and you will notice the status will change to **PRINTED** when the Bundle is printed.

When you are finished, select option **4** to delete your Bundle.

Press **ENTER** to exit the Active Bundles Display.

12) Display the output in outq BPRT01P.

Enter the following command:

```
WRKOUTQ OUTQ(BPRT01P)  
Press ENTER.
```

The spool entry will appear in the outq twice. This is because we told the Monitor and the Bundle Manager to move a copy to outq **BPRT01P** (Please remember this is just an exercise). In a production environment you may want the Monitor to delete the spool entry, or hold it. It will be your choice.

13) End the Monitor and Bundle Manager.

Enter the followings command (or select the options off of the “Control System Execution Menu”):

```
ENDSOMON BPRT01  
ENDBDLMGR
```

Active Classes Example

This exercise will demonstrate the setup and operation of Bundle Entries which are only active during certain time periods. In this example the Bundle will only be active at Month End. This exercise will use the objects created above. **Please note** that sample spool entries are created by using the command **CRTSOEXP**. This exercise will use the spool entries. The **CRTSOEXP** command can be run several times if desired.

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This exercise will create a Bundle with an Active class of XME (example month end).

1) Sign on.

If not currently, sign on as your user profile.

2) Add library **BRODERICK** to your library list:

ADDLIBLE BRODERICK

3) Define Bundles.

a) Bring up the Administrator menu:

SPLADM

b) Select option **1**, “Define System”, then select option **12**, “Define Bundle Specifications”. Press **ENTER** to display all Bundles.

c) The Bundle **BUNDLE1 TEST** created earlier should appear. Place a ‘**2**’ by it and press **ENTER**. We will change it slightly for this exercise. Change the following:

Keep Open until Cutoff Time:	*NO
Auto Release when Closed:	*NO
Incomplete Option when Closed:	*HOLD
Cutoff Time (Time):	2358
Print Time (Time):	2359
Active Classes:	XME (Type over “ALL”)

Press **ENTER**.

Note: The above changes will also hold the Bundle when it is completed.

d) The Bundle Entries list will appear, with one entry. Press **ENTER**.

4) Apply changes to production.

Select option **44**, “Apply Bundle Changes”, from the Control System Execution Menu. There are no parameters to the **APYBDLCHG** command, so press **ENTER**. The menu will appear.

Note: You may wish to select option **45**, “Display Production Specifications” at this time to see your Bundle in the production copy of the Bundle Descriptions.

5) Display the Active Classes.

From a command line, enter the following command:

SETACTCLS OPTION(*DISPLAY) ACTCLS(*SELECT)

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A display showing the current Active Classes will appear.

Note: the current Active Classes and press **ENTER**.

6) Start the Monitor and Bundle Manager.

Enter the following commands (or select the options off of the Control System Execution Menu):

```
STRSOMON BPRT01  
STRBDLMGR
```

7) Place output into outq BPRT01.

You can place any spool entry (which has your user profile in the User spool file attribute) into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

8) Watch the Monitor and Bundle Manager Execute.

Exit from the menu, get to a command line, and enter the following command:

```
WRKACTJOB  
Press ENTER.
```

You will see subsystem **BDS**, with jobs **BDSBDLMGR**, **BDSUSRPRF** and **BPRT01** (your Monitor) executing. Periodically (every 10 seconds) press **F5** to refresh the screen. The Monitor job and the Bundle Manager job will change to a **DEQW** status when they are finished processing the Spool Entry. At that time press **ENTER** to exit.

9) Work with Bundles.

- a) Enter the following command, or select option **4**, from the “End User Menu”, “Work with active Bundles”.

```
WRKACTBDL
```

The Active Bundles Display will appear, but there will be no Bundles with name **BUNDLE1**. Press **ENTER** to return to the Administrator Menu or command line.

10) End the Monitor and Bundle Manager.

Enter the following commands (or select the options off of the Control System Execution Menu):

```
ENDSOMON BPRT01  
ENDBDLMGR
```

11) Set the Active Class.

From a command line, enter the following command:

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SETACTCLS OPTION(*UPDATE) ACTCLS(*SELECT)

A display showing the current Active Classes will appear.

Active Classes: **XME**
 Press **ENTER**.

Note: If the Bundle Manager, or any Monitor which processes spool entries for Bundles is active, the above command will end in error. If so, end the Monitors and the Bundle Manager.

12) Retry with the Active Class Set.

Perform steps 5 thru 9 again (Start Monitor/Bdl Mgr thru End Monitor/Bdl Mgr). This time a Bundle will appear on the active Bundles display. When finished, delete your active Bundle (WRKACTBDL).

Partial Print Example

This exercise will demonstrate the setup and operation of Bundle Entries in which only part of the entire spool entry is included. This exercise will use the objects created above. **Please note** that sample spool entries are created by using the command **CRTSOEXP**. This exercise will use the spool entries. The **CRTSOEXP** command can be run several times if desired. This exercise will create two Bundles, each with a subset of the example Inventory List.

1) Sign on.

If not currently, sign on as your user profile.

2) Add library BRODERICK to your library list:

ADDLIBLE BRODERICK

3) Look at the spool entry.

It is recommended to display the spool data before attempting to define partial print specifications.

a) Display the outq:

WRKOUTQ BPRT01

A spool entry with file name **INVLST** and User Data **INVENLIST** should appear. If not, or if outq **BPRT01** does not exist in library **BRODERICK**, use the following command to create them and redisplay the outq **BPRT01**:

CRTSOEXP

b) Display the attributes. Place an **'8'** next to the spool entry and press **ENTER**. The attributes screen will appear. Note that the file name is **INVLST** and the user data is **INVENLIST**. This exercise will use these attributes to identify this spool entry.

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Press **ENTER** to return to the outq list display.

c) Display spool data. Place a **'5'** next to the spool entry and press **ENTER**. Observe the following:

- + The report has 15 pages
- + The heading appears on line 4 of each page.
- + Text **"DEPT"** appears in columns 51 thru 54.
- + The department number appears in columns 56 thru 58.

d) Press **F12** to exit back to the outq list display. Press **ENTER** to exit.

4) Define Bundles.

a) Bring up the Administrator menu.

SPLADM

b) Select option **1**, "Define System", then select option **12**, "Define Bundle" Specifications. Press **ENTER** to display all Bundles.

c) The Bundle **BUNDLE1 TEST** created earlier should appear. Place a **'2'** by it and press **ENTER**. We will change it slightly for this exercise. Change the following:

Keep Open until Cutoff Time:	*NO
Auto Release when Closed:	*NO
Incomplete Option when closed:	*HOLD
Cutoff Time (Time):	2358
Print Time (Time):	2359

Press **ENTER**.

Note: The above changes will hold in the Bundle when it is completed.

d) The Bundle Entries list will appear, with one entry. Place a **'2'** next to it and press **ENTER**. Make the following changes:

Job User:	(spaces)
Spool File Name:	INVLST
Spool User Data:	INVENLIST
Select Only part of entry:	*YES

Press **ENTER**.

e) The Partial Print Specifications screen will appear. Enter the following:

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Type of search: S(Start/End)

Start of Segment

Page Number: 0(Search)

End of Segment

Page Number: 0(Search)

Include Last Page: *NO

Press **ENTER**.

f) The Partial Print Search Definitions screen will appear, allowing you to enter the Start of segment search data. Enter the following

Stl: 4
Enl: 4
StC: 56
EnC: 58
Rl: EQ
Data: 001
Ln: 3
UC: N

This describes department Number **001** on line **4**, columns **56** thru **58**, length **3**.

Press **F6** to accept. The Partial Print Search Definitions screen will appear again, allowing you to enter the End of segment search data. Enter the following

Stl: 4
Enl: 4
StC: 56
EnC: 58
Rl: NE
Data: 001
Ln: 3
UC: N

Press **F6** to accept, Bundle Entries screen will appear. Press **ENTER**.

g) The Bundles screen will appear. Place a '3' (copy) next to **BUNDLE1 TEST** and press **ENTER**. The Add copy screen will appear. Change **BUNDLE1** to **BUNDLE2** and press **ENTER**. The Bundle description screen will appear. Press **ENTER**.

h) The Bundle Entry screen will appear. Place a '2' by Seq **10** and press **ENTER**. Press **ENTER** again.

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EXAMPLE

The Partial Print Specs screen will appear. Press **ENTER**. Change the first **DATA** field in the Start of Segment from **001** to **003**. Press **F6**. Change the first **DATA** field in the End of Segment from **001** to **003** and Press **F6** to accept.

- i) The Bundle Entries list screen will appear. Place a '3' (copy) by Seq. **10** and press **ENTER**. Change Sequence Number from **10** to **20** and press **ENTER**. Press **ENTER** again.
- j) The Partial Print Specs screen will appear. Change the following:

Type of search: **P**(Page by Page)
 Press **ENTER**.

On the first line in the Start of Segment section, change the following:

Data: **002**
 Press **F6**.

- k) The Bundle Entries screen will appear. Press **ENTER**. Press **F12** to exit copy mode. The Bundles screen will appear. Press **ENTER** to exit to the menu.

5) Apply changes to production.

Select option **44**, "Apply Bundle Changes", from the Control System Execution Menu. There are no parameters to the **APYBDLCHG** command, so press **ENTER**. The menu will appear.

Note: You may wish to select option **45**, "Display Production Specifications" at this time to see your Bundle in the production copy of the Bundle Descriptions.

6) Start the Monitor.

Select option **1**, from the "Control System Execution" Menu, Start a Monitor. Enter the following:

Monitor to start: **BPRT01**
 Press **ENTER**.

7) Start the Bundle Manager.

Select option **42**, from the Control System Execution Menu "Start the Bundle Manager". The **STRBDLMGR** command will appear. Press **ENTER**.

8) Place output into outq BPRT01.

You can place any spool entry (which has your user profile in the User spool file attribute) into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

9) Watch the Monitor and Bundle Manager Execute.

Exit from the menu, get to a command line, and enter the following command:

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WRKACTJOB

Press **ENTER**.

You will see subsystem **BDS**, with jobs **BDSBDLMGR**, **BDSUSRPRF** and **BPRT01** (your Monitor) executing. Periodically (every 10 seconds) press **F5** to refresh the screen. The Monitor job and the Bundle Manager job will change to a **DEQW** status when they are finished processing the Spool Entry. At that time press **ENTER** to exit.

10) Work with your Bundles.

- a) Enter the following command, or select option **4**, from the “End User Menu”, “Work with active Bundles”.

WRKACTBDL

The Active Bundles Display will appear with **BUNDLE1** and **BUNDLE2** listed. For a list of the features of the Active Bundles Display, refer to Chapter 27, “Work with Active Bundles” at a later time. Note that **BUNDLE1** has one entry and **BUNDLE2** has two. Place a ‘5’ (display entries) by **BUNDLE1** and press **ENTER**.

- b) The Active Entries screen appears. Note the start page and end page of the entry. Place a ‘5’ (display) next to the entry and press **ENTER**.
- c) Note that only Department **001** is contained in this spool entry. Press **ENTER**. The Active Entries screen appears. Press **ENTER**.
- d) The Active Bundles screen will appear. Place a ‘5’ (display entries) by **BUNDLE 2** and press **ENTER**.
- e) Two active Bundle Entries will appear. Note the starting and ending pages of each. You may wish to display each entry at this time. When you are through, press **ENTER** and return to the Administrator Menu or command line.

11) End the Monitor.

Enter the following command (or select option **2** off of the Control System Execution Menu):

ENDSOMON BPRT01

12) End the Bundle Manager.

Enter the following command (or select option **43** from the “Control System Execution Menu”):

ENDBDLMGR

13) Delete the Monitor and Bundle Description.

- a) Select option **2**, “Define Monitors” from the “Define System Menu”. Select option **4** to delete Monitor **BPRT01**. Press **ENTER** to return to the menu.

APPENDIX B: REPORT DISTRIBUTION (BUNDLING)

EXAMPLE

- b) Select option **12**, “Define Bundle Specifications” from the “Define System Menu”. Select option **4** to delete the Bundle Description **BUNDLE1 TEST** and **BUNDLE2 TEST**. Press **ENTER** to return to the Administration Menu.

14) Reset Active Classes.

- a) Select option **2**, “Control System Execution” and press **ENTER**. Select option **41**, “Set Active Classes” from the “Control System Execution Menu”. The **SETACTCLS** command parameters will be displayed. Press **ENTER** to accept the default parameter specifications.
- b) When the “Set Active Classes” display appears, erase the “**XME**” Active Class Code specified earlier in this example. When finished, press **ENTER**. You will be returned to the “Control System Execution Menu”. The Active Classes are now reset.

15) Clear and/or Delete the outqs.

If you have created the outqs for this exercise, enter the following commands at an OS/400 command line:

```
CLROUTQ OUTQ(BRODERICK/BPRT01)  
DLTOUTQ OUTQ(BRODERICK/BPRT01)  
CLROUTQ OUTQ(BRODERICK/BPRT01P)  
DLTOUTQ OUTQ(BRODERICK/BPRT01P)
```

Note: Other examples use these outqs. You may wish to only clear the outqs at this time.

This completes the exercise. You may now wish to review the chapters referenced in this exercise to get a more detailed description of the areas covered here.

APPENDIX B: INDEXING EXAMPLE

The following is an example that will demonstrate the major tasks needed to perform Indexing. The user will set up an index, collect spool entry data, and search the Index. The example is intended to be an introduction to Indexing, and will refer the user to places to get more detailed information. This example will cover the following major areas:

- + **Monitor/Selection Specifications Requirements**
- + **Defining Index Specifications**
- + **Controlling the Index Manager**
- + **Searching Indexes**
- + **Displaying and Printing Results**
- + **Using Stored Search Specifications**

To use this exercise, the user must have authority to the following commands:

CRTOUTQ
DSPSPLF
CHGSPLFA
CLROUTQ
DLTOUTQ

The exercise should require approximately 45 minutes to complete.

Note: Prior to performing this example the user should have a thorough knowledge of Monitors and Selection Specifications. It is strongly recommended that new users perform the “Monitor Setup Example” in Appendix B before performing this example. Also note that the setup steps performed in the Monitor example will be used in this example. Therefore we recommend you do not delete the objects created in the Monitor Setup example until after you have finished this example.

If you have completed the Monitor Setup Example and have not deleted the objects, start with step 3, “Inspect the spool entry’s data”. Otherwise, start with step 1 below.

1) Create new outqs and sample output.

Note: Command **CRTSOEXP** (Create Spool Org. Example) is provided to create outqs **BPRT01** thru **BPRT05** and **BJOBLOGS** into library **BRODERICK**. This will allow the example to simulate your production environment without disrupting your operations. The command also creates a sample Inventory report, PO report, and job log. Outq **BPRT02** and the Purchase Order listing will be needed to complete this example. To execute enter the following:

CRTOUTQ BRODERICK/BPRT02P TEXT(‘Accounting Printer’)

BRODERICK/CRTSOEXP

2) Create a User, Monitor, Selection Specification, and Archive/Purge Specification

(Chapter 4, “Define Users, Chapter 5, Define Monitors, Chapter 6, “Define Selection Criteria”, Chapter 8, “Define Archive/Purge Specifications”)

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a) Sign on as **QSECOFR** (or any existing SpoolOrganizer Security Officer).

b) Add library **BRODERICK** to the library list:

ADDLIBLE BRODERICK

c) Display the SpoolOrganizer Administrator Menu:

SPLADM

d) Select option **1**, “Define System” and press **ENTER**. Then select option **1**, “Define Users” and press **ENTER**. Press **ENTER** to display all users.

Note: If you wish to use an existing Spool Organizer Security Officer, add security code “P” to the user’s Change Security Table and skip the add step below.

e) Press **F6** (Add a user)

User Name: **QSECOFR**

Press **ENTER**

Change Security Table: * (all spool entries)

User Class: **S** (Security Officer)

Press **ENTER**

Press **F12**

f) A list of your Users appears. Press **ENTER** to return to the “Define System Menu”.

g) Select option **2** “Define Monitors” and press **ENTER**. Press **ENTER** to display all defined Monitors.

h) A list of all Monitors will appear. Press **F6** (Add a monitor)

i) The Add Monitors screen appears. Monitor: **BPRT02**

Press **ENTER**

j) From Outq: **BPRT02** **BRODERICK**

Descr. Text: **Accounting Printer**

To Outq: **BPRT02P** **BRODERICK**

Press **ENTER**

k) The Add Monitor screen appears. Press **F12**.

l) A list of your Monitors appears. Press **ENTER** to return to the “Define System Menu”.

APPENDIX B: INDEXING EXAMPLE

m) Select option **3** “Define Monitors Selection Criteria” and press **ENTER**. Press **ENTER** to display all Selection Specs.

n) Press **F6** (Add a Monitor Selection Criteria)

o) The Add screen appears. Enter Monitor/ID/Seq. Number:

BPRT02 (blank) **100**

Press **ENTER**

p) Spool File Name: **PO**
Form ID: **PO7055**
Descriptive Text: **Purchase Orders Selection Spec**
To Outq: **BPRT02P**
Library: **BRODERICK**
Online DB Type: **ND** Value: **30**
Arc Cat Type: **NY** Value: **2**
Read Sec Table: **P**
Chg Sec Table: **P**

Press **ENTER**

q) The add screen appears. Press **F12**.

r) The List screen appears. Press **ENTER** to return to the “Define System Menu”.

s) Select option **6**, “Define Archive/Purge Criteria”

Fill out the screen as follows:

A/O	Field	Rel	Value	UC	Wild
	4	EQ	PO7055		
A	3	EQ	PO		

Name to Save or Restore: **PO**
Text: **Purchase Orders**
Press **F9**(Save)
Press **F3** to exit

t) Press **F3** to return to the main menu. Press **F3** to exit.

3) Inspect the spool entry’s data

Prior to defining Index specifications, the user should look at the spool entry to determine its attributes and the exact location of the desired values to collect. The sample Purchase Orders listing created in this example will be used.

a) Enter the following command:

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WRKOUTQ BRODERICK/BPRT02

Note: If you have completed the Monitor Setup example, the Purchase Orders listing will be in outq **BPRT02P**.

- b) Place an **8** (attributes) by the Purchase Orders listing and press **ENTER**.
 - c) The “Work with Spooled File Attributes” screen is displayed. Note the “File” (PO) and “Form type” (PO7055). This example will use the File name and Form type attributes to uniquely identify the Purchase Orders listing. You may wish to scroll through the attributes display at this time. When you are finished, press **ENTER**.
 - d) Place a **5** (display) by the Purchase Orders listing and press **ENTER**.
 - e) The Purchase Orders listing is displayed. This example creates 2 Indexes:
 - + Vendor Names
 - + Amounts
 - f) Type **+1** in the “Control” field and press **ENTER** until the line with “NAME: A1 Plumbing Supply” is on the top line of the display area. Note the current line number (10) is displayed in the top right corner of the screen. Also note the rule shows the column range of the vendor name (A1 Plumbing Supply) as 25 through 44. The vendor name appears at this location on every page of this listing.
 - g) Note the column of numbers under the heading “AMOUNT”. Press **ENTER** until the first line item (Moen Kitch. Faucet, ...) is the top line of the display area. Note the current line (18), and the column range (80-93) of the amounts.
- Note:** If your screen only displays 80 columns, enter **W40** in the “Control” field to see the amount column. (Reset the **+1** value).
- h) The objective of this example is to collect the amounts, but not the sub totals. Press **ENTER** until the line with “SUB-TOTAL:” is the top line of the display area. Note the column range of “SUB-TOTAL:” (65-74).
 - i) Press **F3** to exit the spool entry display. Press **F3** to exit the outq display.

4) Define Index Specifications (Chapter 14, “Define Index Specifications”)

Note if you are not on the “Define System” menu, enter the following:

ADDLIBLE BRODERICK
SPLADM

Select option **1** (Define System)

Perform the following:

APPENDIX B: INDEXING EXAMPLE

- a) Select option **13**, “Define Index Specifications”.
- b) The “Display Specifications” screen should appear. If many Index Specifications exist, this screen can be used to limit the number displayed. Press **ENTER**.
- c) Press **F6**, Add.
- d) Enter the following:

Index Name: **POVENDNAME**
Index ID: **(blank)**
Data Type: **C** (Character)

Press **ENTER**.

- e) The “Define Index Specifications Criteria” screen should appear.
- f) Enter the following:

Monitor/ID/Sequence Number: **BPRT02 (blank) 100**
StL: **10**
EnL: **10**
StC: **25**
EnC: **44**
Rel: **GE**
(data) **(blank)**
UC: **N**
Data Length: **20**

Press **ENTER**.

- g) The “Add/Copy Index Specifications” screen should reappear. Enter the following:

Index Name: **POAMOUNT**
Index ID: **QPGMR**
Data Type: **D** (Decimal)

Press **ENTER**

- h) The “Define Index Specifications Criteria” screen should appear. Enter the following:

Monitor/ID/Sequence Number: **BPRT02 (blank) 100**

StL: **18**
EnL: **66**
StC: **80**
EnC: **93**
Rel: **GE**
Data: **(zero)**

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Data Length: **14**
Qualifier Strings: **Y**

Qualifier String Data

StC: **65**
EnC: **74**
Rel: **NE**
Len: **10**
(Data) **sub-total:**

Press **ENTER**.

Note: The qualifier string is specified to prevent the vendor sub totals from being collected.

- i) The “Add/Copy Index Specifications” screen should reappear. Press **F12** to exit add mode. Press **ENTER** to exit and **F3** to return to the “Administrator Main Menu”.

5) Apply Changes to Production (Chapter 21, “Control the Index Manager”)

- a) Select option **2**, “Control System Execution”
- b) Select option **53**, “Apply Index Changes”. There are no parameters for the **APYIXSCHG** command, so press **ENTER**. The “Control System Execution” menu will reappear.

6) Release the Purchase Order Spool Entry

Note: If you have performed the Monitor Setup example, your sample Purchase Order listing may be in outq **BPRT02P**. If so, move it to outq **BPRT02** and skip this step.

- a) From the command line, enter the following command:

WRKOUTQ BRODERICK/BPRT02

- b) Place a **6** next to the PO spool entry to release it. Press **ENTER** to exit the outq display. Press **F3** to return to the “Control System Execution” menu.

7) Start the Monitor. (Chapter 15, “Monitor Selections”)

- a) Select option **1**, “Start a Monitor”. Enter the following:

Monitor to Start: **BPRT02**

Press **ENTER**.

8) Start the Index Manager (Chapter 21, “Control the Index Manager”)

- a) Select option **51**, “Start Index Manager”.

APPENDIX B: INDEXING EXAMPLE

b) The **STRIDXMGR** command parameters will appear. Press **ENTER**.

9) Watch the Monitor and Index Manager Execute

a) When the “Control System Execution” menu reappears, press **F10** to get to an OS/400 command line.

b) Enter the following command:

WRKACTJOB

You will see subsystem BDS, with jobs BSOIDXMGR, BDSUSRPRF, and BPRT02 (your Monitor) executing. Periodically (every 5 seconds or so), press **F5** to refresh the screen. The Monitor job and Index Manager job will change to a DEQW status when they are finished processing the PO spool entry. At that time, press **ENTER** to exit the WRKACTJOB display.

10) Search Indexes (Chapter 28, “Display Index Entries)

a) Press **F3** until the “Administrator Main Menu” appears or from an OS/400 command line enter the following command:

BRODERICK/SPLADM

b) Select option **3**, “End User Functions” and press **ENTER**. The “User Menu” should appear.

c) Select option **5**, “Display Index Entries” and press **ENTER**. This option executes the **DSPIDX** command, press **ENTER** to accept the defaults for the command parameters.

The “Search Index Entries” screen should appear.

d) Enter the following:

Index Name/ID:			POVENDNAME	(blank)	
A/O	Rel	Value		UC	Wild
	GE	A			
A	LE	z	Y		

Press **F6** to start the search.

e) If you correctly entered the Search Specs described in Line **d** above, there should be five Index Entries on the display. Place a **1** next to the first entry, “Acme Cabinetry”, and press **ENTER**. A screen showing the attributes of the spool entry which contains the Index Entry data will be displayed. Press **ENTER**, **F3** or **F12** to return to the “Index Entries Display”.

Note: If no matching entries appear, verify the following:

- + **Monitor/Selection Spec defined correctly (check spelling)**
- + **Index spec defined correctly (check spelling, line/col ranges)**

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- + **Index Specs applied to production**
- + **Monitor and Index Manager Started**
- + **Spool entry moved to outq and released**
- + **Index search entered correctly (check spelling)**

- f) Change the “Order” field to ***DESCEND** and press **F6**. Note the result list is sorted in descending order. Press **ENTER**.
- g) Change the “Sort By” field to ***JOBDATE** and press **F6**. The result list is sorted by the base spool entries’ creation date. In this example there is only one base spool entry, thus the sort by job date doesn’t do much. However in a production environment this may be very useful. Also note that a Job Date range can be specified in a production environment to narrow down the search results. Press **ENTER**.
- h) Change the “Search OLDB, ArcCat, and OptCat” fields to **N Y N** and press **F6**. Note that there are no matching Index Entries. The location of the base spool entry (Online Database, Archive Catalog, Optical Catalog) is tracked by Indexing. Press **ENTER**.
- i) Reset the following fields:

Sort by:	*VALUES
Order:	*ASCEND
Search OLDB...:	Y N N

Press **F6**.

11) Display a spool entry (Chapter 30, “Display a Spool Entry”)

- a) Place a **5** next to the first entry, “Acme Cabinetry”, and press **ENTER**. The “BDS Display Spool Entry” screen will appear. Notice the spool entry is positioned to the Index Entry’s value. Enter **W25** in the “Ctrl” field of this display and press **ENTER**. Type in **W1** in the “Ctrl” field and press **ENTER**.
- b) Type **P+1** in the “Ctrl” field and press **ENTER**. Notice that the entire spool entry can be displayed. You may wish to scroll though the spool entry at this time. When you are finished, space out the “Ctrl” field and press **ENTER**.
- c) Place a **5** next to any of the other Index Entries to display them. When you are finished displaying the spool entry, return to the “Index Entries Display”.

12) Print spool entry information (Chapter 30, “Display a Spool Entry”, Chapter 28, “Display Index Entries”)

This section will print a specified range of the spool, print the entire spool entry, and print the page where the search value appears.

- a) Place a **5** next to the first entry, “Acme Cabinetry”, and press **ENTER**.

APPENDIX B: INDEXING EXAMPLE

b) The “BDS Display Spool Entry” screen will appear. Press **F14** (Print).

c) Specify the following:

From page: **3** From line: **8**
To Page: **3** To line: **12**

To outq: **BPRT02P BRODERICK** (or your outq)

Press **ENTER**

d) The specified range will print. Press **F3** to exit the print display, and **ENTER** to exit the spool entry.

Note: Any range within the entire spool entry can be printed from this screen.

e) In the Outq fields, enter the outq **BPRT02P BRODERICK** (or any outq of your choice). Do **not** press **ENTER**.

f) Place a **6** next to the desired Index Entry and press **ENTER**. This will reprint the entire spool entry.

g) Place a **7** next to the desired Index Entry and press **ENTER**. This will print the page containing the Index Entry.

h) When you are finished experimenting with the options available from the “Index Entries Display”, press **F3**. The “Search Index Entries” screen will appear.

13) Modify a Stored Search Specification (Chapter 28, “Display Index Entries)

a) Press **F8**. The “Search Index Entries” display will change from a Character Search Specification definition screen to a Numeric Search Specification definition screen.

b) Enter the following:

Index Name/ID:	POAMOUNTQPGMR
<u>A/O</u>	<u>Rel</u> <u>Value</u>
GE	.00000

Name to Save/Rest:	POSCHN*PUBLIC
Text:	QPGMR Index Search - Numeric

Press **F9** to save the Search Specification.

c) Press **F4** to display the list of Stored Search Specifications. Please note that SpoolOrganizer Security Officers will see all specs. Other users will only see specs with their user profile, or *PUBLIC.

Press **ENTER** to return to the Search screen.

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- d) Press **F6**. The “Index Entries Display” screen will appear. Notice that many values matched the search criteria. Press **ENTER**.
- e) The search screen will appear. Enter the following:

<u>A/O</u>	<u>Rel</u>	<u>Value</u>
	GE	1000.00000
A	LE	2000.00000
O	GE	3000.00000
A	LE	4000.00000

Name to Save/Rest: **POSCHNQPGR**
Text: **QPGR Index Search - Numeric**

Press **F10** to replace the old Search Specification.

- f) Press **F6**. The “Index Entries Display” will reappear. Notice that there are fewer matches than the last search.

Note: It is recommended to define Index Specifications that collect a wide range of values and allow the user to narrow the search using the Search display.

- g) Press **ENTER** and **F3** to exit the search function.
- h) The User Menu should appear. Press **F3** to return to the main menu. Press **F3** to exit.

14) Execute a search from a command (Chapter 28, “Display Index Entries)

From a command line, enter the following command:

```
BRODERICK/DSPIDX SRCHSPEC(POSCHN) ALWSCH(*NO)
```

The Index Entries list screen should appear. Press **ENTER**. Notice that the search screen was not shown.

Note: The administrator can connect Index searches to user menus and applications by inserting the above command.

15) Archive and Purge Procedures. (Chapter 17, “Archive Online Database to Tape/Optical”, Chapter 19, “Purge Selections”)

On a daily, weekly or monthly basis execute the Archive and Purge procedures. You may wish to place the commands in a **CL** program or include in an automatic job scheduler.

Note: The following steps require the use of a tape or optical drive, and an initialized tape or optical volume.

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WARNING: If SpoolOrganizer is being used in production, care should be taken when Archiving or Purging entries.

a) To Archive Purchase Orders to Tape, enter the following:

```
ARCOLE ARCID(PO) DEV(QTAPE1) VOL(*MOUNTED) EXPENTRY(*ALL)
      ENDOPT(*UNLOAD) DLTARC(*NO)
```

To archive Purchase Orders to Optical Disk, enter the following:

```
OPTOLE ARCID(PO) VOL(SPLE) DIRPATH(SPOOL_ENTRIES JUNE PO)
      DIROPT(*CREATE) EXPENTRY(*ALL) DLTARC(*NO)
```

- b) Search the Indexes again. Refer to the step “Search Indexes” above if needed. Change the “Search OLDB, ArcCat, and OptCat” fields to **Y Y Y** before pressing **F6**.
- c) Note the A/O field (location) reflects the location of the base spool entry containing the Index Entry. Press **F1** or the **Help** key to see the locations and their codes. Press **ENTER** to return to the Index Entries display.
- d) Place a 1 (display attributes) by one of the Index Entries that have A or O as their location and press **ENTER**. Note the attributes of the base spool entry, including archiving information. Press **ENTER** to return to the list.
- e) If you archived your spool entries to Optical disk, you may select option **5** (display) and option **7** (print page) at this time.
- f) You may select option **6** (print) at this time. If you archived your spool entries to tape, this option will submit a job which sends a tape mount message to message queue **QSYSOPR**.
- g) Press **ENTER** to exit. Press **F3** to exit the search screen. Exit the SpoolOrganizer menus.

h) To Purge Purchase Orders from the Online Database:

```
PUROLE ARCID(PO) EXPENTRY(*ALL)
```

To purge Purchase Orders from the Archive Catalog:

```
PURARCCAT ARCID(PO) EXPENTRY(*ALL)
```

To purge Purchase Orders from Optical Catalog:

```
PUROPTCAT ARCID(PO) EXPENTRY(*ALL)
```

Note: You may wish to use **ARCID(*ALL)** in this example when purging the Online Database, Optical Catalog, or Archive Catalog **AND YOU ARE NOT USING SPOOLORGANIZER IN PRODUCTION. IF YOU DON'T KNOW, ASK!**

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Note: Index entries are deleted when their base spool entry is deleted, removed, or purged.

16) End the Monitor (Chapter 15, “Monitor Selections”)

- a) Enter the following command (or select option **2** from the “Control System Execution Menu”):

BRODERICK/ENDSOMON BPRT02

17) End the Index Manager (Chapter 21, “Control the Index Manager”)

- a) Enter the following command (or select option **52** from the “Control System Execution Menu”):

BRODERICK/ENDIDXMGR

18) Delete SpoolOrganizer Objects.

Delete all descriptions created by this example. Other examples may be affected by the setup performed here.

- a) Bring up the Administrator Menu (**SPLADM**).
- b) Select option **1**, “Define System Menu”.
- c) Select each of the following options below. Place a **4** (delete) by each object created and then press enter to delete:

Users (Leave **QSECOFR** and your User **ID**)

Monitors

Monitor Selection Criteria

Index Specifications

APPENDIX B: E-Mail EXAMPLE

The following is a simple exercise that will demonstrate the major tasks needed to send spool entries and Bundles via E-Mail to Internet users. It is intended to be an introduction to SpoolOrganizer's E-Mail capabilities, and will refer the user to places to get more detailed information. The exercise will demonstrate sending E-Mail via the following functions of SpoolOrganizer/400:

Monitors
Bundles
Display a spool entry
Resend from Sent Mail log

To use this exercise, the user must have authority to the following commands:

CRTOUTQ
DSPSPLF
CHGSPLFA
CLROUTQ
DLTOUTQ

This exercise should require approximately **90** minutes to complete. To complete the exercise, perform the following:

1) Create outqs.

The exercise needs two outq's; a **SOURCE** outq, which will simulate an outq that your applications are currently placing output into, and a **TARGET** outq, which will simulate a new outq defined to a printer.

Enter the following commands, or substitute your own names for the two outqs:

CRTOUTQ OUTQ(BRODERICK/BPRT01) TEXT(TEST) DSPDTA(*YES)

CRTOUTQ OUTQ(BRODERICK/BPRT01P) TEXT(TEST) DSPDTA(*YES)

2) Define yourself to SpoolOrganizer as a SpoolOrganizer Security Officer.

You must be a SpoolOrganizer Security Officer to define the objects needed for this exercise. If you are already defined to SpoolOrganizer as a security officer, you may skip this step. Otherwise perform the following:

a) Sign on as **QSECOFR**.

b) Enter the SpoolOrganizer Administrator Menu:

BRODERICK/SPLADM

c) Select Option **1**, "Define System Menu", then select option **1**, "Define Users".

d) The Display Specifications screen appears. Press **ENTER** to display all. A list of users defined to

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SpoolOrganizer will appear. Press **F6**, Add.

e) Enter your user profile and press enter.

f) For more information regarding SpoolOrganizer Users, refer to chapter 4, “Define Users”. For now, enter the following:

Place an * in the first field of Change Security Table

User class: **S**

Press **ENTER**.

g) Press **F12** to exit Define Users. Your user profile should now appear in the list. Press **ENTER** to return to the menu.

h) Select option **90** to sign off.

3) Sign on as your User profile.

4) Verify System parameters.

a) Enter the SpoolOrganizer Administrator Menu:

BRODERICK/SPLADM

b) Select Option **1**, “Define System Menu”, then select option **7**, “Define Tailoring Options”.

c) The Setup Display appears. Press **F13** to display the E-mail options.

d) The E-Mail Options Display appears. For more information regarding E-mail Options, refer to Chapter 9, “Define Tailoring Options”. Change the following if necessary:

Domain Name

EBCDIC CCSID

ASCII CCSID

Character Set

Send Using a Monitor

This example sends a spool entry to three Internet users. For simplicity, it uses the Monitor’s default processing options to perform the send. The administrator could also use Monitor selection specs.

1) Access the SpoolOrganizer Administrator Menu.

Enter the following commands:

APPENDIX B: E-Mail EXAMPLE

ADDLIBLE BRODERICK

SPLADM

2) Create an E-Mail Distribution List.

E-Mail Distribution Lists Tell E-Mail Specifications whom to send the message to if more than one recipient is desired. Enter the following:

a) Select option **1**, "Define System Menu", then Selection **15**, "Define E-Mail Distribution Table"

b) The Display Specifications screen appears. Press **ENTER** to display all.

c) A list of List Entries (if any) should appear. Press **F6**, Add.

d) Enter the following:

+ List Name: **EDIST1**

+ Sequence Number: **100**

Press **ENTER**.

e) For a description of all of the features of E-Mail Distribution Lists, refer to the following chapter:

Chapter 32, "Define E-Mail Distribution Table"

For now, enter the following:

To/BCC Address: **xxxxxx**

Address Type: **S**

Text: **Sample E-Mail Recipient**

Press **ENTER**.

Note: Substitute a valid Internet E-mail address for xxxx in the address field.

f) Enter the following:

List Name: **EDIST1**

Sequence Number: **200**

Press **ENTER**.

g) Enter the following:

To Address: **xxxxxx**

Address Type: **U**

Text: **Sample E-Mail Recipient**

Press **ENTER**.

Note: Substitute a valid User Profile for xxxx in the address field. The user profile must have a directory entry created for it (WRKDIRE cmd), and an SMTP address must be associated with the directory entry. If you do not want to do all of this, specify another Internet address (Type S).

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h) Press **F12** to end the add operation. Your E-Mail Distribution List entries should appear in the list. Press **ENTER** to return to the menu.

3) Create an E-Mail Specification.

E-Mail Specifications tell other SpoolOrganizer functions how to send the message. Enter the following:

a) Select option **14**, "Define E-Mail Specifications"

b) The Display Specifications screen appears. Press **ENTER** to display all.

c) A list of Specs (if any) should appear. Press **F6**, Add.

d) Enter the following:

Name: **EMAIL1**

Press **ENTER**.

e) For a description of all of the features of E-Mail Specifications, refer to the following chapter:

Chapter 31, "Define E-Mail Specifications"

For now, enter the following:

From Address: **xxxxxxx**
Address Type: **S**
To Address: **xxxxxx**
Address Type: **S**
Distribution List Name: **EDIST1**
Text: **Sample E-Mail Specification**
Press **ENTER**.

Note: Substitute a valid Internet E-mail address for xxxx in the address fields. The from and to address can be the same.

Subject: **Test subject**
Period to keep in E-Mail Log: **ND 30**
Press **ENTER**.

f) Note the different Part Types, the attachment parameters, and the Adobe PDF, the Microsoft Excel and the CSV options. They are described in detail in Chapter 31.

Press **ENTER**.

g) Press **F12** to end the add operation, Your E-Mail Spec should appear in the list. Press **ENTER** to return to the menu.

4) Create a Monitor.

SpoolOrganizer Monitors monitor outq's and process spool entries placed into them. Example B-1 has a

APPENDIX B: E-Mail EXAMPLE

complete Monitor example. In this exercise the Monitor will move the spool entries we place in outq **BPRT01** to outq **BPRT01P**, and send them via E-Mail to 3 Internet users. Enter the following:

a) Select option **2**, "Define Monitors"

b) The Display Specifications screen appears. Press **ENTER** to display all. A list of Monitors (if any) should appear. Press **F6**, Add.

c) Enter the following:

+ Name: **BPRT01**

Press **ENTER**.

d) For a description of all of the features of Monitors, refer to the following chapters:

Chapter 1, "Introduction"

Chapter 5, "Define Monitors"

Chapter 6, "Define Selection Specifications"

Appendix B, Section 2, "Monitor Setup Example"

For now, enter the following:

From Outq/Library: **BPRT01** **BRODERICK**

Descriptive Text: **Test**

To Outq: **BPRT01P**

Library: **BRODERICK**

E-Mail Spec: **EMAIL1**

Press **ENTER**.

e) Press **F12**. Your Monitor should appear in the list. Press **ENTER** to return to the menu.

5) Start the Monitor.

Enter the following command (or select the option off of the "Control System Execution Menu"):

STRSOMON BPRT01

6) Place output into outq BPRT01.

You can place any spool entry into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

7) Display your E-Mail.

SpoolOrganizer/400 should deliver the mail within a few minutes. You can now use your Internet browser to look at your E-Mail.

8) End the Monitor.

Enter the following command (or select the option off of the "Control System Execution Menu"):

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ENDSOMON BPRT01

Send a Bundle via E-Mail

1) Change the Monitor back.

From the “Define Monitors” option, Change the Monitor **BPRT01**. Change the E-Mail Spec to ***NONE**. We will no longer need the Monitor to send E-mail in this exercise.

2) Create a Bundle Description.

Perform the following:

- a) Select option **12**, “Define Bundle Specifications”.
- b) The “Display Specifications Screen” should appear. If you have many Bundle Descriptions, you can use this screen to limit the amount displayed. Press **ENTER**.
- c) A list of Bundle Descriptions should appear. Press **F6**, Add.
- d) Enter the following:
Bundle Name: **BUNDLE1**
Bundle ID: **TEST**
Press **ENTER**
- e) For a description of the features of Bundles, refer to Chapter 13, “Define Bundles Specifications”. For now, enter the following:

Descriptive Text: **Test**
To Outq/Library: ***NONE**
User Profile: (your user profile)
Print Parameters:
- Days: **0**
- Time: **2500**
Change Security: ***** (in the first field)
E-Mail Specification: **EMAIL1**
Press **ENTER**.
- f) A list of Bundle Entries defined to this Bundle will appear. At this point there should not be any. Press **F6**, Add.
- g) Enter the following:
Sequence Number: **10**
Press **ENTER**.

The “Define Bundle Entry Description” screen will appear. Enter the following:

APPENDIX B: E-Mail EXAMPLE

Monitor Name: **BPRT01**
Job User: (your user profile)
Descriptive Text: **Test**
Press **ENTER**.

h) The list of Bundle Entry Descriptions will appear, with the entry we just added.
Press **ENTER** to exit. Press **F12** to exit Add mode.

i) The list of Bundle Descriptions will appear, with the Bundle we just added. Press **ENTER** to exit.
Press **F3** to return to the Administrative menu.

3) Apply changes to production.

Select option **2**, “Control System Execution” and then select option **44**, “Apply Bundle Changes”. There are no parameters to the **APYBDLCHG** command, so press **ENTER**. The menu will appear.

Note: You may wish to select option **45**, “Display Production Specifications” at this time to see your Bundle in the production copy of the Bundle Descriptions.

4) Start the Monitor and Bundle Manager.

Enter the following commands (or select the options off of the “Control System Execution Menu”):

```
STRSOMON BPRT01  
STRBDLMGR
```

5) Place output into outq BPRT01.

You can place any spool entry (which has your user profile in the User spool file attribute) into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

6) Display your E-Mail.

SpoolOrganizer/400 should deliver the mail within a few minutes. You can now use your Internet browser to look at your E-Mail.

7) End the Monitor and Bundle Manager.

Enter the followings command (or select the options off of the “Control System Execution Menu”):

```
ENDSOMON BPRT01  
ENDBDLMGR
```

Send a Spool Entry via Display

This example sends a spool entry via E-Mail from the BDS Display a spool entry display. It uses the active Bundle created in the preceding section. Any function which uses the BDS Display a spool entry function, such as Display Archive Tape of Display Online Database entries, can send E-Mail using the

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procedure below.

1) Display the Bundle Entry.

- a) Enter the following command, or select option **4**, from the “End User Menu”, “Work with active Bundles”.

WRKACTBDL

The Active Bundles Display will appear,

- b) Select option **5**, “Display Entries” and press **ENTER**.
- c) The list of spool entries in the Bundle will appear. Place a **5** by the entry and press **ENTER**.

The spool entry data appears.

2) Specify E-mail attributes

For a description of sending E-Mail from the Display function, refer to the following chapter:

Chapter 29, “Display a Spool Entry”

- a) Press **F15**, “E-Mail”.
- b) The Page/line/column range screen appears. Note the ability to specify a range. For now, press **ENTER**.
- c) The “Specify an E-Mail Destination” screen appears. Enter the following:

To Address:	xxxxxx
Address Type:	S
Subject:	Test Subject

Press **F14** (Log Params).
- d) A screen with more parameters will appear. Make any changes if desired and press **ENTER** to return to the Destination screen.
- e) The Destination screen 1 will appear. Press **ENTER**.
- f) A second screen will appear. Make any changes if desired and press **ENTER** to send the E-Mail.
- g) The Page Range screen will appear, with the message “Specified range sent”. Press **F3** to exit.
Press **F3** to exit the Spool entry display.
Press **F3** to exit the Bundle Entries display.
Press **F3** to exit the Active Bundles display.

APPENDIX B: E-Mail EXAMPLE

Displaying/Resending Sent Mail

This exercise will demonstrate the SpoolOrganizer/400 Sent Mail Log. It will show the log of E-Mail which was sent in the previous sections.

1) Search for sent Mail

- a) Bring up the Administrator menu:

SPLADM

- b) Select option **3**, “End User Functions”, then select option **6**, “Display Sent E-Mail Log”. Press **ENTER** again to execute the **DSPSNTML** command.
- c) The “Display Specifications” screen should appear. Note the fields available to aid your searches. For a description of sending E-Mail from the Display function, refer to the following chapter:

Chapter 33, “Display/Purge Sent Mail”

For now, press **ENTER**.

- d) A screen showing the E-mail messages sent earlier should appear. There should be two messages (The Monitor’s and the Bundle’s) in the list.

2) Display a sent message

- a) Select option **1**, “Disp Attr” The Attributes used when the message was mailed are shown. Press **ENTER** to step through the screens.

3) Display spool entries.

- a) Select option **5**, to display the spool entries which were attached to the message. A list of the entries will appear.
- b) Place a **5** by the first entry and press **ENTER**. The spool entry will appear. Press **ENTER** to exit.
- c) Select option **1** to display the spool entry’s attributes. Press **ENTER** to exit.
- d) Press **ENTER** to return the “Display Sent Mail” screen.

4) Resend sent Mail.

Select option **8** for any message you wish to resend. Once resent, you can display the mail on your Internet E-Mail browser.

Press **ENTER** to return to the search screen. Press **F3** to exit.

APPENDIX B: SPOOL PDF OVERLAY/400™ EXAMPLE

The following is a simple exercise that will demonstrate the major tasks needed to access the features of Spool PDF Overlay/400™ through Spool Organizer tasks. Spool PDF Overlay/400™ is a separate product from BDS and must be installed on your machine. This exercise is intended for experienced users of Spool Organizer. For more information, refer to previous exercises or the Spool Organizer Reference manual. The exercise will demonstrate Spool PDF Overlay/400 features in the following functions of SpoolOrganizer/400:

Monitors

Bundles

Display a spool entry

Resend from Sent Mail log

EMLSPLE cmd

DIRSPLE, DIROUTQ cmds

This exercise should require approximately **90** minutes to complete. This exercise assumes you are defined as an Administrator to Spool Organizer. To complete the exercise, perform the following:

1) Sign on as your User profile.

1) Verify Spool PDF Overlay/400 is installed.

Enter the following commands:

ADDLIBLE BRODERICK

SPDADM

If you receive the message “Command SPDADM not found”, you must first install Spool PDF Overlay/400 on your machine. Contact BDS to receive a free 30-day trial of the product.

1) Access the SpoolOrganizer Administrator Menu.

Enter the following commands:

ADDLIBLE BRODERICK

SPLADM

4) Verify System parameters.

a) Select Option 1, “Define System Menu”, then select option 7, “Define Tailoring Options”.

c) The Setup Display appears. Press **F13** to display the E-mail options. Note the following field:

Spool PDF Ovl/400 Spec Name: ***NONE**

For now, do not change this value. It is used when emailing from the Display a Spool Entry function. You may later wish to change it. Press **F3** twice to return to the menu.

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2) Create a PDF Spec.

Many Spool Organizer functions specify Spool PDF Overlay/400 functions via the PDF Specification. Enter the following:

- a) Select option **18**, “Define PDF Specifications”
- b) The Display Specifications screen appears. Press **ENTER** to display all.
- c) A list of List Entries (if any) should appear. Press **F6**, Add.
- d) Enter the following:
+ Spec Name: **SPDF**
Press **ENTER**.

- e) For a description of all of the features of PDF Specs, refer to the following chapter:

Chapter 37, “Define PDF Specifications”

For now, enter the following:

Spool PDF Overlay/400 Spec Name: ***DFT**
Text: **Spool PDF Overlay/400 Spec**

Take the defaults for the other fields and press **ENTER**.

Note: In a production environment, you should make separate Spool PDF Overlay/400 Options Specs for your Spool Organizer applications. For simplicity, we are using the default spec in this exercise.

- f) Press **F12** to end the add operation. Your PDF spec should appear in the list. Press **ENTER** to return to the menu.

3) Create an E-Mail Specification.

E-Mail Specifications tell other SpoolOrganizer functions how to send the message. Enter the following:

- a) Select option **14**, “Define E-Mail Specifications”
- b) The Display Specifications screen appears. Press **ENTER** to display all.
- c) A list of Specs (if any) should appear. Press **F6**, Add.
- d) Enter the following:
Name: **SPDF**
Press **ENTER**.

- e) For a description of all of the features of E-Mail Specifications, refer to the following chapter:

Chapter 31, “Define E-Mail Specifications”

APPENDIX B: SPOOL PDF OVERLAY/400™ EXAMPLE

For now, enter the following:

From Address: **xxxxxxx**
Address Type: **S**
To Address: **xxxxxx**
Address Type: **S**
Distribution List Name: ***NONE**
Text: **Spool PDF Overlay/400 Spec**
Press **ENTER**.

Note: Substitute a valid Internet E-mail address for xxxx in the address fields. The from and to address can be the same.

Subject: **Test subject**
Period to keep in E-Mail Log: **ND 30**
Press **ENTER**.

f) Note the different Part Types, the attachment parameters, and the Adobe PDF and the CSV options. They are described in detail in Chapter 31. For now, enter the following:

Part Type: ***PDF**
CSV/TSV or PDF Spec Name: **SPDF**
Press **ENTER**.

g) Press **F12** to end the add operation, Your E-Mail Spec should appear in the list. Press **ENTER** to return to the menu.

Monitor Functions

The Monitor function of Spool Organizer uses Email Specs to control email output. In this exercise the email spec created above will be used by the example Monitor. Enter the following:

1) Create a Monitor.

SpoolOrganizer Monitors monitor outqs and process spool entries placed into them. Example B-1 has a complete Monitor example. In this exercise the Monitor will move the spool entries we place in outq **BPRT01** to outq **BPRT01P**, and send them via E-Mail to 3 Internet users. Enter the following:

a) Select option **2**, “Define Monitors”

b) The Display Specifications screen appears. Press **ENTER** to display all. A list of Monitors (if any) should appear. Press **F6**, Add.

c) Enter the following:

+ Name: **SPDF**
Press **ENTER**.

d) For a description of all of the features of Monitors, refer to the following chapters:

SPOOLORGANIZER™

Chapter 1, “Introduction”

Chapter 5, “Define Monitors”

Chapter 6, “Define Selection Specifications”

Appendix B- 2, “Monitor Setup Example”

For now, enter the following:

From Outq/Library: **BPRT01** **BRODERICK**
Descriptive Text: **Test**
To Outq: **BPRT01P**
Library: **BRODERICK**
E-Mail Spec: **SPDF**
Press **ENTER**.

e) Press **F12**. Your Monitor should appear in the list. Press **ENTER** to return to the menu.

5) Start the Monitor.

Enter the following command (or select the option off of the “Control System Execution Menu”):

STRSOMON SPDF

6) Place output into outq BPRT01.

You can place any spool entry into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

7) Display your E-Mail.

SpoolOrganizer/400 should deliver the mail within a few minutes. You can now use your Internet browser to look at your E-Mail.

8) End the Monitor.

Enter the following command (or select the option off of the “Control System Execution Menu”):

ENDSOMON SPDF

Bundle Functions

1) Change the Monitor back.

From the “Define Monitors” option, Change the Monitor **BPRT01**. Change the E-Mail Spec to ***NONE**. We will no longer need the Monitor to send E-mail in this exercise.

2) Create a Bundle Description.

Perform the following:

APPENDIX B: SPOOL PDF OVERLAY/400™ EXAMPLE

- a) Select option **12**, “Define Bundle Specifications”.
- b) The “Display Specifications Screen” should appear. If you have many Bundle Descriptions, you can use this screen to limit the amount displayed. Press **ENTER**.
- c) A list of Bundle Descriptions should appear. Press **F6**, Add.
- d) Enter the following:
Bundle Name: **SPDF**
Bundle ID: **TEST**
Press **ENTER**
- e) For a description of the features of Bundles, refer to Chapter 13, “Define Bundles Specifications”. For now, enter the following:

Descriptive Text: **Test**
To Outq/Library: ***NONE**
User Profile: (your user profile)
Print Parameters:
- Days: **0**
- Time: **2500**
Change Security: ***** (in the first field)
E-Mail Specification: **SPDF**
Press **ENTER**.

- f) A list of Bundle Entries defined to this Bundle will appear. At this point there should not be any. Press **F6**, Add.
- g) Enter the following:
Sequence Number: **10**
Press **ENTER**.

The “Define Bundle Entry Description” screen will appear. Enter the following:

Monitor Name: **SPDF**
Job User: (your user profile)
Descriptive Text: **Test**
Press **ENTER**.

- h) The list of Bundle Entry Descriptions will appear, with the entry we just added. Press **ENTER** to exit. Press **F12** to exit Add mode.
- i) The list of Bundle Descriptions will appear, with the Bundle we just added. Press **ENTER** to exit. Press **F3** to return to the Administrative menu.

3) Apply changes to production.

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Select option **2**, “Control System Execution” and then select option **44**, “Apply Bundle Changes”. There are no parameters to the **APYBDLCHG** command, so press **ENTER**. The menu will appear.

Note: You may wish to select option **45**, “Display Production Specifications” at this time to see your Bundle in the production copy of the Bundle Descriptions.

4) Start the Monitor and Bundle Manager.

Enter the following commands (or select the options off of the “Control System Execution Menu”):

```
STRSOMON SPDF
STRBDLMGR
```

5) Place output into outq BPRT01.

You can place any spool entry (which has your user profile in the User spool file attribute) into outq **BPRT01** (we recommend that you do not use anything important). You can use any method you wish to move the output.

6) Display your E-Mail.

SpoolOrganizer/400 should deliver the mail within a few minutes. You can now use your Internet browser to look at your E-Mail.

7) End the Monitor and Bundle Manager.

Enter the followings command (or select the options off of the “Control System Execution Menu”):

```
ENDSOMON SPDF
ENDBDLMGR
```

Send a Spool Entry via Display

This example sends a spool entry via E-Mail from the BDS Display a spool entry display. It uses the active Bundle created in the preceding section. Any function which uses the BDS Display a spool entry function, such as Display Archive Tape of Display Online Database entries, can send E-Mail using the procedure below.

1) Display the Bundle Entry.

- a) Enter the following command, or select option **4**, from the “End User Menu”, “Work with active Bundles”.

```
WRKACTBDL
```

The Active Bundles Display will appear,

- b) Select option **5**, “Display Entries” and press **ENTER**.

APPENDIX B: SPOOL PDF OVERLAY/400™ EXAMPLE

- c) The list of spool entries in the Bundle will appear. Place a **5** by the entry and press **ENTER**.

The spool entry data appears.

2) Specify E-mail attributes

For a description of sending E-Mail from the Display function, refer to the following chapter:

Chapter 29, “Display a Spool Entry”

- a) Press **F15**, “E-Mail”.
- b) The Page/line/column range screen appears. Note the ability to specify to specify a range. For now, enter the following:

Email Spec Name: **SPDF**
Press **ENTER**.

- c) The “Specify an E-Mail Destination” screen appears. Enter the following:

To Address: **xxxxxx**
Address Type: **S**
Subject: **Test Subject**
Press **F14** (Log Parm).

- d) A screen with more parameters will appear. Make any changes if desired and press **ENTER** to return to the Destination screen.
- e) The Destination screen 1 will appear. Press **ENTER**.
- f) A second screen will appear. Make any changes if desired and press **ENTER** to send the E-Mail.
- g) The Page Range screen will appear, with the message “Specified range sent”.
Press **F3** to exit.
Press **F3** to exit the Spool entry display.
Press **F3** to exit the Bundle Entries display.
Press **F3** to exit the Active Bundles display.

Displaying/Resending Sent Mail

This exercise will demonstrate the SpoolOrganizer/400 Sent Mail Log. It will show the log of E-Mail which was sent in the previous sections.

1) Search for sent Mail

- a) Bring up the Administrator menu:

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SPLADM

- b) Select option **3**, “End User Functions”, then select option **6**, “Display Sent E-Mail Log”. Press **ENTER** again to execute the **DSPSNTML** command.
- c) The “Display Specifications” screen should appear. Note the fields available to aid your searches. For a description of sending E-Mail from the Display function, refer to the following chapter:

Chapter 33, “Display/Purge Sent Mail”

For now, press **ENTER**.

- d) A screen showing the E-mail messages sent earlier should appear. There should be two messages (The Monitor’s and the Bundle’s) in the list.

2) Display a sent message

- a) Select option **1**, “Disp Attr” The Attributes used when the message was mailed are shown. Press **ENTER** to step through the screens.

3) Display spool entries.

- a) Select option **5**, to display the spool entries which were attached to the message. A list of the entries will appear.
- b) Place a **5** by the first entry and press **ENTER**. The spool entry will appear. Press **ENTER** to exit.
- c) Select option **1** to display the spool entry’s attributes. Press **ENTER** to exit.
- d) Press **ENTER** to return the “Display Sent Mail” screen.

4) Resend sent Mail.

Select option **8** or **9** for any message you wish to resend. Once resent, you can display the mail on your Internet E-Mail browser.

Press **ENTER** to return to the search screen. Press **F3** to exit.

IFS Directory Functions

The commands **DIRSPLE** and **DIROUTQ** can use Spool PDF Overlay/400 features. Enter the following:

DIRSPLE

Press **F4** to prompt.

Enter the following parameters:

File format: ***PDF**

APPENDIX B: SPOOL PDF OVERLAY/400™ EXAMPLE

PDF, CSV, or HTML Spec Name: **SPDF**

For more information on the DIRSPLE or DIROUTQ commands, refer to Chapter 38, “IFS Directory Commands”

APPENDIX C: SPOOLORGANIZER COMMANDS

To access any of these commands, you may execute from a command line or from a SpoolOrganizer/400 Menu, with appropriate authorization.

APYBDLCHG	Apply Bundle Changes
APYIXSCHG	Apply Index Changes
ARCARCFDTA	Write ARCFILE to Tape
ARCOLE	Archive Online Data Entries to Tape
ARCOUQ	Archive an Outq to Tape
BDSMOVLIB	Move BDS Libs to other ASPs
BSSAVF	Convert physical file to/from Save File
BSOINS	Install SpoolOrganizer
BSOSETUP	SpoolOrganizer Setup
BSOUPD	Update SpoolOrganizer to new release
CHGDSKENC	Change Disk Encryption
CHGSOENT	Change OLDB, ArcCat and OptCat entries
CHKSELSPEC	Check Selection Specifications
CRTSOEXP	Create Example Objects
DIROUTQ	Move Outq to IFS directory
DIRSPLE	Move Spool Entry to IFS directory
DSPARCE	Display Archive Entries
DSPIDX	Display Index Entries
DSPOLE	Display Online Spool Entries
DSPOPTE	Display Optical Spool Entries
DSPSNTML	Display Sent E-Mail log
DSPSOLOG	Display SpoolOrganizer Log
DSPSOMSTS	Display Current Status of All Defined Monitors
EMLSPLE	Send a Spool Entry via E-Mail
ENBDLMGR	End the Bundle Manager
ENDIDXMGR	End the Index Manager
ENDSOMON	End a Monitor
FCHOUTQ	Create Microfiche Tape
MGRCATE	Migrate Catalog Entries
MGROPTE	Migrate Optical Entries
OPTARCFDTA	Write ARCFILE to Optical
OPTOLE	Archive Online Data Entries to Optical
OPTOUTQ	Archive an Outq to Optical
PRTOLE	Print Spool Entries
PURARCCAT	Purge Archive Catalog
PUROLE	Purge Online Database
PUROPTCAT	Purge Optical Catalog
PURSNTML	Purge Sent E-Mail log
PURSOLOG	Purge SpoolOrganizer/400 Log
RCTSPORQ	Recreate SpoolOrganizer Data queues
RSTARCE	Restore Archive Spool Entries
RSTOLDB	Move Tape/ARCFILE Entries to Online DB
SETACTCLS	Set Active Classes (for Bundle Manager)

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SETSOLGL	Set Logical Views for Online Database, Archive, & Optical Catalogs
SPLADM	SpoolOrganizer Administrator Main Menu
SPLDEF	SpoolOrganizer Define System Menu
SPLEXEC	SpoolOrganizer Control System Execution Menu
SPLOPR	SpoolOrganizer Operator Main Menu
SPLUSR	SpoolOrganizer User Main Menu
STRBDMGR	Start the Bundle Manager
STRIDXMGR	Start the Index Manager
STRSOMON	Start a Monitor
VEROLE	Verify the Online Database
WRKACTBDL	Work with Active Bundles

APPENDIX D: ELECTRONIC MEDIA DISTRIBUTION

The user can distribute SpoolOrganizer to remote systems electronically. Thus the user can install or update SpoolOrganizer on similar remote systems (i.e. AS/400 to AS/400's). A working **APPC/APPN** or **TCP** link to the remote system, and a file transfer program such as **FileXfer3X/400** or **FTP** is needed to do this. Below are the steps you must perform to transmit SpoolOrganizer to remote systems. **Please note** that a thorough knowledge of the operating systems involved is suggested.

The **AS/400** media consists of **2** libraries:

SPOR40
SPOR40DATA

The steps to distribute SpoolOrganizer are:

Source System

- 1) Restore libraries **SPOR40** and **SPOR40DATA** from the **BDS**. Media. For optical disk, the libraries are contained in optical files **SPOR40** and **SPOR40D**.

Note: You must be signed on as a user with ***SECADM** authority when performing the restores.

- 2) Create two save files **SAVSPOR** and **SAVSPORD**.
- 3) Save library **SPOR40** into save file **SAVSPOR**, and library **SPOR40DATA** into save file **SAVSPORD**.
- 4) Delete the libraries **SPOR40** and **SPOR40DATA**.
- 5) Transmit the save files to the remote system(s).

Remote System(s)

- 1) Create and receive the transmitted save files, if necessary.
- 2) Proceed with the update or install instructions with the following:

When requested to restore the install or update objects into library QTEMP, use the save file option. Enter save files **SAVSPOR** and **SAVSPORD**.

When executing the install or update command (BSOINS or BSOUPE) use the save file option. Enter save files **SAVSPOR** and **SAVSPORD**.

SpoolOrganizer will be installed or updated.

OS/400 E-MAIL SETUP

To be able to send spool entries via E-Mail to Internet users, OS/400 must be set up properly. Below are some OS/400 setup suggestions for OS/400 version 4. For more information contact your E-Mail server's tech support team or IBM.

Sending Mail

To send mail on the AS/400, verify the following steps have been performed.

- 1) Verify the following OS/400 tasks are active:

TCP/IP	STRTCP
SMTP	STRTCPSVR *SMTP
MSF	STRMSF

- 2) Determine the system name of your installation's Mail Server. Verify the AS/400 can communicate to it via TCP/IP. For example:

GO CFGTCP

Select option 10, "Work with TCP host table entries"

Add the E-Mail server if necessary. Note: This is not necessary if DNS is used. Select option 12, "Change TCP/IP domain information" to verify DNS.

PING xxxx (xxxx is the E-Mail server's Host Name)

- 3) Add a special directory entry name:

**ADDIRE USRID(INTERNET GATEWAY) USRD('Send mail') SYSNAME(TCPIP)
MSFSRVLV(*USRIDX) PREFADR(NETUSRID *IBM ATCONXT)**

- 4) Change your distribution attributes:

CHGDSTA SMTPRTE(INTERNET GATEWAY)

- 5) Change your SMTP attributes:

**CHGSMTPA SYSNAME(TCPIP) MAILROUTER(mail.router.name) FIREWALL(*YES)
FWDHUBSVR(mail.router.name)**

If you have a firewall or proxy server, enter the **mail router** and **firewall** parameters.

mail.router.name is your E-mail server and is in your Host Table (step 2)

Note: The **FWDHUBSVR** parameter applies to V7R1 and later.

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- 6) If changes are made, stop and restart IBM components:

```
ENDTCPSVR *SMTP
ENDMSF
STRTCPSVR *SMTP
STRMSF
```

- 7) Verify your time zone. Enter the following command:

```
WRKSYSVAL QUTCOFFSET
```

Change the value if necessary. Common US time zones are:

	Standard	Daylight Savings
Eastern	-5:00	-4:00
Central	-6:00	-5:00
Mountain	-7:00	-6:00
Pacific	-8:00	-7:00

Note: You must remember to change this value when switching to and from Daylight Savings time.

- 8) To test your setup, use the following OS/400 command to send a test message:

```
SNDDST TYPE(*FILE) TOINET((user@company.com)) DSTD(D1)
      DOCFILE(BRODERICK/BSOSRC) DOCMBR(SPLFA2) DOCTYPE(*FFT)
      SNDFMT(*NOTE)
```

If you do not receive mail as a result of the above command, contact IBM or your network support personnel for assistance.

Preventing Split Messages

As shipped from IBM, OS/400 will split up large outgoing E-mail messages. The split message will appear to most browsers as several messages, each labeled in the message header as message/partial. The problem with this is most E-Mail viewers including Netscape Navigator, Internet Explorer, and Lotus Notes will not properly reassemble message parts back into one large message. To get around this IBM added a POP attribute in version V4R4. Enter the following command:

```
CHGPOPA (Press F4)
```

Change the "Message split size" parameter to *NOMAX. You must end and restart the POP server for the change to take effect (ENDTCPSVR *POP).

OS/400 E-MAIL SETUP

For OS/400 versions prior to V4R4, IBM released PTF **SF37157**, which will cause OS/400's POP server to not split large messages. PTF SF37157 is very simple; to implement it you only need to create a data area. You may look up PTF SF37157 or enter the following command:

CRTDTAARA QUSRSYS/QTMSNOSPLT TYPE(*CHAR)

You must end and restart the POP server for the change to take effect (ENDTCPSVR *POP).

WEB BROWSER CONSIDERATIONS

To access SpoolOrganizer/400 via a web browser, OS/400 must be set up properly. The following areas must be set up by the AS/400 administrator:

Domain Name/IP Address/Port Number
HTTP Server Instance
Validation List

IBM offers tutorials for setting up an HTTP server at:

<http://www.as400.ibm.com/tstudio/workshop/webbuild.htm>

This tutorial will guide you step by step through the setup required for web browser considerations.

Below are some OS/400 setup suggestions for OS/400. For more information contact your network support team or IBM.

Domain Name/IP Address/Port Number

The SpoolOrganizer HTTP server (or any server) will require an IP address and a port number. The network administrator must provide this information. The AS/400 administrator must either assign the server to a unique IP address or use a unique port within an existing address. HTTP servers use port 80 by default. If another server is already using port 80, you will need to assign the SpoolOrganizer to another port. The tutorial mentioned above will show you how to do this. In this case pick a number greater than 1024 (i.e. 8080). Keep in mind users will access the SpoolOrganizer server from their web browser by entering the IP address (and the port if its not 80). For example:

http://your.ip.address:8080

To define a an IP address to the AS/400, bring up the “Configure TCP” menu:

GO CFGTCP

Select “Work with Interfaces” to verify the IP address is defined. If not, you will need to create an interface. To check the status of the interface, press **F11**. The status should be **Active**.

You probably want users to refer to the SpoolOrganizer server by a name rather than an address number. To do this, the AS/400 administrator must either enroll the AS/400’s IP address and Domain Name to a Domain Name System Name server (DNS) (for Internet access) AND/OR set up the domain name as a host name in the AS/400 Host Name Table (for local network access). We recommend using a DNS if possible. The host name table can also be accessed from the “Configure TCP” menu.

To verify your IP address and Domain Name is set up properly, use the Ping utility. For example, from a remote PC or the A/400 command entry screen, enter the DOS shell and enter the following commands:

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ping *your.ip.address*

or

ping *your.domain.com*

Note: If you suspect the problem is with the local system, try to ping other known IP addresses or domains. For example, you can ping our system (we don't mind):

ping *broderickdata.com* or **ping** *207.40.118.2*

The ping command will contact the remote system, read the reply data, and calculate the round trip time. Any errors in the setup will cause the ping command to an error message.

HTTP Server Instance

The administrator can use the AS/400 Administrative HTTP Server instance to set up Server instances. To start the administrative HTTP server instance enter the following command:

STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)

You access the administrative server from your web browser by entering your domain through port 2001 as shown below:

http://your.ip.address:2001

A Server Instance must be configured. The name of the Server Instance is your choice, we recommend you use **SPOOLSVR**. Once set up, you can start the Server Instance using the following command:

STRTCPSVR SERVER(*HTTP) HTTPSVR(SPOOLSVR)

Validation List

We strongly recommend you limit access to SpoolOrganizer via an Access List. An Access List is an AS/400 Validation List object (type *VLDL) that contains user ids and passwords. The sample Configuration shipped with SpoolOrganizer is set up to use Validation List **%%SYSTEM%%**, which uses the OS/400 internal user profiles as its validation list. SpoolOrganizer also provides validation list **BSOUSR** in library **BDSDATA**, but the Administrator can use another if desired. Note that ***PUBLIC**, or at least the Server Jobs' user profile, must have at least ***USE** authority to the Validation List Object. If not, even valid user id/password attempts will fail. In some cases, RSTOBJ operations will remove public authorities from the restored Validation List object.

When a user attempts to use the SpoolOrganizer server's features protected by an Access List, the web browser will display a sign on window requesting a user id and password. The user must enter one of the

WEB BROWSER CONSIDERATIONS

values set up by you to continue. Also, SpoolOrganizer programs will retrieve the user field from the sign on window and use it as the user profile for security checking.

To set up Access List Entries, enter the AS/400 Administrative Server, Internet users, Add Internet User. Enter a User ID and Password. For Validation List, enter **BSDATA/BSOUSR**. Leave the Group File and Group blank.

Notes:

1) SpoolOrganizer will translate the user id to upper case when using it for security checking. . However the server will not if a validation list other than **%%SYSTEM%%** is used. If you use a non-system validation list we recommend you enter the user id and password in lower case and inform your users.

2) The administrator can use any other available method to place entries into the Validation List **BSDATA/BSOUSR**.

3) SpoolOrganizer security is based on user id. If a non-system Validation List is used, remember to add each created list user as a SpoolOrganizer user.

Apache Server Example Configuration

Below is an example configuration file used to configure Apache HTTP server instance BDS. It allows users to access the Spool Organizer Web Browser Interface.

```
1 # Configuration originally created by Create HTTP Server wizard on Tue Apr 26
14:42:22 EST 2005
2 Listen *:80
3 DocumentRoot /BRODERICK/SPOR40/PGMS
4 Options -ExecCGI -FollowSymLinks -SymLinksIfOwnerMatch -Includes -
IncludesNoExec -Indexes -MultiViews
5 LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\"""
combined
6 LogFormat "%{Cookie}n \"%r\" %t" cookie
7 LogFormat "%{User-agent}i" agent
8 LogFormat "%{Referer}i -> %U" referer
9 LogFormat "%h %l %u %t \"%r\" %>s %b" common
10 CustomLog logs/access_log combined
11 LogMaint logs/access_log 7 0
12 LogMaint logs/error_log 7 0
13 SetEnvIf "User-Agent" "Mozilla/2" nokeepalive
14 SetEnvIf "User-Agent" "JDK/1\.\0" force-response-1.0
15 SetEnvIf "User-Agent" "Java/1\.\0" force-response-1.0
16 SetEnvIf "User-Agent" "RealPlayer 4\.\0" force-response-1.0
17 SetEnvIf "User-Agent" "MSIE 4\.\0b2;" nokeepalive
18 SetEnvIf "User-Agent" "MSIE 4\.\0b2;" force-response-1.0
```

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```
19 <Directory />
20     Order Deny,Allow
21     Deny From all
22 </Directory>
23 <Directory /BRODERICK/SPOR40/PGMS>
24     Order Allow,Deny
25     Allow From all
26     Require valid-user
27     Options +ExecCGI
28     AuthName "OS/400 User ID and PW"
29     AuthType Basic
30     DirectoryIndex index.htm
31     UserID %%CLIENT%%
32     PasswdFile %%SYSTEM%%
33 </Directory>
34 <Directory /QSYS.LIB/BRODERICK.LIB>
35     Order Allow,Deny
36     Allow From all
37     Require valid-user
38     Options +ExecCGI
39     AuthType Basic
40     AuthName "OS/400 User ID and PW"
41     PasswdFile %%SYSTEM%%
42 </Directory>
43 ScriptAliasMatch ^/cgi-bin/(.*)?(.*) /qsys.lib/broderick.lib/$1.pgm$2
44 ScriptAlias /cgi-bin/ /QSYS.LIB/BRODERICK.LIB/
```

OTHER FUNCTIONS

Other miscellaneous Spool Organizer functions are documented here.

Rebuilding Damaged Data Queues

Spool Organizer uses several data queues during its processing. OS/400 can damage data queues if it halts abruptly, for example during a power failure. The **RCTSPORQ** (Recreate Spool Organizer Data Queues) command will recreate non-Monitor data queues that are deleted or damaged. Refer to Chapter 5 “Define Monitors”, section “Damaged Data Queues” to rebuild data queues associated with a Monitor. The user can use the **RCTSPORQ** command to rebuild deleted/damaged queues. The following data queues can be recreated:

BRODERICK/BDSUSRPRF
BDSDATA/BSOBDLMGR
BDSDATA/BSOIDXMR

For each data queue selected, the RCTSPORQ command will do the following:

Attempt to delete the data queue
Recreate the data queue
Change the owner to QSECOFR

Note: The administrator may choose to delete/restore the damaged data queue from a backup or from the Spool Organizer media.

To rebuild data queues, end the function that has the problem or end all Spool Organizer functions and subsystem BDS. From a command line, enter the **RCTSPORQ** command and press **F4**. Select the queues to recreate by selecting *YES and press **ENTER**. Check the job log to make sure the queues are created properly.

Migrating Archive Tape Considerations

Occasionally an installation must migrate tapes to new tape volumes; for example after purchasing newer tape hardware. The installation will typically duplicate the old tapes’ data onto new tapes, and then disconnect the old tape hardware after the migration is complete. Spool Organizer archive tapes can be migrated in this fashion. BDS recommends the volume ID of the new tape be kept the same as the old tape if possible. If not, the administrator may need to migrate the Archive Catalog to reflect the new tape volumes. See the MGRCATE command below for more information.

Newer tape formats typically have more capacity than the old tapes, and administrators may wish to combine several old tapes into one new tape. Spool Organizer can support the combining of several tapes into one, with some considerations:

- **Duplicate Dataset Names:** The administrator should use care when copying multiple tape

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datasets with the same name onto the same tape. Tapes support duplicate names on a volume (you specify a different sequence number) but not all Spool Organizer functions support a sequence number. For example, the DPARCE command will allow the user to specify a sequence number but the Archive Catalog does not store sequence number information (the sequence number would change during the migration anyway) and can only access the first dataset on a tape volume with a given name.

- **Multivolume Files:** If a tape dataset spans multiple volumes, care must be taken that all of the volumes in the string are copied to the new tape(s). Contact IBM support for more information.
- **Archive Catalog:** If you change the tape Volume ID's when you migrate the tapes and you use the Archive Catalog to track spool entries on tapes, you must update the tape volume and device information. See the MGRCATE command below for more information.

The MGRCATE (Migrate Catalog Entries) command allows the administrator to change Archive Catalog entries' Volume ID and Device Description attributes to match the new tapes. The MGRCATE command has the following parameters:

Old Tape Volume Identifier (OLDVOL) Parameter

Specifies the tape Volume Identifiers to change. Specify up to 5 volume identifiers. If an Archive Catalog entry contains any of the specified volume identifiers it will be changed to the values specified below.

New Tape Volume Identifier (NEWVOL) Parameter

Specifies the new tape Volume Identifiers. The new volume list will completely replace the old volume list, even if only one of the OLDVOL entries matches the Archive Catalog entry. Specify up to 5 volume identifiers or one of the following:

***SAME:** Specifies that the Volume Identifier attributes of the Archive Catalog entry will not be changed.

New Device Name (NEWDEV) Parameter

Specifies the new Device Name attribute for the Archive Catalog entry. The specified device must exist on the system.

***SAME:** Specifies that the Device name attributes of the Archive Catalog entry will not be changed.

Change Online Entries (CHGSOENT) Command

The CHGSOENT command will change multiple Online Database, Archive Catalog and Optical Catalog entries. The user enters a Stored Search Spec to define the entries to change, and the fields and values to change. The command can be run while Spool Organizer functions are active. Following is the screen and parameters of the CHGSOENT command.

OTHER FUNCTIONS

Change OLDB, ArcCat, OptCat (CHGSOENT)	
Type choices, press Enter.	
Stored Search Spec Name	_____ Character value, *DFT
Stored Search Spec User ID	<u>*USRPRF</u> Name, *USRPRF, *PUBLIC
User Remark	<u>*SAME</u> _____
Read Security Classes	<u>*SAME</u> Character value, *SAME...
+ for more values	_____
Change Security Classes	<u>*SAME</u> Character value, *SAME...
+ for more values	_____
Online Database Period	<u>*SAME</u> *SAME, *BLANK, DT, ...
Online Database Value	<u>*SAME</u> Number, *SAME
Arc/Opt Database Period	<u>*SAME</u> *SAME, *BLANK, DT, ...
Arc/Opt Database Value	<u>*SAME</u> Number, *SAME
Log operations	<u>*SAME</u> *SAME, *YES, *NO
Group Profile Name	<u>*SAME</u> Name, *SAME, *NONE
User-written exit program.	<u>*NONE</u> Name, *NONE
	<u>*LIBL</u> Name, *LIBL
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display	
F24=More keys	

Stored Search Spec Name (SRCHSPEC) Parameter

Specifies the **Name** of the Stored Search specifications to be used when determining spool entries to change. Only spool entries that meet the specifications will be changed. For more information on defining Stored Search Specifications, refer to Chapter 24, "Display Online Spool Entries".

***DFT:** The default Stored Search Spec for the specified User ID will be used.

Stored Search Spec User ID (SRCHUSER) Parameter

Specifies the **User ID** of the Stored Search specifications to be used when determining spool entries to change. Only spool entries that meet the specifications will be changed. For more information on defining Stored Search Specifications, refer to Chapter 24, "Display Online Spool Entries".

***USRPRF:** The current user profile will be used.

User Remark (USERRMK) Parameter

Specifies the new User Remark value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

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Read Security Classes (READSEC) Parameter

Specifies the new Read Security Classes value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

***BLANK:** The value will be blank.

Change Security Classes (CHANGESEC) Parameter

Specifies the new Change Security Classes value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

***BLANK:** The value will be blank.

Online Database Period (OLPRD) Parameter

Specifies the new Online Database Period's value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

***BLANK:** The value will be blank.

DT: The value will be Date.

ND: The value will be Number of Days.

NM: The value will be Number of Months.

NY: The value will be Number of Years.

ME: The value will be Month End.

QE: The value will be Quarter End.

YE: The value will be Year End.

Online Database Value (OLVAL) Parameter

Specifies the new Online Database Value's value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

OTHER FUNCTIONS

Arc/Opt Catalog Period (ARCPRD) Parameter

Specifies the new Archive or Optical Catalog Period's value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

***BLANK:** The value will be blank.

DT: The value will be Date.

ND: The value will be Number of Days.

NM: The value will be Number of Months.

NY: The value will be Number of Years.

ME: The value will be Month End.

QE: The value will be Quarter End.

YE: The value will be Year End.

Arc/Opt Catalog Value (ARCVAL) Parameter

Specifies the new Archive or Optical Catalog Value's value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

Log Operations (LOGOPER) Parameter

Specifies the new Log Operations value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

***YES:** The value will be yes.

***NO:** The value will be no.

Group Profile Name (GRPPRF) Parameter

Specifies the new Group Profile Name value. This parameter is ignored if a user-written exit program is specified.

***SAME:** The value will not be changed.

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***NONE:** The value will be *NONE.

User-written exit program (EXITPGM) Parameter

Specifies the name of the user-written exit program to call. The specified program will be called for each selected entry, and will pass back a return code which tells the command to how to process the entry. The exit program should make any changes to the record image. Source file BSOSRC, member BSOSX1 contains an example user exit program. Refer to member BSOSX1 for more information.

If an exit program is specified, the USERRMK, READSEC, CHGSEC, OLPRD, OLVAL, ARCPRD, ARCVAL, LOGOPER AND GRPPRF parameters are ignored.

***NONE:** No exit program will be called.

Online Database Entries Mass Change API

The administrator may need to change a large number of Online Database entries. For example, he may want to keep invoices in the Online Database for 2 years instead of 1 year. The Spool Organizer BSOMCOLE API can be called by a user-written program to change Online Database entries.

Source member MASSCHG in file BSOSRC shows an example program that reads the Online Database headers file BSOOLH, selects via program logic records it wants to change, and calls the API BSOMCOLE program to make the changes. Refer to member MASSCHG for more information.

Note: Do not change the data in file BSOOLH. Spool Organizer keeps a copy of the BSOOLH record image in the file BSOOLD, and compares the two when accessing the spool entry. If the two do not match the entry is considered damaged and will not be processed by Spool Organizer.

DR/HA (Mirroring) Considerations

Mirroring is the process in which OS functions automatically copy an application's data from the production system to a second (DR/HA) system. Administrators can switch users over to the DR/HA system if the production system becomes unavailable. Spool Organizer can be mirrored. The entire Spool Organizer product is contained in 4 containers:

Library BRODERICK
Library BDSDATA
Library BDSBASE
IFS subsystem /BRODERICK/SPOR40

The containers BRODERICK, BDSBASE and /BRODERICK/SPOR40 do not contain user data. They only contain program objects and temporary data. Thus you do not need to mirror them on a continuing basis. However, we recommend you do mirror them because the required bandwidth to do so is light. You only need to sync these containers on the production and DR/HA systems after you perform an update to

OTHER FUNCTIONS

Spool Organizer.

You must mirror all objects in library BDSDATA. You will have big problems if you skip any objects. For example, if you feel the need to skip objects due to bandwidth problems, please remember that you are having bandwidth problems because you are mirroring a lot of changes in our data that you will want on the target system.

Product Updates:

To update Spool Organizer in a mirroring environment, we recommend you stop mirroring, perform the update to the production system, then re-synchronize the production and DR/HA systems. We recommend you synchronize by clearing the containers on the DR/HA system (CLRLIB, etc.), then move the production containers to the DR/HA system using save/restore commands (SAVLIB, SAV, RSTLIB, RST). Once the synch is complete, restart the mirroring process.

Spool Data Encryption to Hard Disk, Backup Devices

Spool Organizer can optionally encrypt spool entry data segments when writing data to I-O devices during the following operations:

- Online Database
- Archives to Tapes, Optical Disks and ARCFILES
- Bundling
- Email Sent Mail Log

Spool Organizer uses the industry standard AES encryption. This insures that sensitive user data contained in spool entries is not stored in a clear format when residing on disk drives or backup units. Disk Encryption is transparent to users. Users will not need to know encryption passwords to access spool entries via Spool Organizer functions.

To stop or start Disk Encryption, run the **BSOSETUP** (Tailoring Options) command and set the Disk Encr Key/IV values. Refer to Chapter 9, Define Tailoring Options for more information. After changing Disk Encr Key/IV values, you must restart Monitors, the Bundle Manager and the Index Manager for the changes to take effect. Changes will only affect new entries (Online Database, etc.). Existing entries will not be affected.

To change the encryption mode of existing entries, use the **CHGDSKENC** (Change Disk Encoding) command. Prior to running the **CHGDSKENC** command, run the Tailoring Options (**BSOSETUP**) command and set the Disk Encr Key/IV values. No other Spool Organizer operations can be running while the **CHGDSKENC** command is executing. A quick estimate of the **CHKDSKENC** completion time is 4 times the amount of time it takes to save library **BDSDATA**. We recommend you back up library **BDSDATA** prior to running the **CHGDSKENC** command.

Note: the **CHGDSKENC** command will not affect Online Database entries that are already written to backup media (tape, ARCFILE, etc.).

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When Archived Online Database entries are written to backup media, their disk encryption mode is preserved. For example, encrypted Online Database entries will be encrypted on the tape. Once written to backup media, the entry's encryption mode cannot be changed. If archived spool entries are restored back to the Online Database, their encryption mode will be preserved. Once restored back into the Online Database, the spool entries can be encrypted/decrypted by the **CHGDSKENC** command.

The amount of CPU resources required for encryption can be significant. In a simple benchmark of a 2000 page report placed into the Online Database, the non-encrypted job took 57 seconds and used 0.5 seconds CPU. The encrypted job took 63 seconds and used 8 seconds CPU.

MIGRATING OPTICAL ENTRIES

The **MGROPTE** (Migrate Optical Entries) command is used to copy spool entries located on Optical Disks to a tape (or ARCFILE), or to the Online Database. A tape dataset or ARCFILE created by the MGROPTE command is in the same format as one created by the ARCOUQ or ARCOLE commands. If SpoolOrganizer Indexing is used, any Index records that point to Optical spool entries will be copied.

The MGROPTE command will first use user-specified values to build a list of directories containing SpoolOrganizer Archives. A directory is considered a SpoolOrganizer Archive if it contains a file BSOINDEX. The directory is skipped with no message if BSOINDEX is not found. Each specified directory is inspected. Directories with integrity errors can be skipped, or can cause migration to end with an escape message. After the directory list is built, each directory in the list is processed and its spool entries are written to tape, ARCFILE, or Online Database. Any integrity errors detected at this phase cause the migration to end with an escape message.

If spool entries are moved to tape or ARCFILE, Archive Catalog records can optionally be written. If the migrated spool entry has Indexing records in the SpoolOrganizer Indexing feature, new indexing records pointing to the migrated spool entry will be created.

The contents of the optical disks will not be modified. The contents of the Optical Catalog and Indexed Optical entries will not be modified. At a later date, the Optical Catalog should be purged if Optical Support will not be used. Refer to the PUROPTCAT command for more information.

Note: Directories that contain corrupt data can optionally be skipped, depending on the value of the ERROPT parameter. If skipped, a message will be placed in the Job Log and the job may finish normally. If the MIGOPTE command is executed in batch, the user should change the submitted job's logging parameter to LOG(4 00 *SECLVL) to insure a job log is generated when the job finishes. The user should inspect the joblog to verify all desired optical entries were migrated. Refer to the ERROPT parameter for more information.

The MGROPTE command has the following parameters:

Optical Volume Identifier (OPTVOL) Parameter

Specifies the Volume ID(s) of the Optical media to migrate from. Up to fifty (50) volumes can be entered. Each specified volume must be present in the Optical Library. Use the WRKOPTVOL command or GO OPTICAL menu to display optical volumes present in the Optical Library.

Optical Path (PATH) Parameter

Specifies the Path on the volume that contains the Archive. The specified path should contain the file BSOINDEX and files Sxxxxxxx.yyy, where xxx and yyy are numbers. Leading and trailing slashes are not needed. Do not specify the Volume as part of the path. Specify a path or one of the following::

***ROOT:** The root directory is used.

Include Subdirectories (SUBDIR) Parameter

Specifies if subdirectories in the specified Path are also migrated. Specify *YES or *NO.

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Note: To migrate the entire volume, specify PATH(*ROOT) and SUBDIR(*YES).

Device (DEV) Parameter

Specifies the backup device (Tape) to place the spool entries. Specify up to four devices, or one of the following:

***OLDB:** The spool entries will be migrated to the Online Database. If the spool entry already exists in the Online Database (the Sequence numbers match), it will not be migrated.

***ARCFILE:** The spool entries will be migrated to a special disk file. The file must be a physical sequential file with record length **4096**. Multiple members can exist. The file must exist.

Tape Volume Identifier (TAPVOL) Parameter

Specifies the volume **ID(s)** of the tape Media to use for the migration. Specify up to five volumes.

***MOUNTED:** The mounted volume will be used.

File Label on Tape (FILELABEL) Parameter

Specifies the tape file label to assign to the migrated spool entries.

***GENERATE:** Specifies that SpoolOrganizer is to assign a file name to the file. The generated name will begin with "BSO" and end with a 5-digit number (BSO00001, etc.).

Tape Sequence Number (SEQNBR) Parameter

Specifies the tape sequence number where the file will reside. This parameter is ignored for **ARCFILES**.

***END:** The archive file will be placed at the end of the tape.

End of Tape Option (ENDOPT) Parameter

Specifies the action the tape will perform after the migration is complete.

***REWIND:** The tape will rewind after the migration completes.

***LEAVE:** The tape will remain positioned after the migration completes.

***UNLOAD:** The tape will rewind and unload after the migration completes.

Update Archive Catalog (UPDARCCAT) Parameter

Specifies if a record of each migrated spool entry is placed into the Archive Catalog.

***OPT:** If a record of the migrated spool entry exists in the Optical Catalog, a record is placed into the Archive Catalog.

***YES:** A record of each migrated spool entry is placed into the Archive Catalog.

MIGRATING OPTICAL ENTRIES

***NO:** No records are placed into the Archive Catalog.

ARCFILE Name (ARCFILE) Parameter

Specifies the name of the **ARCFILE** to place the migrated spool entries into. The **ARCFILE** must exist. Specify a name and a library.

ARCFILE File Member (ARCMBR) Parameter

Specifies the member within the **ARCFILE** to place the migrated spool entries. If the member does not exist it will be created.

***FILE:** The member name will be the same as the file name.

***FIRST:** The first member defined will be used.

Existing Member Option for ARCFILE (MBROPT) Parameter

Specifies the action SpoolOrganizer will take if the member already exists.

***ERROR:** An error message is placed into the joblog and an escape message sent to the calling program. In normal situations you should specify **MBROPT(*ERROR)** on the **ARCOLE** command and specify **MBROPT(*REMOVE)** on the **ARCARCFDTA** command. This will insure that entries not written to tape are not lost.

***REPLACE:** The existing entries will be replaced with the new entries.

File Expiration Date (EXPDATE) Parameter

Specifies, for tape devices, the file expiration date placed on the tape dataset. This value will be checked by **OS/400** on future write operations to the tape. If a write operation is specified (**SAVLIB** command, etc.) which would overwrite a file which is not expired, **OS/400** will send a warning message to the **QSYSOPR** msgq. Enter a date or specify one of the following:

DATE: The file can be overwritten after the expiration date has passed.

***PERM:** The file is permanent. A future operation that writes over this label will receive a warning.

***NONE:** The file can be overwritten after it is closed.

Error Option (ERROPT) Parameter

Specifies the action to take if invalid data is encountered in the directory selection phase of processing. Please note that any errors found after the directory selection phase will cause the command to terminate abnormally. Any non-optical errors (tape errors, etc.) will cause the command to terminate abnormally. Enter one of the following:

***SKIP:** The Directory containing the error will be skipped. Depending on the location of the error, some spool entries contained in the skipped directory may be saved. See the note below for more

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information.

***STOP:** The migration will stop with the first optical data error during the Directory Selection phase. No spool entries will be migrated.

Note: The user should attempt to use the **DSPOPTE** command to display any corrupt directory. If the spool entry list can be displayed, the user may use option 7 to move the entries to the online database. To determine the spool joblog message. If the file causing the error is in the format Sxxxxxxx.yyy, the xxxxxx corresponds to the entry's place in the displayed list. To verify, place a 1 by the suspected entry. The **DSPOPTE** will fail at the first instance of data corruption. Once the corrupted entry is entry causing the error, look at the file specified in the identified, all others can be moved to the Online Database using option 7.

Archive date (ARCDATE) Parameter

Specifies the Archive Date to use when writing out the Archive File, and when writing Archive Catalog entries. This parameter is ignored if DEV(*OLDB) is specified.

***OPT:** The Archive Date contained in the first Optical directory processed is used for the Archive Date.

Note: If more than one directory is selected for processing, the first processed directory may be different than the first selected directory.

***CURRENT:** The current date is used for the Archive Date.

***archive-date:** Specify the date to be used as the Archive Date. The specified value must be in a valid date format. Refer to the system values QDATFMT and QDATSEP for proper formatting.

Archive time (ARCTIME) Parameter

Specifies the Archive Time placed on the tape and on the Archive Catalog entries. This parameter is ignored if DEV(*OLDB) is specified, or if ARCDATE(*CURRENT) or ARCDATE(*OPT) is specified. The specified value must be in a valid time format. Refer to the system value QTIMSEP for the proper time separator.

***archive-time:** Specify the time to be used as the Archive Time. The specified value must be in a valid time format. Refer to the system value QTIMSEP for the proper time separator.

Remove from Optical Catalog (RMVOCAT) Parameter

Specifies if migrated entries that are in the Optical Catalog will be removed from the Optical Catalog.

***NO:** The migrated entries will not be removed from the Optical Catalog.

***YES:** The migrated entries will be removed from the Optical Catalog.

Tape Library Considerations

If you are using an Automated Tape Library device such as the IBM System Storage TS3500 Tape Library, you can decide to process the tape using BRMS or without BRMS. BDS recommends you use BRMS if you have it.

Using BRMS

If you are using IBM's Backup, Recovery, and Media Services (BRMS) to manage your tapes, there are some procedures you must follow. Refer to the BRMS for I-Series manual (SC41-5345), chapter 17 "Tape I/O From A Program" for more information:

<http://publib.boulder.ibm.com/series/v5r2/ic2924/books/c4153453.pdf>

Simply, to use BRMS, you must issue the SETMEDBRM command prior to issuing Spool Organizer tape commands. For example:

```
SETMEDBRM ALWCNV(*NO) MEDCLS(ULTRIUM2) MOVPCY(OFFFULL) RET(*DAYS 1)  
ARCOLE ARCID(*ALL) DEV(TAPLIB1)
```

BRMS is a complex product with many options. You should discuss Spool Organizer's tape requirements with the person that maintains BRMS at your installation.

Also, when reading a tape using the Spool Organizer commands such as the DSPARCE command, you cannot use VOL(*MOUNTED). You must specify the volume.

Not Using BRMS

If you do not wish to manage tapes using BRMS, you must issue the following command prior to using VOL(*MOUNTED):

```
SETTAPCGY
```

Administrative Files Migration

Users may choose to manage Spool Organizer specifications on another system, then transfer the updated files to their production system. Although not encouraged or officially supported, there should be no problems doing this.

Use the chart below to determine the files to copy, given the desired function. Perform the following copy file command (or an equivalent) for each file. If notes are given in the chart, see below.

CPYF FROMFILE(YOURLIB/BSOXXX) TOFILE(BSDSDATA/BSOXXX) FROMMBR(BSOXXX)
TOMBR(BSOXXX) MBROPT(*REPLACE)

<u>OPTION</u>	<u>FILE(S) /LIBRARY</u>	<u>MEMBER</u>	<u>Notes</u>
DEFINE USERS	BSOUSR	*FILE	
DEFINE MONITORS	BSOMON	*FILE	
DEFINE MONITOR SELECTION CRITERIA	BSOSEL	*FILE	
DEFINE OUQ DISTRIBUTION TABLE	BSOOQD	*FILE	
DEFINE ARCHIVE/PURGE CRITERIA	BSOASEL	*FILE	
DEFINE BANNER PAGE SPECS	BSOBAN	*FILE	
DEFINE ATTRIBUTE CHANGE SPECS	BSOATR	*FILE	
DEFINE BUNDLE SPECS	BSOBDLH, BSOBDLE, BSOBDLX	ADMIN	1
DEFINE INDEX SPECS	BSOIXS	ADMIN	2
DEFINE E-MAIL SPECS	BSOEML	*FILE	
DEFINE EMAIL DISTRIBUTION TABLE	BSOEMD	*FILE	
DEFINE CSV/TSV SPECS	BSOESC	*FILE	
DEFINE PDF SPECS	BSOPDF	*FILE	
DEFINE HTML SPECS	BSOHTM	*FILE	
DEFINE ENCRYPTION SPECS	BSOENC	*FILE	
DEFINE MICROSOFT EXCEL SPECS	BSOXLS	*FILE	
DEFINE EXCEL STYLE SPECS	BSOSYL	*FILE	

Notes:

1) All files must be copied. After the copies are completed, run the apply command:

APYBDLCHG

2) After the file is copied, run the apply command:

APYIDXCHG

General:

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- a) *FILE is not a CPYF member option; it is shown for illustrative purposes.
- b) It is recommended to end all Monitors and the Bundle and Index Managers during a copy session. The IBM copy command does a clear operation that momentarily puts an exclusive lock on the file. Though not likely, the copy may fail or cause a Spool Organizer function to function check.
- c) It is highly recommended that the 2 systems be at the same Release, Mod and PTF level. Run the command BSOSSETUP on both systems to verify.

ASP Considerations

Spool Organizer supports Basic and Independent Auxiliary Storage Pools (ASPs, or Disk Pools). Spool Organizer supports multiple instances per LPAR. The administrator has several choices when deciding which ASP to install Spool Organizer product libraries. This appendix will describe the issues involved in moving Spool Organizer libraries to different ASPs, and installing multiple Spool Organizer instances in an LPAR.

The following containers make up the Spool Organizer product:

- Base Objects Library (**BDSBASE**) – Objects that must remain in the *SYSBAS IASP.
- Programs Library (**BRODERICK**) – Programming objects and temporary data.
- Data Library (**BDSDATA**) – User Data objects (files, etc.)
- IFS subdirectory **/BRODERICK/SPOR40** – Programming objects and temporary data.

The administrator should be familiar with ASPs before moving Spool Organizer libraries to different ASP locations or implementing multiple Spool Organizer instances. For more information on OS/400 ASP capabilities, visit the IBM Knowledge Center:

<https://www.ibm.com/support/knowledgecenter>

Use IBM's search function; search for "disk pools". There are also excellent IBM Redbooks available. Here is a list of some:

Independent ASPs A Guide to Moving Applications to IASPs	SG24-6802
IBM i 6.1 IASPs: A Guide to Quick Implementation of Independent ASPs	SG24-7811

Setup/System Considerations

When planning your ASP selection for your Spool Organizer installation, consider the following:

- Moving Spool Organizer objects to different ASPs is optional. The administrator should consider the advantages and disadvantages before moving. BDS recommends you don't move Spool Organizer product libraries unless you see a clear advantage to moving them.
- The IFS subdirectory **/BRODERICK** must remain in the *SYSBAS ASP's directory system. It cannot be moved to the IFS directory system in an Independent ASP. Multiple instances will share the one **/BRODERICK** IFS directory.
- Library **BDSBASE** must be in the *SYSBAS ASP (ASP 1 – 32). Multiple Spool Organizer instances, along with other BDS products, will share the one **BDSBASE** library.
- Libraries **BRODERICK** and **BDSDATA** can be in the *SYSBAS ASP or an Independent ASP.
- Libraries **BRODERICK** and **BDSDATA** must be in the same ASP Group. Either or both libraries

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can be in *SYSBAS (ASP 1 – 32). One library can be in *SYSBAS and the other can be in an IASP. Both libraries can be in the same IASP. The libraries can be in different ASP Devices within an IASP. For example library **BRODERICK** can be in the primary ASP Device and **BDSDATA** can be in one of the secondary ASP Devices attached to that primary.

You cannot put an instance's libraries **BRODERICK** and **BDSDATA** into two different IASPs. For example, you cannot put an instance's library **BRODERICK** in **IASP1** and **BDSDATA** in **IASP2**. You can, however, put **BRODERICK** in *SYSBAS and **BDSDATA** in **IASP1**, or visa-versa.

- Check application ASP needs. Please note that the ASP Group setting allows only one non-*SYSBAS IASP to be accessed at a time by a user job. Consider a user application that writes reports to an outq in an IASP. If Spool Organizer libraries are in a different IASP, Spool Organizer tasks such as Monitors will not be able to access the outq or its spool entries. This includes Spool Organizer tasks that access spool entries via Job Name/File Name attributes, such as the EMLSPLE command. Only objects and spool entries that reside within the same ASP Group as Spool Organizer can be accessed by Spool Organizer. Also consider that some Spool Organizer functions (i.e. **ARCOUTQ**, **ARCOLE**) can output into a save file. The save file cannot be in a different ASP Group than the Spool Organizer instance's.
- ASP IPL startup delay. Some ASP devices may not automatically vary on during IPL. Even if the devices do automatically vary on during IPL, the time it takes for the ASP devices to become AVAILABLE can be significant, and libraries on the ASPs are not accessible until the ASP is available. If you place Spool Organizer product libraries on ASPs other than ASP 1, you should modify your startup procedures to account for this delay. For example your IPL startup stream should submit a job to start Spool Organizer processes instead of starting them directly. It should test for the existence of library **BRODERICK** or **BDSDATA** (the tested lib should be in an ASP), and delay/loop until the lib is found. Then issue Spool Organizer STRxxx commands.
- Entire System Save. The IBM Save All function (option 21) does not save the contents of IASPs. An instance's libraries **BRODERICK** and **BDSDATA** that exists on an IASP must be saved after the Save All function completes.

Operational Considerations

When running Spool Organizer commands, consider the following:

- Set the ASP Group before running Spool Organizer commands. There are several different ways to do this, including:
 - The IBM SETASPGRP command.
 - User Profile (via Job Description).
 - Submit Job Command
 - Job Description

ASP Considerations

Note: Do not modify the ASP Group parameters in BDS-supplied objects.

- Spool Organizer asynchronous jobs (Monitors, Bundle Manager, etc.) will retain the ASP Group that was active when the start command was issued. Any jobs submitted by the task will also retain the same ASP Group.
- To determine the ASP Group of a Spool Organizer asynchronous job (or any job), run the WRKACTJOB command and display the job (option 5). Take option 2 (Display job definition attributes).

HTTP Server Considerations

To support ASPs in the Spool Organizer Web Browser Interface using IBM Apache HTTP server, a couple of simple changes to the HTTP configuration are required. Refer to Appendix F, “Web Browser Considerations” while using this section.

In the configuration file, any references to CGI programs running in library **BRODERICK** must be qualified by prefixing the ASP Group containing library **BRODERICK**. These references are identified by the prefix /QSYS.LIB and should be changed to, for example, /IASP1/QSYS.LIB ... In the example configuration file in Appendix F, the lines 34, 43 and 44 need to be changed. Please note that you probably do not need to change references to the IFS root directory (/BRODERICK/SPOR40), unless you have set up your web application in a special way.

If multiple Spool Organizer instances are wanted, multiple HTTP server instances must be configured. Each HTTP instance’s configuration file should be changed to reflect the ASP Group containing the corresponding Spool Organizer’s library **BRODERICK**.

Moving Product Libraries to other ASPs

To move a Spool Organizer instance’s library to another ASP, be aware of the operational considerations listed above. Also, be aware of the following:

- All BDS products within the library(s) are moved during the move operations.
- You can save and restore multiple libraries of an instance with one **SAVLIB** or **RSTLIB** command in some circumstances. For example you can move libraries **BRODERICK** and **BSDATA** from ASP 1 to IASP MYIASP with one **SAVLIB** and one **RSTLIB** command.

The procedure to move the Spool Organizer library(s) is as follows:

- Stop all operations in that instance for all BDS products.

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- Back up the library.
- Remove the library from all active jobs' library lists.
- Perform the following operations on the library: SAVLIB, DLTLIB, RSTLIB.
- Restart BDS product operations.

You can also use the **BDSMOVLIB** command, which automates the Save/Delete/Restore operations for you, and performs some checking/verification. See the “BDS Move Lib Utility” below for more information.

BDS Move Lib Utility

The **BDSMOVLIB** command will move Broderick Data Systems product libraries to another ASP. The Pgm objects library (**BRODERICK**), Data objects library (**BDSDATA**), the Base objects library (**BDSBASE**), or any combination can be moved. All Broderick Data Systems functions must be stopped. No object locks can be on any moved library, including the lock that occurs when the library is in a job's library list. The user should verify no job is locking the intended Libraries by using the **WRKOBJLCK** command. It is recommended that QSECOFR, or a user profile with *SECADM authority perform this command.

In order to move libraries, **SAVLIB** and **RSTLIB** commands are performed. The intermediate save media can be a save file or magnetic tapes (including virtual tape devices). It is recommended to use the Save File option unless disk space is a concern.

The **BDSMOVLIB** command and its associated objects reside in library **BRODERICK**. If you wish to move **BRODERICK**, you will need to make a copy of the following objects in another library (i.e. MYLIB), add that library to your library list (and remove **BRODERICK**) and run the **BDSMOVLIB** command from the new library:

BDSMOVLIB	*CMD
BDS13	*PGM
BDSHELP	*PNLGRP

Following is the screen and parameters of the **BDSMOVLIB** command.

ASP Considerations

```

Move BDS Libs to other ASPs (BDSMOVLIB)

Type choices, press Enter.

Device . . . . . *SAVF _____ Name, *SAVF
      + for more values _____
Volume Identifier . . . . . *MOUNTED _____ Character value, *MOUNTED
      + for more values _____
Base Lib (BDSBASE) ASP Number . *SYS _____ 1-32, *SYS, *NOMOVE
Pgm Lib (BRODERICK) ASP Number . *SYS _____ 1-32, *SYS, *NOMOVE
Pgm Lib (BRODERICK) ASP Device . *SYSBAS _____ Name, *SYSBAS
Data Lib (BRODERICK) ASP Number . *SYS _____ 1-32, *SYS, *NOMOVE
Data Lib (BDSDATA) ASP Device . *SYSBAS _____ Name, *SYSBAS
SAVF for lib objs in transit . . BDSTSAVF _____ Name, *LIBL
                               QTEMP _____ *YES, *NO

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

Device (DEV) Parameter

Specifies the name of the device used to hold objects in transit during the move operations. Specify up to four devices. The device name must exist on the system.

Note: During the move operations, the specified media contains a full SAVLIB instance of the library being moved. In the event of a failure during the restore phase of the move, the specified media may be used to manually move the library. For this reason, if the **BDSMOVLIB** command is submitted to batch and DEV(*SAVF) is specified, a library other than **QTEMP** should be considered.

The possible values are:

***SAVF:** The move operation is done using the save file specified by the SAVF for lib objs in transit.

device-name: Specify the name of the tape device(s) used for the move operation. Specify up to 4 devices.

Volume Identifier (VOL) Parameter

Specifies, for tape devices, the Volume(s) to check for.

The possible values are:

***MOUNTED:** No volume-id checking is performed. The mounted volume is used.

volume-id: Specify the name of the volumes(s) to be checked for during the move operation.

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Specify up to 5 volumes.

Note: If a library's data is expected to continue onto more than one tape, it is recommended to specify the actual volume IDs instead of *MOUNTED.

Base Lib (BDSBASE) ASP Number (BASASP) Parameter

Specifies the destination ASP Number for the Base objects library (BDSBASE). This value must be different than the Base Lib's existing ASP number.

The possible values are:

***SYS:** The System ASP (ASP = 1) is the destination ASP.

***NOMOVE:** The Base objects Lib is not moved.

number: Specify the destination User ASP number, from 1 to 32.

Pgms Lib (BRODERICK) ASP Number (PGMASP) Parameter

Specifies the destination ASP Number for the Pgm objects library (BRODERICK). Use this parameter instead of the PGMASPDEV parameter if you wish to specify a Basic ASP (1 - 32). This value must be different than the Pgm Lib's existing ASP number.

The possible values are:

***SYS:** The System ASP (ASP = 1) is the destination ASP.

***NOMOVE:** The Pgm objects Lib is not moved.

number: Specify the destination User ASP number, from 1 to 32.

Pgms Lib (BRODERICK) ASP Device (PGMASPDEV) Parameter

Specifies the destination ASP Device for the Pgm objects library (BRODERICK). Use this parameter instead of the PGMASP parameter if you wish to specify an Independent ASP (33 - 256).

The possible values are:

***SYSBAS:** The value specified in the ASP Number parameter (PGMASP) is used.

name: Specify the ASP Device name. This name must exist and must be in an AVAILABLE status.

Data Lib (BDSDATA) ASP Number (DTAASP) Parameter

Specifies the destination ASP Number for the Data objects library (BDSDATA). Use this parameter instead of the DTAASPDEV parameter if you wish to specify a Basic ASP (1 - 32). This value must be different than the Data Lib's existing ASP number.

ASP Considerations

The possible values are:

***SYS:** The System ASP (ASP = 1) is the destination ASP.

***NOMOVE:** The Data objects Lib is not moved.

number: Specify the destination User ASP number, from 1 to 32.

Data Lib (BDSDATA) ASP Device (DTAASPDEV) Parameter

Specifies the destination ASP Device for the Data objects library (BDSDATA). Use this parameter instead of the DTAASP parameter if you wish to specify an Independent ASP (33 - 256).

The possible values are:

***SYSBAS:** The value specified in the ASP Number parameter (DTAASP) is used.

name: Specify the ASP Device name. This name must exist and must be in an AVAILABLE status.

SAVE for lib objs in transit (SAVF) Parameter

Specifies the name and library of the save file that contains the objects in transit during move operations.

The possible values are:

BDSTSAVF: File BDSTSAVF will be used.

save-file-name: Specify the name of the save file to use when performing the move operations. If the save file does not exist, it will be created.

The possible Library values are:

QTEMP: The library QTEMP is used to locate the save file.

library-name: Specify the name of the library to be searched.

Running Multiple Spool Organizer Instances in an LPAR

Multiple instances of Spool Organizer can run within an LPAR. Each instance runs independently, though some objects are shared by all instances, including:

- Library **BDSBASE** and its objects
 - Subsystem BDS and its subcomponents.
 - The BDS User profile coordinator (BDSUSRPRF).

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- IFS subdirectory **/BRODERICK/SPOR40**

All instances can be active and running at the same time. Each instance must contain a copy of libraries **BRODERICK** and **BDSDATA** in its own unique IASP.

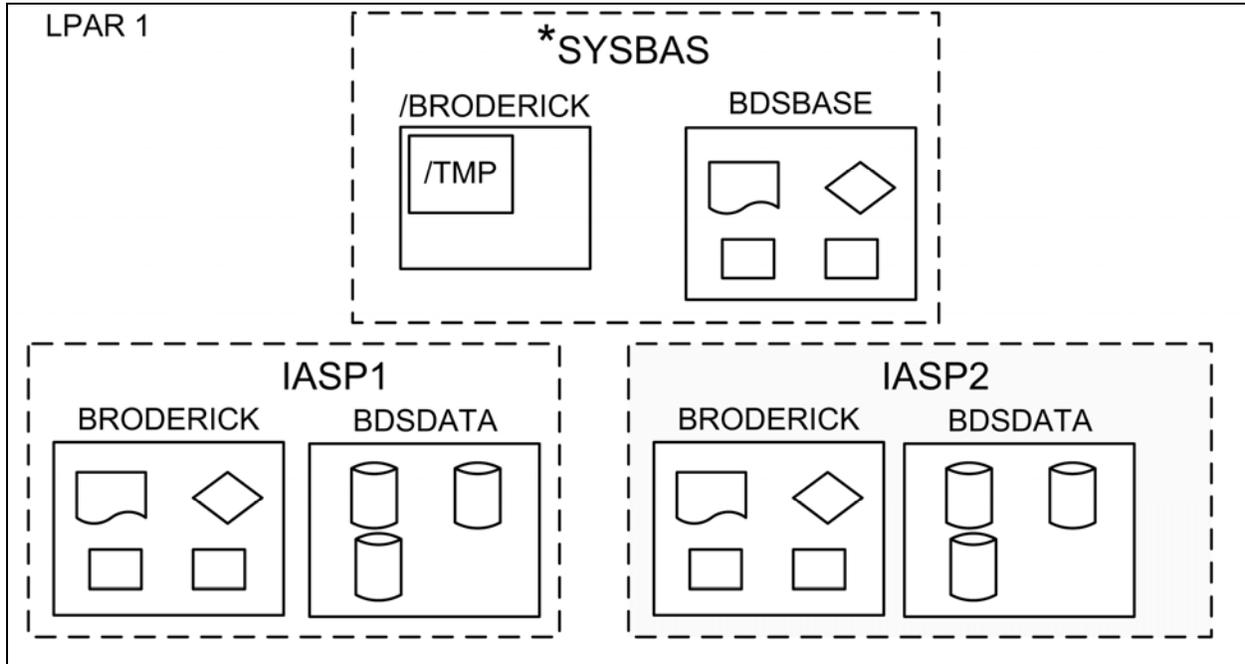


Figure 1-1: Multiple Spool Organizer Instances

When running multiple Spool Organizer instances, consider the following:

- Libraries **BRODERICK** and **BDSDATA** cannot reside in ***SYSBASE**. See “Moving Product Libraries to other ASPs” in this appendix for more information on moving libraries **BRODERICK** and **BDSDATA** to an IASP.
- Library **BDSBASE** must remain in the ***SYSBAS** IASP, ASP (1 – 32).
- The IFS subdirectory **/BRODERICK** must remain in the ***SYSBAS** IASP’s directory space.
- You must install and update each instance separately. For example, if you have Spool Organizer instances installed in IASPs IASP1 and IASP2, you must run the update procedure twice.
- To update or install an instance of Spool Organizer, all instances in the LPAR must be stopped.
- For each instance, libraries **BRODERICK** and **BDSDATA** must be backed up and restored as a separate entity. For example if you have 2 instances, you must back up both instances of libraries **BRODERICK** and **BDSDATA** in order to be able to recover data if needed.

ASP Considerations

Note: You can restore an instance's **BRODERICK** and **BDSDATA** libraries into another IASP to create another instance.

- If you are Mirroring our product, each instance must be mirrored as a separate entity. Please note that we recommend mirroring libraries **BDSBASE** and **BRODERICK** but it is not a requirement. You must, however, mirror ALL objects in **BDSDATA** in order for a recovery to be successful.
- Monitor names should be unique across the LPAR. For example you cannot have a monitor named MON1 in 2 different instances within the same LPAR running at the same time.

To work with an instance of Spool Organizer, you simply set your job's ASP Group. For example:

```
SETASPGRP IASP1  
STRSOMON MON1  
SETASPGRP IASP2  
STRSOMON MON2
```

Release Compatibility Table

This chapter describes the procedures to determine if the new release of Spool Organizer is compatible with existing instances of BDS software that are installed on this LPAR. To determine the existing software's release, run the corresponding command for each/all instances of BDS software installed on this LPAR.

<u>Product</u>	<u>Command</u>
Spool Organizer/400	BRODERICK/BSOSETUP
Remote SpoolPrint/400	BRODERICK/BRSPLESETUP
FileXfer/400	BRODERICK/BXFERSETUP
E-mail Utilities/400	BRODERICK/BEMSETUP
Spool PDF Overlay/400	BRODERICK/BOVSETUP

Note: If needed, set the ASP Group to the proper value (**SETASPGRP**) if needed before running the above commands.

The following table shows the other products' oldest release that is compatible with the new release of Spool Organizer/400:

<u>Product</u>	<u>Release</u>
Spool Organizer/400	5.7 0000
Remote SpoolPrint/400	6.2 0000
FileXfer/400	5.2 0000
E-mail Utilities/400	1.0 0000
Spool PDF Overlay/400	1.2 2001

Any installed BDS instance with a release that is earlier than the above values is not compatible with the new release and must be updated at the same time this Spool Organizer instance is updated. Failure to update non-compatible BDS software instances could cause other BDS software to stop working after this Spool Organizer install/update is performed.

You can update the BDS software instances in any order.

For example, if the **BRODERICK/BRSPLESETUP** command shows that Remote Spool Print 6.1 1701 is installed on this LPAR, it must be updated along with updating Spool Organizer.