SPERRY

RELEASE DOCUMENTATION

Product: SPERRY Operating System/3 (OS/3)

PAGE STATUS SUMMARY

ISSUE: UP–11902.2

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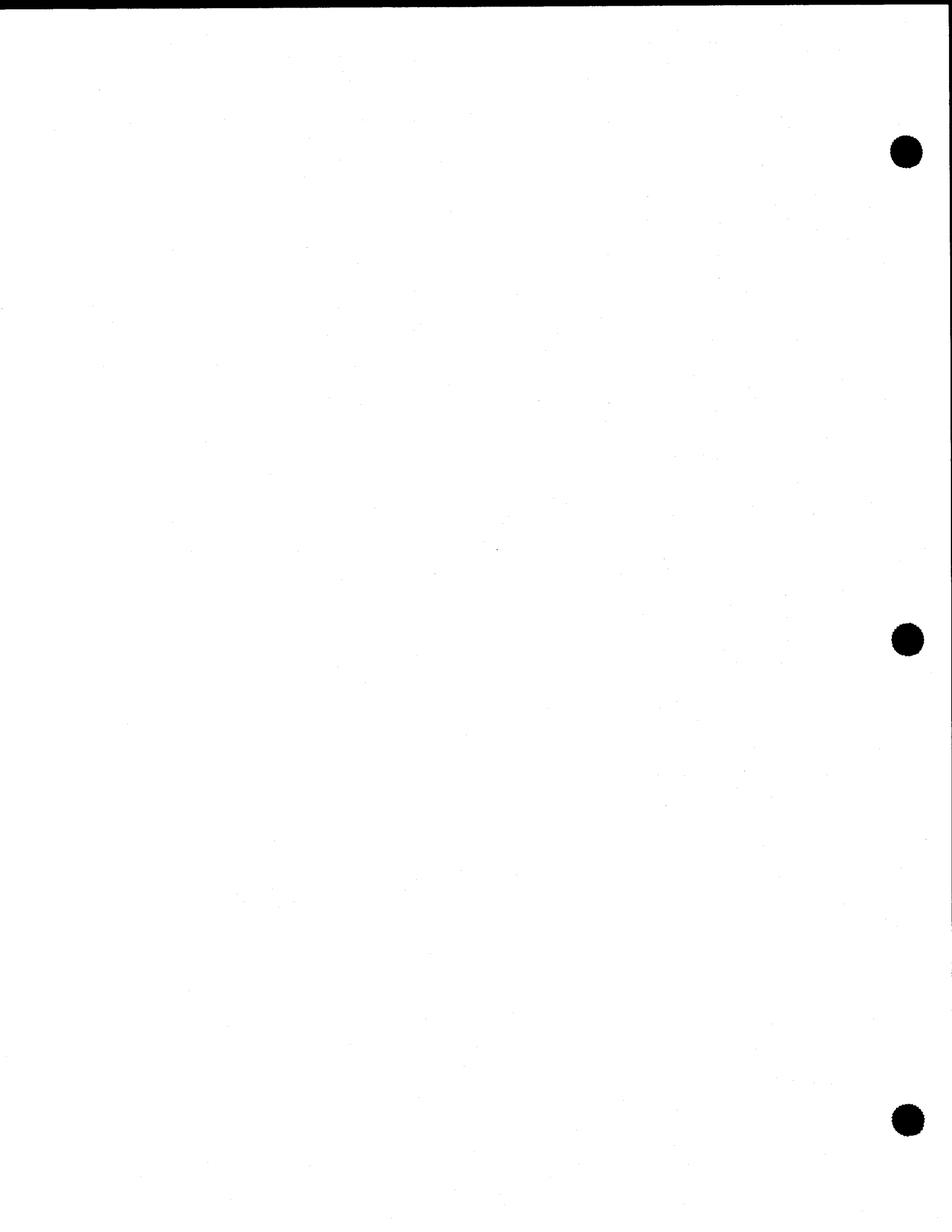
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1. RELEASE INFORMATION

TABLES

1. Release Information

1.1. RELEASE DESCRIPTION

Operating System/3 (OS/3) Release 10.0 includes functional enhancements for
all System 80 models.

In this system release description (SRD), there are guidelines carried over
from releases prior to 10.0. These guidelines are identified in the
left-hand margin as follows:

    C   Means a carryover from previous releases.

    NOTE: System 80 Model 8 is under Plateau Control. To install OS/3
            release 10.0 on Model 8, you must be at plateau level 5 or
            beyond. System 80 Models 3 through 6 are not affected. Refer to
            4.2 to determine the plateau level of the system.

1.1.1. Release Identification

Library System: SPERRY Operating System/3 (OS/3)
Release Number: 10.0
Acronym: OS/3 10.0
SUR Library No.:   10.0
Release Media: The release system may be ordered for delivery on OS/3
                  tapes, disk packs, or diskettes as follows:

    o System 80 Models 3 through 6

        - 8420/8422 diskettes

          In stand-alone dump/restore format for 8417
          integrated disks with or without the fixed head
          option

        - 8419 disks

          In SYSRES format

        - SCS tape and program product diskettes

          System control software (SCS) on tape in
          dump/restore format for 8419 disks or 8417
          integrated disks with or without the fixed head
          option

          Program products on diskette.

o System 80 Model 8

- 8420/8422 diskettes

  In stand-alone dump/restore format for 8417
  integrated disks without fixed head option and in
  stand-alone dump/restore format for 8470 disks

- 8419 disks

  In SYSRES format

- 8430 disks

  In SYSRES format

- 8433 disks

  In SYSRES format

- 8418-II disks double density

  In SYSRES format

- SCS tape and program product diskettes

  System control software (SCS) on tape in
  dump/restore format for 8417, 8418, 8419, 8430,
  8433, or 8470 disks

  Program products on diskette.

1.1.2. Release Content

1.1.2.1. Release 10.0 Enhancements

The following subsections briefly describe the enhancements contained in
Release 10.0. These enhancements apply to all System 80 models except as
noted.

1.1.2.1.1. COBOL Reentrant IMS Action Programs

The COBL74 compiler generates object programs that are configured as
reentrant IMS action programs or subprograms.

1.1.2.1.2. COBOL - Message Deletion and Program-id Display

The CC20 message is no longer displayed and the CC21 message now includes a
1- to 6-character program-id as follows:

    CC21 COMPILATION COMPLETED WITH nnn SERIOUS ERRORS ID=program-id

Previously, the OS/3 COBL74 compiler displayed the following messages on the
log file and input device:

    CC20 COMPILATION INITIATED FOR VERSION 09.00
    CC21 COMPILATION COMPLETED WITH nnn SERIOUS ERRORS

1.1.2.1.3. PC Online Transfer (OLTRAN)

OLTRAN is a new program product that interfaces with the SPERRY Personal
Computer (PC) OLTRAN program product and allows you to transfer OS/3 MIRAM
files and SAT library files to and from PC ASCII data files.

1.1.2.1.4. PC Online Extract

PC online extract is a program that allows you to use PC, configured as an
OS/3 workstation or terminal, to copy MAPPER 5 reports between the MAPPER 5
system and the PC. Requires that the ICAM MAP5RDH remote device handler be
installed.

1.1.2.1.5. OS/3 to UNIX* O/S Connectivity

Terminals connected to the SPERRY 5000/7000 family of UNIX O/S can
attach to an OS/3 system through the programmable communications controller.
This permits the end user to sign on to interactive services, IMS, or a
user-written communications user program (CUP).

1.1.2.1.6. UNIX O/S RBP Support

UNIX O/S can initiate an OS/3 job stream through the 2780 Emulator and print
output on the printer connected to UNIX O/S.

1.1.2.1.7. OS/3 to MAPPER 5 System Connectivity

A new ICAM parameter for the DEVICE operand of the LINE macroinstruction,
MAP5RDH, allows an OS/3 local workstation or terminal user to access a
MAPPER 5 system in a pass-through mode.

1.1.2.1.8. Security Maintenance Utility

o Logon

   Prevents users from logging on except within a time/date range or after a
   specified date

o Passwords

     - Allow users to change their passwords at logon

     - Require passwords at logon through a new SYSGEN parameter

     - Suppress passwords on job control listings

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   * UNIX is a trademark of AT&T Bell Laboratories.

o Profiles

- Restrict individual user access to the system and allow users to enter some, all, or no system commands from their workstations or jobs

- A new type of profile, the command profile, allows the system administrator to specify those system commands that users can enter from their workstations or from jobs.

- Display or modify user, execution, and command profiles

o Function Termination

Terminate a function during an SMU dialog and return to the home screen to select another function.

1.1.2.1.9. IMS - Security

If your system is configured with security, a user-id must be entered with the JI transaction code or when utilizing the RUN function.

1.1.2.1.10. Screen Format Services

o Text Translation

- Translate alphabetic text within screen formats to uppercase letters before it is spooled.

- Define lowercase to uppercase input translation at the field level.

1.1.2.1.11. Spooling

o Output Writer

A new parameter in the BE SPL command, OUT=NO, allows you to specify that the output writer is not called.

o Deletion of Spool Files

A new message requiring a response prevents automatic deletion of spool files by the DE SPL command.

o Spooling Criteria

Use the job number as a spooling criteria.

o Available Spool File Space

The DI SPL,STA command displays the percentage of spool file space still available.

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o Input Reader File

   LBL of input reader file is included in the DI SPL command summary
   display.

1.1.2.1.12.   Console Audible Alarm

A new SYSGEN parameter, CONALARM, causes an audible alarm to sound when the
system delivers an action or reply message to the system console.

1.1.2.1.13.   ICAM Slow Polling Specification

A new operand in the TERM macroinstruction, SPR, permits you to specify a
slow polling increment for UNISCOPE devices in each poll group.

1.1.2.1.14.   ICAM - Screen Erase Prior to Abort

The screen is erased before the SESSION PATH ABORTED message is displayed.

1.1.2.1.15.   Console Handler Modification

Removes the console handler roll/scroll I/O from the supervisor overlay
area. This allows the system to continue processing while the operator
enters data at the console (Model 8 only).

1.1.2.1.16.   Data Management Space Allocation

For basic and consolidated data management, changes the algorithm used to
logically allocate space to the data and index partitions of an IRAM or
MIRAM file.

1.1.2.1.17.   Data Management Recovery

A new SYSGEN parameter for basic and consolidated data management,
DMRECV=YES, allows you to create all IRAM and MIRAM files with the recovery
option. // DD RECV=NO can be specified for those files where the recovery
option is not desired.

1.1.2.1.18.   Data Management Debug Option

A new debugging aid, the SE DE,DM console command, allows you to obtain a
system dump when an unexpected data management error occurs. It is not
necessary to IPL with the D (debug) supervisor load option to use this
facility.

1.1.2.1.19.   Data Management Restoring of Initialized Files

A new // DD job control statement parameter for basic and consolidated data
management, RESTORE=n, allows you to restore a file that was accidently
initialized.

1.1.2.1.20. Disk Cache

o Selective Caching

   A new SYSGEN parameter, CACHE, allows you to specify whether a PUB is
   cached.

o Overriding Default Cache Buffer Size

   Override the default cache buffer size by specifying the new size with
   the SIZ=n parameter on the CM command.

o Overriding Default Cache Segment Size

   Override the default cache segment size through the new SYSGEN parameter,
   CACHESEGSIZE=n, or by specifying a new size with the SEG=n parameter on
   the CM command.

o Cache Statistics

   Cache statistics include the number of read requests and hit rates
   (Model 8).

o Search/Read Command

   Search/Read greater than or equal command is supported for all disk
   types.

1.1.2.1.21. VTOC Verification Routine

o The VTOC verification routine performs a thorough analysis of a volume
   table of contents (VTOC) by looking for any inconsistencies between the
   labels. When an inconsistency is detected, a message is displayed
   providing the details on the error. When there are no inconsistencies,
   you are informed that the volume is verified.

o A new SYSGEN parameter, VVAVR, indicates whether to perform automatic
   VTOC verification at AVR time. Also, a console command, SET VV, allows
   you to dynamically change the SYSGEN setting.

1.1.2.1.22. JOBDUMP and SYSDUMP

o JOBDUMP

   JOBDUMP creates a dump file that is proportional to the size of the job
   being dumped, reducing the amount of space required for the dump file.

o SYSDUMP

-   Through the PSYSDUMP specification on the OPTION job control
    statement, you can force SYSDUMP to initiate a new job when SYSDUMP is
    initiated by a program error instead of overlaying the user program.

-   MINI option on SYSDUMP supports additional HPR and system error codes.

-   SELECT option on SYSDUMP includes a new parameter, DISPLAY, that
    displays main storage regions from the dump file on the terminal.

1.1.2.1.23. RPG II – Field Blanking

Use *BLANK as a special name in the MOVE statement to blank a field. This is
compatible with IBM[†] System/34 RPG language.

1.1.2.1.24. RPG II – Closing and Freeing the Source Library during Compilation

When the compiler finishes reading a source program from the library, RPG II
closes and frees the source library. Previously, this did not occur until
the end of the compile process.

1.1.2.1.25. IMS – Suppressing TOMFILE Processing with Warm Restart

IMS multithread allows WARM restart without TOMFILE processing.

1.1.2.1.26. IPL Performance

o YSHR File

The YSHR file is preformatted using track size writes for all
sectorized devices.

o Supervisor Load Option

A new load option, Q (for QUICK), is included for the supervisor. Q
specifies the quick load option that should normally be used because
IPL will be significantly faster.

1.1.2.1.27. DMS

o Data Dictionary Unload/Reload Utility

Enables the data base administrator to increase or decrease the number
of data base pages allocated to the data dictionary without repeating all
the DDL compiles.

[†] Trademark of International Business Machines

o DDL Delete JCL

   A set of three utility job streams enables the data base administrator to
   delete selected schemas, subschemas and DMCLs from the data dictionary.

o Index Any Location Mode

   Indexes, originally available only with the indexed location mode, may
   now also be applied to records of calc, via or direct location modes.
   This allows greater flexibility in programming strategies for data base
   access.

o Compiler Performance Enhancements

   Improves the performance of the schema, subschema, and DMLP compilers for
   large schemas and programs.

o Longer Data Item Names

   Data item names in the schema may now be up to 30 characters long. This
   corresponds with standard COBOL data item names.

o RANGE Option for Sorted Sets

   The RANGE option for sorted sets allows use of the format 6 FIND/FETCH
   verb to retrieve the next higher or lower record when a record with the
   exact key does not exist.

o Improved Readability of Record Definitions

   DMLP indents the record definitions, which it copies into the DML
   program, by level number for better readability.

o Subschema Constraints Removal

   The subschema constraints are relaxed for the DELETE ONLY verb. It is no
   longer necessary to include every record and set in the subschema which
   would be necessary for a DELETE ALL.

o Mixed DML and COBOL Statements

   DML and COBOL statements may be mixed within one COBOL sentence. Each DML
   statement must be on a separate line, but does not have to terminate with
   a period. This allows the DML programmer to adopt a more structural
   style. This enhancement applies to COBL74 only.

o DMLP Copy Facility

   The DML preprocessor now accepts copy modules containing DML verbs.

o Fetch and Keep Exclusive

   The new EXCLUSIVE and KEEP EXCLUSIVE forms of the FIND/FETCH and KEEP
   verbs enable the applications programmer to gain exclusive use of a
   record at the time it is retrieved. This prevents record update conflicts
   which can occur with some application data base designs in a multi-thread
   environment.

o Fetch and Keep Conditional

   The new CONDITIONAL form of the FIND/FETCH verb enables the application
   programmer to re-gain control immediately when the requested record is
   not available (instead of waiting for the record wait time to expire).
   In addition, a minor error is returned rather than a fatal thread
   cancellation error. This enhancement is especially useful to the
   programmer of interactive, on-line application programs since he or she
   can now code the program to immediately alert the terminal operator that
   the specified function cannot be performed at the present time.

o Display of Compromised Page

   The DBPAG utility prints a compromised data base page instead of
   terminating with an error message. This allows analysis of hardware or
   software problems suspected of causing the page compromises. In some
   situations, DBPAG also allows immediate correction of the damage without
   reinitializing the page.

o Allow More than Five Index Keys per Record

   The maximum number of index keys per record is increased from 5 to 32.
   This is applicable to all location modes.

o Safety Check Removal

   Removes the safety check that allowed a modify only after a FETCH or
   STORE verb.

o More Complete Control Over Internal Lock Space

   The ABSOLUTE option has been added to the ALLOCATE LOCKS statement in the
   DBMS start-up to allow more complete control over the internal lock
   space allocated by the DBMS.

o ELSE Clause for DML IF Statement

   Adds ELSE clause to the DML IF statement (for COBL74 only).

o HPR Debugging Command

   The DMS HPR debugging command has been added to the DBMS.

1.1.2.1.28. High-Speed Communications - 19.2 Kilobyte UNISCOPE Device
             Protocol

SLCA-3 microcode (UNI3A1) is provided that allows an SVT 1120, a UTS/4000
cluster controller, or a MAPPER 5 system to connect to a System 80 using a
19.2 kilobyte transfer rate.

1.1.2.1.29. SVT 1120 Support

The SVT 1120 may be generated as a UTS/20 or UTS/40 terminal. If generated
as a UTS/20 terminal, fields can be displayed with off intensity (typically
used for passwords). If generated as a UTS/40 terminal, fields can be
displayed with off intensity, reverse video, or underline.

1.1.2.1.30. Job Step Processor - User Specified Execution Priority

A new SYSGEN parameter, EXECPRI, allows a user to specify job step execution
priority. If the execution priority is not specified, the job step processor
will use the value specified in the EXECPRI SYSGEN parameter. The lowest
possible execution priority is the default for the EXECPRI parameter.

1.1.2.1.31. Data Utilities - Hexadecimal Search Arguments

Data utilities now allows you to specify hexadecimal characters as your
search argument in select and delete statements.

1.1.2.2. Software Categories

OS/3 is Category I software; products within OS/3 can be Category
I, II, or III.

Definitions of the software support categories are:

o Category I software receives the full technical and operational support
   of the developing organization involved, unless otherwise specified in
   the product software description. Support includes: responses to requests
   for change (RFC), technical questions (TQ), and user group
   recommendations; corrections to reported problems; and issuance of
   periodic stability updates. Enhancements that may be made to the software
   program will be issued in a revision level.

o Category II software receives limited support by Information Systems
   Group. Support is limited to providing corrections to reported critical
   problems. The issuance of periodic stability updates is at the option of
   the developing organization.

o Category III software receives no Information Systems Group support.
   This software generally originates from three sources:

   1. User-developed software

   2. Software development tools

   3. Discontinued category I and category II software

o Category TPS (third party supported) software receives support directly
   from a third party. The third party defines support duration, content,
   conditions, and charges as applicable. Support by or through Sperry is
   not available. Sperry does not control the duration, content, or results
   of the third party support.

1.1.2.3. Lifted Restrictions in Release 10.0

There are no restrictions lifted in Release 10.0.

1.2. RELEASE-TO-RELEASE COMPATIBILITY

The following is a general statement regarding compatibility between major
releases. It applies unless superseded by specific restrictions documented
in the SRD.

> Upward compatibility is supported between consecutive major releases
> (e.g., 9.0 with 10.0). This support extends to data files, library
> files, job control streams, and programs compiled on the earlier
> release. For System 80 Model 8, object code compatibility between
> release 6.1.2 and release 10.0 is supported for Series 90 migration to
> the Model 8. Product releases that occur between major releases will be
> upward compatible with the next major release.
>
> Backward compatibility is restricted to those functions supported on
> both releases.
>
> Backward compatibility between consecutive releases is generally
> provided for data files and library files where functions being used are
> provided on both releases.
>
> The most current release supports interfaces of programs from the
> previous system, but the previous system does not necessarily support
> interfaces of programs from a more current OS/3 Operating System.
> Programs compiled on the most current release of the operating system
> may not be executable on a previous release.

1.3. ASSEMBLER LIMITED CONDITIONS OF USE

For separately priced contracts, this condition applies regarding use of the
assembler:

> The assembler is required for system software generation. For this
> restricted use, the assembler is provided at no charge as part of SCS.
> Should the customer require use of the assembler for a purpose beyond
> this restriction, he is obligated to execute an agreement for the program
> product assembler (type number 6233-00) at the prevailing price.

1.4. REQUEST PROCEDURE

The entire release, including source code, source information, and object
code, is SPERRY proprietary software. The proprietary agreement must be
signed before object media is sent to the requesting site.

Separately priced products are proprietary program products of Sperry
Corporation. Program products are licensed to you for a separate charge,
including both applications and systems support software.

1.5. ORDERING PROCEDURE

Software described in release documents can be obtained by completing and
forwarding the request form that accompanies each system release
announcement. Mail requests to either the local Sperry branch office or
directly to Software Order Services:

    Sperry Corporation
    Software Order Services
    Township Line & Union Meeting Roads
    P.O. Box 500
    Blue Bell, PA   19424-0013

Note that the request form requires users to send the proper media (disks,
diskettes, or magnetic tape) along with the order form. If desired, users
may elect to receive the release on diskettes or magnetic tape provided by
Sperry; in this case, a standard fee will be charged for the media.

If the request is made directly to Software Order Services, forward a copy
of the request form to the local Sperry branch office.

Orders for separately priced products are made via special order with proper
approval. When ordering these products, make certain requests contain the
appropriate type number for the items. Direct questions about ordering these
products to the local branch office.

    NOTE: This ordering procedure applies only to U.S. customers. Users
            outside the United States should check with their local Sperry
            subsidiary office for distribution procedures.

1.6. ERROR REPORTING PROCEDURE

Users discovering errors or deficiencies in software being released
must contact the Sperry Support Center to get a System User Report (SUR)
authorization number. A SUR should then be submitted on Form UD1-745,
Rev. 6-85, describing the problem encountered. SURs must be accompanied by
appropriate documentation, such as main storage printouts, system console
printouts, program listings, and an SMC listing. For language processors, a
copy of the source program and data must be supplied on cards or tape
together with complete JCL. SURs should also include the release number,
along with any additional information that might aid error analysis.

SURs should be sent to:

    Sperry Corporation
    Development Support
    Township Line & Union Meeting Roads
    P.O. Box 500
    Blue Bell, Pa. USA   19424-0013
    Attn: SUR Coordinator, E2-152

Users discovering any new techniques or considerations when using system
software are encouraged to forward this information directly to Sperry
at this address. The information will then be sent to all users via a
technical bulletin.

1.7. RELEASE DOCUMENTATION

1.7.1. System Release Description

A copy of this release 10.0 SRD (UP-11902.2) is provided with each software
order. Order additional copies through your Sperry representative.

1.7.2. Additional Release-Related Documentation

Certain release-related documents (SRDs, SRAs, etc) have become stock items
and can be ordered through your Sperry representative.

Documents for release 10.0 have been assigned the base number UP-11902. Each
OS/3 release-related document for release 10.0 has a UP number incorporating
this base number. For example:

     Release 10.0 SRA UP-11902.1
     Release 10.0 SRD UP-11902.2

Additional release-related documents will be assigned UP numbers, in
sequence, according to the date they are issued.

1.8. RELATED PUBLICATIONS

The following Sperry publications are new or current for this release.
Either the updating package alone, or the complete manual with the updating
package, may be requisitioned by your local Sperry representative.

For example: To receive the updating package alone, order UP-8022 R5-C. To
receive the complete manual, order UP-8022 R5.

1.8.1. Software User Manuals

System/Publication	Description/Type of Manual
UP-7503 R1	Fundamentals of COBOL Series Programmer Reference (contents section)
UP-7503.1 R1	Fundamentals of COBOL – Language Programmer Reference
UP-7503.2 R1-A	Fundamentals of COBOL – Table Handling Programmer Reference
UP-7503.3 R1-A	Fundamentals of COBOL – Sorting Programmer Reference
UP-7503.4	Fundamentals of COBOL – Mass Storage Programmer Reference
UP-7503.6	Fundamentals of COBOL – Glossary Programmer Reference

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System/Publication	Description/Type of Manual
UP-7536 R1-E	Fundamentals of FORTRAN Programmer Reference
UP-8022 R5-C	Data Base Management System (DMS) Data Description Language User Guide
UP-8030 R2	Introduction to the Assembler
UP-8044 R3-D	Report Program Generator II (RPG II) Programmer Reference
UP-8055 R6	Extended COBOL Summary
UP-8056 R7	Basic COBOL Summary
UP-8057 R2-D	Basic COBOL Programmer Reference
UP-8059 R3-B	Extended COBOL Programmer Reference
UP-8067 R6-E	Report Program Generator II (RPG II) User Guide
UP-8073 R2	Introduction to Sort/Merge
UP-8076 R11-B	System Messages Programmer/Operator Reference
UP-8253 R4	Report Program Generator II (RPG II) Reference Card
UP-8379 R4-A	System/3 to OS/3 Transition User Guide/Programmer Reference
UP-8424	Interfacing a Remote Device Handler Programmer Reference
UP-8481 R2-A	Universal Terminal System 400 COBOL Programmer Reference
UP-8515 R1	OS/4 to OS/3 Communications Conversion User Guide/ Programmer Reference
UP-8516 R1	OS/4 to OS/3 Assembly Program Translator
UP-8549 R4-A	Integrated Communications Access Method (ICAM) Direct Data Interface (DDI) User Guide
UP-8550 R5-B	Integrated Communications Access Method (ICAM) Standard MCP Interface (STDMCP) User Guide
UP-8553 R1	OS/4 to OS/3 Conversion Guide
UP-8589 R1	OS/4 to OS/3 Job Control Conversion Utility
UP-8596 R1	Introduction to OS/4 to OS/3 Conversion
UP-8611-C	UTS 400/UTS 4000-OS/3 Interface User Guide/Programmer Reference

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System/Publication	Description/Type of Manual
UP-8612 R3-A	1974 American National Standard COBOL Summary
UP-8613 R2-D	1974 American National Standard COBOL Programmer Reference
UP-8748 R1-C	IMS/DMS Interface User Guide/Programmer Reference
UP-8801	Introduction to BASIC
UP-8804 R1	Introduction to 1974 American National Standard COBOL
UP-8805-B	Fundamentals of 1974 American National Standard COBOL
UP-8806-B	Dialog Specification Language User Guide/Programmer Reference
UP-8808	Introduction to the Data Base Management System (DMS)
UP-8811 R2-A	Distributed Data Processing Concepts and Facilities
UP-8813	Introduction to FORTRAN IV
UP-8814-E	FORTRAN IV Programmer Reference
UP-8815-A	FORTRAN IV Summary
UP-8816	Introduction to the Information Management System (IMS)
UP-8818	Introduction to Report Program Generator II (RPG II)
UP-8819 R2-A	Independent Sort/Merge User Guide/Programmer Reference
UP-8821	Introduction to Job Control
UP-8824	Introduction to Consolidated Data Management
UP-8827	Introduction to the General File Editor
UP-8830	Introduction to the Supervisor
UP-8831 R1-A	Supervisor Concepts and Facilities
UP-8832-E	Supervisor Macroinstructions User Guide
UP-8833-A	Introduction to Data Utilities
UP-8834 R2-B	Data Utilities User Guide
UP-8836 R2-A	SORT3 User Guide/Programmer Reference

System/Publication	Description/Type of Manual
UP-8838	Introduction to System Installation
UP-8839 R5	System Installation User Guide
UP-8840	Introduction to the System Service Programs
UP-8841 R3-B	System Service Programs User Guide
UP-8842 R3-B	System Service Programs Programmer Reference
UP-8843	Introduction to Distributed Data Processing
UP-8844 R1	Introduction to Interactive Processing
UP-8846 R1	Introduction to the Integrated Communications Access Method (ICAM)
UP-8854 R3	Introduction to ESCORT Programming Language
UP-8855 R3-A	ESCORT Programming Language User Guide
UP-8856 R4	ESCORT Programming Language Summary
UP-8857	Introduction to the Dialog Processor
UP-8858	Dialog Processor User Guide/Programmer Reference
UP-8859 R3-B	Operations Handbook Operator Reference
UP-8868 R2-A	Hardware/Software Summary
UP-8870 R1	System Concepts and Facilities
UP-8872	Introduction to System Maintenance Facilities
UP-8873	Introduction to Screen Format Services
UP-8874 R2	System Index and Publications Guide
UP-8913-D	Assembler User Guide
UP-8914-D	Assembler Programmer Reference
UP-8915	Operator Maintenance Guide, System 80 Models 3 through 6
UP-8946-A	Integrated Communications Access Method (ICAM) Message Processor Procedure Specification (MPPS) User Guide
UP-8987	IBM System/32 to System 80 Transition Introduction

System/Publication	Description/Type of Manual
UP-9009 R4	Data Base Management System (DMS) Summary
UP-9072 R1-A	SORT/MERGE Macroinstructions User Guide/Programmer Reference
UP-9076	UTS 400 Edit Processor Programmer Reference
UP-9106	COBOL Editor User Guide/Programmer Reference
UP-9168 R2-B	BASIC Programmer Reference
UP-9169 R3	BASIC Summary
UP-9205-D	Information Management System (IMS) Concepts and Facilities
UP-9206-C	Information Management System (IMS) Action Programming in Report Program Generator II (RPG II) User Guide
UP-9207-E	Information Management System (IMS) Action Programming in COBOL and Basic Assembly Language (BAL) User Guide
UP-9209-B	Information Management System (IMS) Data Definition and UNIQUE User Guide
UP-9316-A	Introduction to Menu Services
UP-9317 R1	Menu Services Concepts and Facilities
UP-9318	S/80 System/32, 34 to OS/3 Conversion User Guide
UP-9386 R1	System 80 Model 8 System Description
UP-9502 R1	NTR Utility User Guide
UP-9710	Operator Maintenance Guide, System 80 Model 8
UP-9731 R1	File Placement Analyzer User Guide/Programmer Reference
UP-9734 R1	MAPPER 80 Run Functions User Guide
UP-9735 R1	MAPPER 80 Manual Functions User Guide
UP-9736 R1	MAPPER 80 Forms Generation and Utilities User Guide
UP-9737 R2-A	MAPPER 80 Operator and Coordinator User Guide
UP-9743	Series 90 to System 80 Model 8 Migration Guide
UP-9744-A	Integrated Communications Access Method (ICAM) Concepts and Facilities
UP-9745 R1	Integrated Communications Access Method (ICAM) Network Definition and Operations User Guide

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System/Publication	Description/Type of Manual
UP-9746	Integrated Communications Access Method (ICAM) Communications Physical Interface (CPI) User Guide
UP-9748-B	Integrated Communications Access Method (ICAM) Utilities User Guide
UP-9749-B	Integrated Communications Access Method (ICAM) Programmer Reference
UP-9972-A	Interactive Services Command and Facilities User Guide
UP-9973-A	Interactive Services Commands and Facilities Summary
UP-9974	COBOL Editor User Guide/Programmer Reference
UP-9975	Spooling and Job Accounting Concepts and Facilities
UP-9976-A	General Editor (EDT) User Guide/Programmer Reference
UP-9977-B	Screen Format Services Concepts and Facilities
UP-9978-A	Consolidated Data Management Concepts and Facilities
UP-9979-A	Consolidated Data Management Macroinstructions User Guide/Programmer Reference
UP-9980-B	Dump Analysis User Guide
UP-9981	RPG II Editor User Guide/Programmer Reference
UP-9982	File Cataloging Concepts and Facilities
UP-9983	System Activity Monitor User Guide/Programmer Reference
UP-9984-B	Job Control Programmer Reference
UP-9985-B	System Operations Summary
UP-9986-B	Job Control User Guide
UP-10003	Installation Verification Procedures User Guide
UP-10047	Remote Terminal Processor (RTP) User Guide
UP-10870	Data Base Management System (DMS) System Support Functions
UP-11907	Information Management System (IMS) System Support Functions User Guide/Programmer Reference
UP-11954	PC Online Transfer Guide for OS/3 Users

System/Publication	Description/Type of Manual
UP-12013	Data Base Management System (DMS) Data Manipulation Language User Guide
UP-12027	Information Management System (IMS) Terminal Users Guide
UP-12028	Security Maintenance Utility User Guide
UP-12031	PC Online Extract Guide for OS/3 Users

1.8.2. Hardware References

The following manuals are applicable to this release:

Document	Description/Type of Manual
UP-7661	UNISERVO 12/16 Magnetic Tape Subsystem Programmer/Operator Reference
UP-7788 R2-A	UNISCOPE Display Terminal Operator Reference
UP-7807 R2	UNISCOPE Display Terminal Programmer Reference
UP-7882	UNISERVO 12/16 Magnetic Tape Subsystems Operator Reference
UP-7921-B	0716 Card Reader Subsystem Operator Reference
UP-7938 R2-A	0770 Printer Subsystem Operator Reference
UP-7956 R1	UNISERVO 20 Magnetic Tape Subsystem Operator Reference
UP-8016 R1-A	0770 Printer Subsystem Reference
UP-8205	UNISERVO 10 and 14 Magnetic Tape Subsystems Subsystem Reference
UP-8206	UNISERVO 10 and 14 Magnetic Tape Subsystems General Description
UP-8207	UNISERVO 10 and 14 Magnetic Tape Subsystems Operator Reference
UP-8208 R1	UNISERVO Magnetic Tape Subsystems Media and Expendable Supplies
UP-8247 R1-A	Communications Adapter Subsystem Reference (Preliminary)
UP-8250 R3	0776 Printer Subsystem Operator Reference (Model 8 Type 0776-00, 02, 04 Printers)
UP-8273	Communications Adapter General Description (Preliminary)
UP-8325 R1	8430/8433 Disk Drives General Description

Document	Description/Type of Manual
UP-8343 R1	8405/8430/8433 Disk Subsystem Operator Reference
UP-8344-C	8405/8430/8433 Disk Subsystem Subsystem Reference
UP-8354 R3	0776 Printer Subsystem General Description
UP-8357 R1	Universal Terminal System 400 System Description
UP-8358-B	Universal Terminal System 400 Operator's Guide
UP-8359	Universal Terminal System 400 Programmer Reference
UP-8362	8416/8418 Disk Subsystem Operator Reference
UP-8388	0608 Card Punch Subsystem Media
UP-8411 R1	Universal Terminal System 400 Text Editor System Description
UP-8441 R3	0776 Printer Subsystem Reference (Model 3 Type 0776-00, 02, 04 Printers)
UP-8445-A	0776 Printer Subsystem Media and Expendable Supplies
UP-8475	8406 Diskette Subsystem General Description (for UTS 400/DCP)
UP-8476	8406 Diskette Subsystem Operator's Guide (for UTS 400/DCP)
UP-8491	0719 Card Reader Subsystem Operator Reference
UP-8493	0719 Card Reader Subsystem General Description
UP-8609	UNISERVO 10 Type 0871 Magnetic Tape Subsystem Operator Reference
UP-8617-A	0719 Card Reader Subsystem Operator Reference
UP-8619	0719 Card Reader Subsystem General Description
UP-8699 R2	8420/8422 Diskette Subsystem General Description
UP-8871	0798 Printer General Description
UP-8880 R1-A	System 80 Models 3 through 6 Processor Operator Reference
UP-8881 R1-A	System 80 Models 3 and 6 Processor Reference
UP-8882	0798 Printer Operator Reference

Document	Description/Type of Manual
UP-8890 R1	UNISERVO 10 Type 0781 Magnetic Tape Subsystem Reference
UP-8891 R1	UNISERVO 10 Type 0781 Magnetic Tape Subsystem General Description
UP-8894	0608 Card Punch Subsystem General Description
UP-8896-A	0608 Card Punch Subsystem Operator Reference
UP-8897	0789 Printer Subsystem General Description
UP-8902	UNISERVO 22/24 Magnetic Tape Subsystems Subsystem Reference
UP-8903	UNISERVO 22/24 Magnetic Tape Subsystems Operator Reference
UP-8904	UNISERVO 22/24 Magnetic Tape Subsystems General Description
UP-8907	0789 Printer Subsystem General Description
UP-8908	0789 Printer Subsystem Operator Reference
UP-8910	System 80 Workstation Operator Reference
UP-8916 R1	8417 Disk Subsystem General Description
UP-8917 R1-A	8417 Disk Subsystem Operator Reference
UP-8918 R1	8419 Disk Subsystem General Description
UP-8919 R1-A	8419 Disk Subsystem Operator Reference
UP-8920	0798 Printer Media and Expendable Supplies
UP-9159	0797 Printer General Description
UP-9160	0797 Printer Operator Reference
UP-9162	0797 Printer Media and Expendable Supplies
UP-9166	Flexible Double-Sided Diskette Subsystem Media
UP-9167	0789 Printer Subsystem Reference
UP-9381	3782 Streaming Magnetic Tape Operator Reference
UP-9382	3782 Streaming Magnetic Tape General Description
UP-9607	System 80 Model 8 I/O Controllers and Multiplexer of IOP
UP-9608	System 80 Model 8 Processor Operator Reference

Document	Description/Type of Manual
UP-9692	System 80 Model 8 Processor Hardware Programmer Reference
UP-9693	System 80 Models 4 and 6 I/O Controllers Reference (includes Type 0776-99 Printers)
UP-9732	System 80 Model 8 Controllers and Communications Channel of IOMP Hardware Programmer Reference (includes Type 0776-99 Printers)
UP-10002	8470 Disk Drive General Description
UP-10004	8470 Disk Drive Operator Reference
UP-10005	8416/8418 Disk Drives General Description

1.8.3. Online Diagnostic References

The following Diagnostic References are applicable to this release:

Document	Description/Type of Manual
UP-8915	System 80 Models 3-6 Operator Maintenance Guide
UP-9710	System 80 Model 8 Operator Maintenance Guide

1.8.4. Technical Bulletins

The following Technical Bulletins are applicable to this release:

Document	Description/Type of Manual
UP-8605.6-R1	IMS Multithread Concept Guide
UP-8605.7	IRAM User Consideration
UP-8605.10	OS/3 File Cataloging
UP-8605.11	System 80 Diskette Usage
UP-8605.12	ANSI'74 COBOL Communications

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2. Product Overview, Restrictions,
                                        and Guidelines

This section briefly describes each feature or enhancement contained in
release 10.0. The descriptions and the related restrictions and
guidelines are grouped by product according to the System 80 models they
apply to:

o All System 80 models   (2.1)

o System 80 Model 8 only   (2.2)

For breakdown of the enhancements by release level, see 1.1.2. The System
Release Announcement, UP-11902.1, also describes release 10.0
enhancements and features.

A cross-reference indicating where the feature or enhancement is documented
follows beneath the heading for each item or product. This corresponds to
the lists of manuals in 1.8, RELATED PUBLICATIONS.

Where applicable, features are identified with a request for change (RFC)
and user association (A/UUA/E) number also.

A restriction is defined as a temporary limitation in the functions of the
software product. Restrictions are lifted as soon as possible and are
documented only in the SRD.

A guideline is special information related to the use of a product. We offer
guidelines to call your attention to aspects of a product that may not be
readily apparent from the current user manuals. Guidelines are permanently
applicable and will be included in subsequent revisions to the user manuals.

2.1. ENHANCEMENTS COMMON TO ALL SYSTEM 80 MODELS

2.1.1. Control System

2.1.1.1. Security Maintenance Utility

Manual: UP-8839, UP-12028

RFC: 3091, 3230, 3292, 3318, 3150

A/UAA/E: S83011, S83019, S83029, S83057, S83059, S85014, F83018, F84006

o Logon

    Prevents users from logging on except within a time/date range or after a
    specified date

----

o Passwords

   - Allow users to change their passwords at logon

   - Require passwords at logon through a new SYSGEN parameter

   - Suppress passwords on job control listings

o Profiles

   - Restrict individual user access to the system and allow users to enter
      some, all, or no system commands from their workstations or jobs.

   - A new type of profile, the command profile, allows the system
      administrator to specify those system commands that users can enter
      from their workstations or jobs.

   - Display or modify user, execution, and command profiles

o Function Termination

   Terminate a function during an SMU dialog and return to the home screen
   to select another function.

Guidelines:

o Protecting the Security File

   The security file is normally placed on SYSRES during the initial run of
   the security maintenance utility (SMU). This file should be protected
   from unauthorized use by users executing utilities other than SMU to
   manipulate the file.

   To prevent unauthorized use, it is recommended that you allocate the
   security file as YSEC and catalog it with a write password on another
   disk volume. For example, the following job stream will catalog the
   security file with a write password and place it on the disk volume
   SPOOL.

```
// JOB CATSEC
// DVC 50 // VOL SPOOL // LBL $Y$SEC(/WRITPASS)
// EXT MI,C,,CYL,5 // LFD SEC
// CAT SEC
/&
```

o Using the Security File

   Once the security file is built, only SMU should be used to add, delete,
   or modify profiles.

2.1.1.2. Spooling

Manual: UP-9975

RFC: 1965

A/UAA/E: F83005, F84001, F84008, S83001E, S83407 part 2, S84002, S84040,
          S84044, S84050

o Output Writer

   A new parameter in the BE SPL command, OUT=NO, allows you to specify that
   the output writer is not called.

o Deletion of Spool Files

   A new message requiring a response prevents automatic deletion of spool
   files by the DE SPL command.

o Spooling Criteria

   Use the job number as a spooling criteria.

o Available Spool File Space

   The DI SPL,STA command displays the percentage of spool file space still
   available.

o Input Reader File

   LBL of input reader file is included in the DI SPL command summary
   display.

2.1.1.3. Screen Format Services

Manual: UP-9977

RFC: 2405, 3177

A/UAA/E: None

o Text Translation

   - Translate alphabetic text within screen formats to uppercase letters
      before it is spooled.

   - Define lowercase to uppercase input translation at the field level.

2.1.1.4.   Data Management Space Allocation

Manual: UP-9978

RFC: 3248, 3312

A/UAA/E: F84003, S83025

For basic and consolidated data management, changes to the algorithm used to logically allocate space to the data and index partitions of an IRAM or MIRAM file

- The SIZE=AUTO specification for the DD job control statement is automatically assumed and is not needed in the device assignment for the file. Data management uses the record size and key sizes to estimate the ratio of data partition versus index partition requirements. This ratio is used to determine the percentages that are used to divide up the initial space allocation. The percentages that are established guarantee that the index partition receives part of the initial allocation. This was a problem in the past when SIZE=AUTO was used with relatively small allocations. Also, except for very small allocations (1-3 cylinders), part of the initial allocation is left unassigned and is available for logical extensions.

- The calculated percentages are an estimate that is dependent upon the number of records in the file and the manner in which the file is loaded. In those rare instances where the estimate is not satisfactory, you now have the ability to explicitly indicate the percentages that should be used. The SIZE1 and SIZE2 parameters on the DD job control statement can be used to indicate the percentages for the data and index partitions, respectively.

2.1.1.5.   Data Management Recovery

Manual: UP-8839, UP-9978, UP-9984, UP-9985

RFC: None

A/UAA/E: F84003

A new SYSGEN parameter for basic and consolidated data management, DMRECV=YES, allows you to create all IRAM and MIRAM files with the recovery option. Previously, you had to explicitly request recovery through the RECV=YES parameter on the DD job control statement. If you do not want the recovery option for a file, you can specify this through the RECV=NO parameter on the DD job control statement.

2.1.1.6. Disk Cache

Manual: UP-8839, UP-8859

RFC: None

A/UAA/E: F84023, S85021, S85023

o Selective Caching

   A new SYSGEN parameter, CACHE, allows you to specify whether a PUB is
   cached.

o Overriding Default Cache Buffer Size

   Override the default cache buffer size by specifying the new size with
   the SIZE=n parameter on the CM command.

o Overriding Default Cache Segment Size

   Override the default cache segment size through the new SYSGEN parameter,
   CACHESEGSIZE, or by specifying a new size with the SEG parameter on the
   CM command.

o Cache Statistics

   Cache statistics include the number of read requests and hit rates
   (Model 8).

o Search/Read Command

   Search/Read Greater Than or Equal command is supported for all disk
   types.

2.1.1.7. Console Handler Modification

Manual: None

RFC: None

A/UAA/E: None

Removes the console handler roll/scroll I/O from the supervisor overlay
area (SOA). This allows the system to continue processing while the
operator enters data at the console (Model 8 only). However, any job trying
to write a message to the console will be held and any function requiring an
SOA transient that ultimately puts out an OPR will be held.

C   2.1.1.8.   Menu Generator

C   Manual: UP-9317

C   RFC: None

C   A/UUA/E: None

C   Guidelines:

> Within a user program, menus and screens may not be used together unless the screens are processed directly by the Menu Processor, that is, via the SCREEN and DISPLAY menu function commands.

2.1.1.9.   Supervisor Debug Options in an IMS Environment

Manual: None

RFC: None

A/UAA/E: None

Guidelines:

> The spooling interface must be utilized whenever supervisor debug options are used with SNAPS/DUMPS in an IMS environment to provide documentation for problems. If the printer is hard assigned, invalid I14 errors can occur.

C   2.1.1.10.   Supervisor/PIOCS Assembly

C   Manual: None

C   RFC: None

C   A/UAA/E: None

C   Guidelines:

> The job stream, SG$SUPMK, has divided the supervisor/PIOCS assembly into two separate assemblies. This eliminates a previous problem with ESD TABLE OVERFLOW ERRORS that occurred when a single assembly was executed. There is a minimal increase in total assembly time - 10 percent.

2.1.1.11. Data Management Debug Option

Manual: UP-8832, UP-8868, UP-9978

RFC: None

A/UAA/E: None

A new debugging aid, the SE DE,DM console command, allows you to obtain a
system dump when an unexpected data management error occurs. It is not
necessary to IPL with the D (debug) supervisor load option to use this
facility.

2.1.1.12. Data Management Restoring of Initialized Files

Manual: UP-9978, UP-9984, UP-9986

RFC: None

A/UAA/E: None

A new //DD job control statement parameter for basic and consolidated data
management, RESTORE=n, allows you to restore a MIRAM file that was
accidently initialized. This parameter is used to specify the number of
records that data management is to use for file retrieval. Use it only to
read the data partition of the file (PCA1) for the purpose of re-creating
the file with a copy program such as DATA or MILOAD. It is not possible to
access the index partition (PCA2).

(This enhancement was a late addition and the referenced documents do not
reflect this new parameter.)

2.1.1.13. IPL Performance

Manual: UP-8859

RFC: None

A/UAA/E: F85020

o YSHR file is preformatted using track size writes for all sectorized
   SYSRES devices (not 8430 or 8433). This greatly improves performance on
   these devices and will be especially noticeable on an 8470 SYSRES.

o Supervisor Load Option

   A new load option, Q (for QUICK), is included for the supervisor. Q
   specifies the quick load option that should normally be used because
   IPL will be significantly faster.

   2.1.2.   Support Programs

C 2.1.2.1.   System/34 Screen and Data Converter

C Manual: UP-8987

C RFC: None

C A/UUA/E: None

C Guidelines:

     Translation can be accomplished only so far as OS/3 supports the same
     facilities as the System/34.

C 2.1.2.2.   Installation Verification Procedure

C Manual: UP-8820

C RFC: None

C A/UUA/E: None

C Guidelines:

     If you use a 48-character business print band to print the IVP, the
     colons (:) in the RV statements are not printed.

   2.1.2.3.   Console Audible Alarm

   Manual: UP-8839

   RFC: 3294

   A/UAA/E: S84005

   A new SYSGEN parameter, CONALARM, causes an audible alarm to sound when the
   system delivers an action or reply message to the system console.

2.1.2.4. JOBDUMP and SYSDUMP

Manual: UP-9980, UP-9984, UP-9986

RFC: None

A/UAA/E: S85045

o JOBDUMP

   JOBDUMP creates a dump file that is proportional to the size of the job
   being dumped, reducing the amount of space required for the dump file.

o SYSDUMP

   - Through the PSYSDUMP specification on the OPTION job control
      statement, you can force SYSDUMP to initiate a new job when SYSDUMP is
      initiated by a program error. Previously, if the user region was large
      enough to hold the SYSDUMP load module, SYSDUMP overlaid the user
      program. This prevented reinitiation of the user program (using the
      same name) until after SYSDUMP had completed.

   - MINI option on SYSDUMP supports additional HPR and system error codes.

   - SELECT option on SYSDUMP supports a new parameter, DISPLAY, that
      displays main storage regions from the dump file on the terminal.

2.1.2.5. VTOC Verification Routine

Manual: UP-8076, UP-8839, UP-8859, UP-9985

RFC: None

A/UAA/E: None

The VTOC verification routine performs a thorough analysis of a volume
table of contents (VTOC) by looking for any inconsistencies between the
labels. When it detects an inconsistency, it displays a message providing
the details on the error. When it finds no inconsistencies, it informs you
that the volume is free of problems.

A new SYSGEN parameter, VVAVR, indicates whether to perform automatic VTOC
verification at AVR time. Also, a console command, SET VV, allows you to
dynamically change the SYSGEN setting.

2.1.2.6. System Installation - DAYCHANGE SYSGEN Option

Manual: UP-8839

RFC: None

A/UAA/E: None

The DAYCHANGE SYSGEN option, deleted in release 8.2, is reactivated. This
option allows you to specify that the date and time are automatically
changed at midnight of each day.

2.1.2.7. System Operations - SHUTDOWN Command

Manual: UP-8859

RFC: 3265, 3304, 3314, 3337, 3390, 3395

A/UAA/E: None

Guideline:

  The SHUTDOWN command, to terminate system activity in an orderly manner,
  now requires a parameter. The keyin is SH SYSTEM; SH is no longer
  accepted.

  This was done to give the user some protection against an accidental
  keyin.

2.1.2.8. Job Step Processor - User Specified Execution Priority

Manual: UP-8839

RFC: None

A/UAA/E: S83077, S84032

A new SYSGEN parameter, EXECPRI, allows a user to specify job step execution
priority. If the execution priority is not specified, the job step processor
will use the value specified in the EXECPRI SYSGEN parameter. The lowest
possible execution priority is the default for the EXECPRI parameter.

2.1.3. Languages

C 2.1.3.1. Dialog Specification Language Translator (DSLT)

C Manual: UP-8806

C RFC: None

C A/UUA/E: None

C Guidelines:

  The CDI Data Management OPEN command uses the file name (LFD) in the
  CDIB. To access more than one module in the same file (which would
  require another OPEN to be issued to an opened file), the user must
  generate another device assignment set (DVC through LFD sequence) with a
  unique LFD in his control stream.

If the user is processing a module from one copy library (COP in the
example), the nested copy module must come from the other copy library
(SOURCE). For example:

```
// JOB DSLTST,,12000,,,,,,J219
// DVC 20  // LFD PRNTR
// DVC 50  // VOL D01906  // LBL DPSRC  // LFD SOURCE
// DVC 50  // VOL D01906  // LBL PMTRANS  // LFD DSLTOUT
// DVC 50  // VOL D01906  // LBL DPSRC  // LFD SRC
// DVC 50  // VOL D01906  // LBL DPSRC  // LFD COP
// WORK1
// EXEC DSLT
// PARAM IN=CFILE1/SRC
// PARAM OUT=DSLTOUT
// PARAM COPY=COP/SOURCE
/&
```

C 2.1.3.2. RPG II Editor

C Manual: UP-9981

C RFC: None

C A/UUA/E: None

C Guidelines:

To enter the copy modifier option &, you must use EDT. No validation will
be done because the statement is created/updated through EDT and not
RPGEDT.

C 2.1.3.3. BASIC

C Manual: UP-9109, UP-9168, UP-9169

C RFC: None

C A/UUA/E: None

C Guidelines:

No array should be generated that contains more than 8126 items,
including the zero order items. Generation of larger arrays causes BASIC
to loop when trying to load a program.

C   2.1.3.4.   ESCORT Programming Language

C   Manual: UP-8855

C   RFC: None

C   A/UUA/E: None

C   Guidelines:

   o   When the ESCORT library file ESC$ESCORT.LIBRARY.FILES is being cataloged,
       there must be no other ESCORT users on the system at that time. If a
       catalog attempt is made when any ESCORT user is on the system and
       another user attempts to enter, a system error 2E1 occurs.

   o   Screen Format Services may not be used within an ESCORT program when the
       ESCORT program has been called via Menu Services.

   o   It is the user's responsibility to ensure that a form created with Screen
       Format Services matches the associated ESCORT structure on a field-to-
       field basis with regard to field type and field size.

   o   Passwords can be specified for data files only. The ESCORT programming
       language does not allow you to specify passwords for library files or
       session files.

2.1.3.5.   RPG II - Field Blanking

Manual: UP-8044, UP-8067

RFC: None

A/UAA/E: S84023

Use *BLANK as a special name in the MOVE statement to blank a field. This is
compatible with IBM System 34 RPG language.

2.1.3.6.   RPG II - Closing and Freeing the Source Library during Compilation

Manual: UP-8044, UP-8067

RFC: None

A/UAA/E: None

When the compiler finishes reading a source program from the library, RPG II
closes and frees the source library. Previously, this did not occur until
the end of the compile process.

2.1.3.7. COBOL - Message Deletion and Program-id Display

Manual: UP-8613

RFC: None

A/UAA/E: S85010

Guidelines:

  The CC20 message is no longer displayed and the CC21 now includes a 1- to
  6-character program-id as follows:

    CC21 COMPILATION COMPLETED WITH nnn SERIOUS ERRORS ID=program-id

  Previously, the OS/3 COBL74 compiler displayed the following messages on
  the log file and input device:

    CC20 COMPILATION INITIATED FOR VERSION 09.00
    CC21 COMPILATION COMPLETED WITH nnn SERIOUS ERRORS

2.1.4. Applications Support

2.1.4.1. Information Management System (IMS) - Multithread Only

2.1.4.1.1. IMS - Security

Manual: UP-9205, UP-9207, UP-9208

RFC: None

A/UAA/E: None

If your system is configured with security, a user-id must be entered with
the JI transaction code or when utilizing the RUN function.

2.1.4.1.2. COBOL Reentrant IMS Action Programs

Manual: UP-8613, UP-9207, UP-11907

RFC: None

A/UAA/E: None

The COBL74 compiler generates object programs that can be configured as
reentrant IMS action programs or subprograms. This is achieved by
requiring the COBOL programmer to place all variables in the IMS-provided
work area (existing convention), and by COBOL object code using the high
order part of the work area for object program control variables (new
convention). A compile time message will help you configure an IMS work area
large enough for your program variables and the object program's control
variables.

Rentrant action programs are generated when the compiler parameter
IMSCOD=REN is specified. IMSCOD=YES will continue to generate a shared code
action program. The COBOL source code for a reentrant IMS action program
follows the same rules as a shared code action program except as follows:

- Working storage data items must not be modified. In shared code action
  programs, the compiler issues a warning diagnostic on statements that
  modify working storage data items. In reentrant action programs, the
  compiler issues a fatal diagnostic on statements that modify working
  storage data items and does not generate object code for the statements.

- The compiler will not report a volatile data area and will not require
  you to configure that area. However, the compiler will report the
  required work area size with the following message:

      REENTRANCY CONTROL=nnnnnn WORKAREA BYTES (Does not include program
                                        defined data areas)

  You must configure IMS with this size or a larger size on the WORKSIZE
  parameter. If the action program calls subprograms, the work area size
  must be large enough to accommodate the maximum program data requirements
  plus the sum of all concurrently active object program reentrancy control
  areas.

- No restrictions are imposed on subprogram calls except that an IMS
  configured subprogram cannot call another IMS configured subprogram
  (existing IMS limitation). If a reentrant COBOL action program or IMS
  configured subprogram is composed of several object modules linked into a
  single load module, all of the object modules must be COBOL compiled as
  reentrant or assembly language coded as reentrant. The IMS RETURN
  function (or TIP/30 TIPTRN or TIPXCTL functions) should be invoked only
  from the main object module in an IMS action program or IMS configured
  subprogram. If it is invoked in a linked-in subprogram, it will interfere
  with allocation and deallocation of object program control areas in the
  IMS work area.

- A COBOL program compiled as reentrant can be configured as reentrant,
  shared code, or serial. However, if the program is compiled as reentrant,
  the compiler will not report the size of the volatile data area necessary
  for IMS configuration of a shared code action program. Also, regardless
  of how the program is configured to IMS, the work area size rules still
  apply.

- The values in index-names in a reentrant COBOL subprogram will not be
  preserved between successive executions of the subprogram. Index-names
  are part of the object program control area. This area is allocated in
  the IMS work area on each entry to the subprogram and deallocated on each
  exit from the subprogram.

2.1.4.1.3.   IMS - Suppressing TOMFILE Processing with Warm Restart

Manual: UP-11907

RFC: None

A/UAA/E: None

IMS multithread allows Warm restart without TOMFILE processing.

2.1.4.1.4.   IMS - STATFIL Print Utility

Manual: UP-11907

RFC: None

A/UAA/E: None

Restrictions:

     The IMS STATFIL print utility, ZS#ZSF, does not react to forms overflow.
     It will not skip to the top of the next page when the number of entries
     exceeds the length of a printer page.

2.1.4.1.5.   IMS - PARAM RESTART Usage

Manual: UP-11907

RFC: None

A/UAA/E: None

Guidelines:

     PARAM RESTART is only to be used when the previous IMS session shuts
     down normally. However if a reconfiguration has taken place or if the
     version of the action program has changed since the beginning of the
     last PARAM START session, use PARAM START in the current session.

     Previous changes made through CHTBL requests should be made permanent
     through an IMS reconfiguration.

     Failure to follow these guidelines may lead to unpredictable results
     in the current session.

2.1.4.2. Data Base Management System (DMS)

Manual: UP-8022, UP-10870, UP-12013

RFC: None

A/UAA/E: None

o Data Dictionary Unload/Reload Utility

   Enables the data base administrator to increase or decrease the number
   of data base pages allocated to the data dictionary without repeating
   all the DDL compiles.

o DDL Delete JCL

   A set of three utility jobstreams enables the data base administrator
   to delete selected schemas, subschemas and DMCL's from the data
   dictionary.

o Index Any Location Mode

   Indexes, originally available only with the indexed location mode, may
   now also be applied to records of calc, via or direct location modes.
   This allows greater flexibility in programming strategies for data base
   access.

o Compiler Performance Enhancements

   Improves the performance of the schema, subschema, and DMLP compilers
   for large schemas and programs.

o Longer Data Item Names

   Data item names in the schema may now be up to 30 characters long. This
   corresponds with standard COBOL data item names.

o Improved Readability of Record Definitions

   DMLP indents the record definitions, which it copies into the DML
   program, by level number for better readability.

o Subschema Restraints Removal

   The subschema constraints are relaxed for the DELETE ONLY verb. It is no
   longer necessary to include every record and set in the subschema which
   would be necessary for a DELETE ALL.

o Mixed DML and COBOL Statements

   DML and COBOL statements may be mixed within one COBOL sentence. Each
   DML statement must be on a separate line, but does not have to terminate
   with a period. This allows the DML programmer to adopt a more structural
   style. This enhancement applies to COBL74 only.

o DMLP Copy Facility

   The DML preprocessor now accepts copy modules containing DML verbs.

o Fetch and Keep Exclusive

   The new EXCLUSIVE and KEEP EXCLUSIVE forms of the FIND/FETCH and KEEP
   verbs enable the applications programmer to gain exclusive use of a
   record at the time it is retrieved. This prevents record update conflicts
   which can occur with some application data base designs in a multi-thread
   environment.

o Fetch and Keep Conditional

   The new CONDITIONAL form of the FIND/FETCH verb enables the application
   programmer to re-gain control immediately when the requested record is
   not available (instead of waiting for the record wait time to expire).
   In addition, a minor error is returned rather than a fatal thread
   cancellation error. This enhancement is especially useful to the
   programmer of interactive, on-line application programs since he or she
   can now code the program to immediately alert the terminal operator that
   the specified function cannot be performed at the present time.

o Display of Compromised Page

   The DBPAG utility prints a compromised data base page instead of
   terminating with an error message. This allows analysis of hardware or
   software problems suspected of causing the page compromises. In some
   situations, DBPAG also allows immediate correction of the damage without
   reinitializing the page.

o Allow More than Five Index Keys per Record

   The maximum number of index keys per record is increased from 5 to 32.
   This is applicable to all location modes.

o RANGE Option for Sorted Sets

   The RANGE option for sorted sets allows use of the format 6 FIND/FETCH
   verb to retrieve the next higher or lower record when a record with the
   exact key does not exist.

o Safety Check Removal

   The safety check has been removed that allowed a modify only after a
   FETCH or STORE verb. This safety check often became a burden when updated
   contents were already in a record working storage area and currency had
   to be restored before a modify could be done. This required the
   programmer to first save the updated contents of the record in a
   temporary work area, then refetch the original record, restore the
   updated contents, and finally modify the record. The removal of the
   safety check has eliminated this extra work.

o More Complete Control Over Internal Lock Space

The ABSOLUTE option has been added to the ALLOCATE LOCKS statement in the
DBMS start-up to allow more complete control over the internal lock
space allocated by the DBMS.

o ELSE Clause for DML IF Statement

Adds ELSE clause to the DML IF statement for (COBL74 only).

o HPR Debugging Command

The DMS HPR debugging command has been added to the DBMS.

Restrictions:

o The CDML utility does not support the conditional or exclusive forms of
the FIND/FETCH DML statement.

o The specification of 0 (zero) updating run units is not implemented for
the MAXIMUM UPDATING RUN-UNITS statement in the DBMS start-up.

o JFFIX does not work when executed against an empty journal file.

o An unrecoverable error may occur on the DBMS start-up following an
overflow of the IMS QBL file. Size the IMS QBL file so that it won't
overflow.

o If an I/O error occurs during DMS warm start recovery, the system stops
due to a halt and proceed (HPR) request.

o CDML may program check if the memory allocated to the job is
insufficient. This problem may occur during execution of the IMPART verb,
especially if the edited data display option is selected. The size
required for the CDML job must be at least 58,885 bytes plus the size of
your subschema load module.

Guidelines:

o The ALLOCATE LOCKS statement in the DBMS start-up in previous releases
allocated additional locks in 24-byte increments. The enhanced statement
now allocates lock space in 72-byte increments. Therefore, current users
of this statement must change their DBMS start-up job streams to avoid
allocating more lock space memory than desired.

o All data item names in the schema may be as long as 30 characters. This
includes items declared as calc keys, index keys and sorted set control
keys. Only area, record, and set names are now limited to 16 characters.

o Declaring more index keys than necessary for a record will adversely
affect data base loading time.

o The DBMS start-up complete message, QY00, now includes an SMC checksum
   number, used to verify the correct application of SMCs to the DBMS. It is
   a 5-digit number from 00000 to 65535 (19876 for initial release of 10.0)
   obtained by summing the DBMS internal SMC table and patch space (each
   time the DBMS is initiated). The number by itself is meaningless.
   However, for any given SMC level, the number is known to the originator
   of the SMC and is included in the comments within the body of the SMC.
   Upon starting up the DBMS after a new SMC has been applied, if the number
   shown in the QY00 message does not match the expected number stated in
   the SMC, you should contact the Sperry Support Center. The most likely
   reason for a mismatch of the checksum numbers is that one or more SMCs
   issued prior to the one just installed are missing. Optional DBMS SMCs
   do not affect the checksum number.

o The schema and subschema compilers now require a // WORK1 JCL statement.

   If you use the DMS JPROC, the // WORK1 statement is included within the
   JPROC.

   Because these two compilers also require sort work space within the job
   region, it is now necessary to explicitly state the main storage
   requirement (18000) on the JOB statement.

   If your DMS compile job streams already specify main storage
   requirements, they must be changed to increase the specified main
   storage.

2.1.5.   Communications

2.1.5.1.   ICAM Slow Polling Specification

Manual: UP-9744, UP-9745, UP-9749

RFC: None

A/UAA/E: F82018, S84009

A new operand in the TERM macroinstruction, SPR, permits you to specify a
slow polling increment for UNISCOPE devices in each poll group.

2.1.5.2. ICAM - Screen Erase Prior to Abort

Manual: UP-9745

RFC: None

A/UAA/E: None

The screen is erased before the SESSION PATH ABORTED message is displayed.

2.1.5.3. OS/3 to UNIX O/S Connectivity

Manual: UP-9745, UP-9749

RFC: None

A/UUA/E: None

Terminals connected to the SPERRY 5000/7000 family systems can attach to an
OS/3 system through the programmable communications controller. This permits
the end user to sign on to interactive services, IMS, or a user-written CUP.
For this release, a terminal must be generated as a terminal, not as a
workstation.

Restrictions:

o This enhancement is restricted on SPERRY 7000 family systems.

o The products required to support this enhancement on the SPERRY 5000
   family systems operate only with the Series 5000 UNIX System V Release
   2.0 operating system.

Guidelines:

o Series 5000 Models 20/40

   The following products are required:

   - UNISCOPE emulation software (T7776-01)

   - Programmable communications controller (F4693-00)

----

o Series 5000 Models 60/80

   The following products are required:

   - UNISCOPE emulation software (T7777-01)

   - Programmable communications controller (F4693-99)
      For Series 5000 models 60/80, the programmable communications
      controller (F4693-99) includes a multibus adapter (F4704-00) and the
      programmable communications controller (F4693-01). The multibus
      adapter is not required for Series 5000 models 20/40.

      The following field change orders (FCOs) are required for proper
      operation of the multibus adapter (F4704-00).

Model	Serial Number	FCO	
5000/60	1010001 to 1010282	T3106-001	For feature 4518-00
		T3106-002	For additional feature 4518's
5000/80	2010001 to 2010146	T3108-001	For feature 4518-00
		T3108-002	For additional feature 4518's

2.1.5.4.   UNIX O/S RBP Support

Manual: UP-9745, UP-9748, UP-9749

RFC: None

A/UAA/E: None

UNIX O/S can initiate an OS/3 job stream through the 2780 Emulator and
optionally print output on the printer connected to UNIX O/S.

Restrictions:

o This enhancement is restricted on SPERRY 5000 Models 60 and 80 and 7000
   family systems.

o The products required to support this enhancement on the SPERRY 5000
   Models 20 and 40 family systems operate only with the Series 5000 UNIX
   System V Release 2.0 operating system.

Guidelines:

o Series 5000 Models 20/40

   The following product is required:

   - 2780/3780 RJE emulation (T6983-01)

2.1.5.5. OS/3 to MAPPER 5 Connectivity

Manual: UP-9744, UP-9745

RFC: None

A/UAA/E: None

A terminal user who is signed on to the OS/3 operating system can access
MAPPER 5 data in the same manner as a terminal user who is directly
connected to the MAPPER 5 processor.

The passthrough capability is provided by the new ICAM MAP5RDH remote device
handler. This handler uses standard UNISCOPE protocols.

Restrictions:

o For this release (10.0), terminals that are defined as remote
   workstations, DEVICE=(RWS) on the LINE macroinstruction, are restricted
   from sessioning onto ($$SON) terminals on the MAPRDH line.

o MAPPPER 5 Level 1R3 forward is required for this enhancement.

Guidelines:

o A cable (F8347-00/03) is necessary to allow MAPPER 5 to attach to a
   modem/DCM. This modem/DCM is the means for connection to System 80.

   For further information see cable Group E in Appendix D of the MAPPER 5
   system installation guide, UP-10505.

o A global ICAM that supports dynamic terminal sessions ($$SON) is
   required.

o LINE macroinstruction generation specifications

   - To include the MAPPER 5 remote device handler in the ICAM network
      generation, specify the keyword DEVICE=(MAP5RDH) in the LINE
      macroinstruction. See the ICAM Network Definition and Operations User
      Guide, UP-9745, for additional information.

   - The line buffer length of the LINE macroinstruction LBL keyword
      defaults to 700. A line buffer length of LBL=1024 is recommended for
      those installations that use full-screen MAPPER 5 displays.

   - All other generation keywords for the LINE macroinstruction related to
      the UNISCOPE protocol remain unchanged.

----

o TERM macroinstruction generation specifications

   - The RID/SID/DID terminal address definitions in the TERM
      macroinstruction for the MAP5RDH line (ADDR= and AUXn=) must
      correspond to the RID/SID/DID terminal address definitions configured
      on the MAPPER 5 system for the MAP5RDH line. Note that only auxiliary
      printers are supported for the AUXn keyword. See the ICAM Network
      Definition and Operations User Guide, UP-9745, for additional
      information.

   - The FEATURES keyword in the TERM macroinstruction must be specified as
      FEATURES=(U200,1920).

   - All other generation keywords for the TERM macroinstruction related to
      the UNISCOPE protocol remain unchanged.

o To begin a session on the MAPPER 5 system, enter:

      $$SON xxxxyyyy

   where:

      xxxx
         Is your terminal name.

      yyyy
         Is a MAPPER 5 terminal name as defined in the TERM macroinstruction
         for the MAP5RDH line.

      If you use the STEP product to configure a PC as an OS/3 terminal,
      you can also use PC online extract to transfer data between the PC
      and the MAPPER 5 system (see 2.1.6.2.).

2.1.5.6. High-Speed Communications - 19.2 Kilobyte UNISCOPE

Manual: UP-9744, UP-9745

RFC: None

A/UAA/E: None

SLCA-3 microcode (UNI3A1) is provided that allows an SVT 1120, a UTS/4000
cluster controller, or a MAPPER 5 system to connect to a System 80 using a
19.2 kilobyte transfer rate.

2.1.5.7. SVT 1120 Support

Manual: UP-9745

RFC: None

A/UAA/E: None

The SVT 1120 may be generated as a UTS/20 or UTS/40 terminal. If generated
as a UTS/20 terminal, fields can be displayed with off intensity (typically
used for passwords). If generated as a UTS/40 terminal, fields can be
displayed with off intensity, reverse video, or underline.

2.1.5.8. ICAM - UP/DOWN Remote Workstation

Manual: UP-8859, UP-9745

RFC: None

A/UAA/E: S85036 part b

Guidelines:

    A user can down and up any remote workstation terminal defined in the
    network via the unsolicited key-in:

        OO icam-id $\begin{Bmatrix} DO \\ UP \end{Bmatrix}$ T,rwsterm-name,cca-name

    When the user downs the workstation via the unsolicited key-in, its
    session (as well as its partner's session, if any) will be aborted.

2.1.6. Utilities

2.1.6.1. PC Online Transfer (OLTRAN)

Manual: UP-11954

RFC: None

A/UAA/E: None

OLTRAN is a new OS/3 program product that interfaces with the SPERRY
Personal Computer OLTRAN product and allows you to transfer OS/3 MIRAM files
and SAT files to and from PC ASCII data files.

The OS/3 OLTRAN product operates in conjunction with the separately priced
Sperry Personal Computer product, On-Line Transfer/PC for OS/3 users. The
major features of On-Line Transfer are:

o A full ''handshaking protocol'' between the OS/3 and PC components to
   ensure error-free data transfers.

o A configuration feature which allows the user to specify transfer
   parameters such as whether a binary mode or ASCII/EBCDIC conversion mode
   should be used. The user may also specify TAB and EOF characters and LINE
   overflows are to be handled.

o A batch mode feature which allows the PC user to specify a list of files
   to be transferred to or from the OS/3 system.

2.1.6.2. PC Online Extract

Manual: UP-12031

RFC: None

A/UAA/E: None

PC online extract is a program that allows you to use a PC, configured as an
OS/3 terminal, to copy MAPPER 5 reports between the MAPPER 5
system and the PC. You can download data to the PC in ASCII format, DIF
format (data interchange format), CSV format (comma separated variable), or
WKS format (Lotus worksheet format). You can then use the PC file with other
PC applications such as spreadsheet programs or word processors. You can
also upload data from a PC ASCII file or DIF file to MAPPER 5 reports. In
addition, online extract provides easy-to-use report subsetting and report
viewing capability.

Guidelines:

   When you use PC online extract with the MAPPER 5 system, you must change
   the match string for mode change parameter in the configuration file
   (EXTRACT.CFG) to FILE CABINET (the default is RELATIVE MODE). This change
   is essential to perform all batch file transfers and mode switches/
   selections within the online extract environment. If this change is not
   made, the following message is displayed:

      ILLEGAL OR INVALID MODE OR PASSWORD

   If any further difficulties occur, see the READ.ME documentation file on
   the PC online extract diskette.

2.1.6.3. Disk Dump/Restore (DMPRST) Routine

Manual: UP-8841

RFC: None

A/UAA/E: None

Guidelines:

o Output from multiple runs of DMPRST should not be written to the same
   tape or to the same sequential file on disk or diskette.

o A minimum job size of 8000 is required when dumping or restoring 8470
   disks.

----

o The following new error message is put out by DMPRST:

      DR73 INSUFFICIENT JOB SIZE: ALLOCATE ---- HEX BYTES

   The hexadecimal number of bytes specified in this message is the
   minimum amount of memory required for DMPRST to perform the current
   dump/restore function.

   Change the JOB statement and rerun the job.

2.1.6.4. Data Utilities - Hexadecimal Search Arguments

Manual: UP-8834

RFC: None

A/UAA/E: F83003

Data utilities now allows you to specify hexadecimal characters as your
search argument in select or delete statements.

2.2. RESTRICTIONS APPLICABLE TO SYSTEM 80 MODEL 8 ONLY

2.2.1. Hardware Utilities

2.2.1.1. SU$C16 - 8416/18 Disk Copy Utility

Manual: UP-8841, UP-8842

RFC: None

A/UAA/E: None

Restrictions:

   This product is restricted for use as an independent program. The use
   of the Interactive Hardware Utility to call this program and the use of
   the control stream DCOP is restricted. The Dump/Restore program (DMPRST)
   must be used to copy the contents of one 8416/18 disk to another 8416/18
   disk.

----

3. Supported Software

3.1. SYSTEM CONTROL SOFTWARE (SCS)

Sperry provides the user with system control software (SCS), the system
programs that make operation of the hardware possible. These programs
are also necessary for system installation, generation, and software
maintenance.

The user may select an optional SCS support services agreement to have
Sperry provide technical assistance with SCS software at an additional
charge.

Sperry initially installs the SCS for the user and makes sure that the
system is ready for use. New releases of the SCS are provided without
additional charge, but must be installed by each user.

Sperry provides a software correction service for the SCS without
additional charge. Under this service, we will resolve problems brought
to our attention. For the service to be effective, the user must
fully define the problem and prepare a SUR if necessary.

The following list indicates software that is supported for the System 80
Models 3 through 6 and Model 8.

Software	Models 3 - 6 Type Number	Model 8 Type Number
System Control S/W (SCS)	6210-01	6210-99
Supervisor	X	X
Job Control	X	X
System Access Methods	X	X
Interactive CMD I/Fs and Dialogs	X	X
Interactive SYSGEN Prep	X	X
Interactive JCL Prep	X	X
Command Language	X	X
Dialog Processor	X	X
Workstation Mgr	X	X
Screen Format Coordinator	X	X
System Librarian (LIBS)	X	X
Linkage Editor (LNKEDT)	X	X
Error Logging	X	X
System Generation (SG)	X	X
Dump/Restore (DMPRST)	X	X
System Dump (SYSDUMP)	X	X

Software	Models 3 - 6 Type Number	Model 8 Type Number
Job Step Dump (JOBDUMP)	X	X
Tape Prep (TPREP)	X	X
Disk/Diskette Prep (DSKPRP)	X	X
Catalog Manipulation Utility (JC$CAT)	X	X
IDA Copy (SU$CIG)	X	X
System Utility	X	X
Job Scheduler	X	X
Print Correction List Table (SMPLMU)	X	X
Assembler (ASM)	X	X
Usage is limited to system generation. (See 1.3.)		
Integrated Communications Access Method (ICAM)	X	X
Installation Verification Procedures (IVP)	X	X
Run Processor	X	X
Centralized File Management (CDM MIRAM)	X	X
SMP/SMC	X	X
Diskette Utility	X	X
Selector Copy (SU$JCL)	X	X
Disk Cache	N/A	X
VTOC Verification Routine	X	X

3.2. PROGRAM PRODUCTS

Program products (by type number) are SPERRY proprietary programs that
are licensed to the customer for a separate charge.

Software	Models 3 - 6 Type Number	Model 8 Type Number
Extended System Software (ESS)	6211-99	6211-97
Data Utility	6211-00	6211-00
SORT	6212-00	6212-00
SORT3	6213-00	6213-00
Spool/JA/SYSLOG/JOBLOG	6216-00	6216-00
Screen Format Generator (SFG)	6214-00	6214-00
Dialog Spec Language (DSLT)	6215-00	6215-00
Screen Format Generator (SFG) (CDI)	6214-00	6214-00
Dialog Spec Language (DSLT) (CDI)	6215-00	6215-00
IMS-ST	6217-00	N/A
IMS-MT	6232-00	6232-00
DMS	6218-00	6218-00
RPG Group	6219-99	6219-98
RPG II	6219-00	6219-00
RPG EDIT (CDI)	6220-00	6220-00
RPG Auto Report (CDI)	6221-00	6221-00

Software	Models 3 - 6 Type Number	Model 8 Type Number
COBOL-74	6222-00	6222-00
COBOL 68-74 Transition	N/A	6222-97
COBOL 68 Extended (DTF)	N/A	6236-00
COBOL 74	N/A	6222-00
COBOL EDITOR	6222-01	6222-01
FORTRAN IV	6223-00	6223-00
BASIC (CDI)	6224-00	6224-00
ESCORT Programming Language (CDI)	6225-00	6225-00
EDITOR (EDT) (CDI)	6226-00	6226-00
ASSEMBLER (ASM)	6233-00	6233-00
SORT	6212-00	6212-00
SORT3	6213-00	6213-00
ICAM-TSF	6231-00	6231-00
ICAM IBM 3270 RTH	6247-00	6247-00
DATEX-L PDN Support	6248-00	6248-00
DATAPAC PDN	6248-03	6248-03
DDX-P PDN	6248-05	6248-05
Menu Generator	6254-00	6254-00
NTR	6230-00	6230-00
DDP Transfer Facility	6229-01	6229-01
DDP File ACCESS	6229-02	6229-02
IMS-DDP Transaction Processing	6229-03	6229-03
IBM 3270 Emulator	6247-01	6247-01
NORDIC PDN	6248-06	6248-06
DATEX-P PDN (UTS 4040)	6248-01	6248-01
PSS PDN (UTS 4040)	6248-07	6248-07
TRANSPAC PDN (UTS 4040)	6248-02	6248-02
IBERPAC	6248-10	6248-10
Remote Terminal Processor (HASP)	6247-02	6247-02
UTS 400 Load/Dump Terminal Package	6228-00	6228-00
UTS COBOL	6130-05	6130-05
UTS 400 EDIT Processor	6201-03	6201-03
DCA Termination Systems	6255-00	6255-00
MAPPER 80 Software	6752-00	6752-00
File Placement Analyzer	6759-00	6759-00
Resource Management	6933-00	6933-00
File Transfer Utility (PCTRAN)	7685-00	7685-00
PC Online Transfer (OLTRAN)	8787-00	8787-00
OS/3 - MAPPER 5 Handler	8786-00	8786-00

3.3. PROGRAMMING AIDS

Programming aids (PA) help the user debug the system for system errors,
monitor the activity of the system, verify that all software is functional,
and convert from one operating system to another.

These items are provided at no additional charge over equipment price.

Programming Aids	Models 3-6 Type Number	Model 8 Type Number
Disk CACHE	X460-00	(Included with SCS)
OLM Diagnostics	X600-10	X600-10
System Activity Monitor (SAM) (Note 1)	X600-20	X600-20
COBTRN303 (Note 2)	N/A	PA512-08

NOTES: 1. SAM is automatically sent (without a specific order request)
            whenever SCS is distributed.

        2. The COBTRN 303 diskette is included with the COBOL 68-74
            transition group (type number 6222-97). Please refer to the
            Program Product Specification (PPS), UP-9265.49, and the
            Series 90 to Model 8 Migration Guide, UP-9743, for further
            information.

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4. Hardware Support

This section contains information relating to hardware support provided with
this release, including:

    System definition file
    System microcode file
    PRPMIC program
    Additional System 80 hardware support

4.1. YSDF SYSTEM DEFINITION FILE

The system definition file YSDF contains the microcode names (levels)
associated with device addresses. When a system is delivered, the YSDF
file contains the default microcode names associated with the noted device
addresses. You can list the current contents of YSDF by running the
canned job stream SDF$DSP.

4.2. YMIC SYSTEM MICROCODE FILE

The microcode file YMIC contains a list of all the microcode names
available with the release. You can list the current contents of YMIC by
entering 'FS ,YMIC,RES'.

The following applies to Model 8 only:

Release 10.0 has been built with the SDF set up to reflect a Plateau 5.00
hardware/firmware level. If the system is not at the Plateau 5.00 level, the
SDF must be changed to reflect the level of that system.

Release 10.0 is restricted to Plateau 5 and beyond. The microcode to support
Plateaus 1, 2, and 3 is not included in this release.

To identify the plateau of the system, the following steps must be
performed:

1. Press the ESC key and then the C key to display the Configuration Frame
    on the console screen.

2. The identifier of the system IMPL microcode diskette is displayed in
    the lower right-hand corner of the configuration frame as follows:

        FDD0=XYZ,OPN

    This data (XYZ,OPN) is used to identify the plateau level of the system.

        FDD0=726,0P1   Plateau 1
        FDD0=736,0P2   Plateau 2
        FDD0=738,0P2   Plateaus 3 and 4
        FDD0=949,0P5   Plateau 5
        FDD0=94A,0P5   Plateau 6

3. Select the appropriate column from the following chart to update the
    SDF based on the plateau level determined from step 2.

The YMIC file for Release 10.0 contains the following primary microcode levels:

Device Address	Device Type	Mod 3/4 W/O IOMP	Mod 5/6 W/O IOMP	Mod 3/4 ECF	Mod 5/6 ECF	Mod 3/4 W/IOMP	Mod 5/6 W/IOMP	Mod 8 Plateau 5	Mod 8 Plateau 6
				Microcode Name					
IMPL	CPU	S2BS0000	S2CK0000	S2BXS000	S2CK0000	S2BIH000	S2CIH000	N/A	N/A
IMPL	DBUS	DBUSH000	DBUSH000	DBUSXH00	DBUSH000	DBUSH000	DBUSH000	N/A	N/A
IMPL	IOMP	N/A	N/A	N/A	N/A	S2IOH000	S2IOH000	N/A	N/A
IMPL	IDC (8470)	IDCLD000 (Mod 4 only)	IDCLD000 (Mod 6 only)	N/A	N/A	N/A	N/A	N/A	N/A
IMPL	IDCU (8470)	ID70F000 (Mod 4 only)	ID70F000 (Mod 6 only)	N/A	N/A	N/A	N/A	N/A	N/A
cdd	IDCU (8470)	N/A	N/A	N/A	N/A	N/A	N/A	ID70F000	ID70F000
cdd	IDCU (8416/ 8418)	N/A	N/A	N/A	N/A	N/A	N/A	ID16L000	ID16M000
cdd	IDCU (8417/ 8419)	N/A	N/A	N/A	N/A	N/A	N/A	ID17B000	ID17B000
IMPL	CACH	CA760000 (See 4.3.4.)	CA760000	CA760000	CA760000	CA760000	CA760000	N/A	N/A
IMPL	CAC8	N/A	N/A	N/A	N/A	N/A	N/A	CA100000	CA100000
001	SVP	N/A	N/A	N/A	N/A	N/A	N/A	SV949900	SV94AA00
001	BPU	N/A	N/A	N/A	N/A	N/A	N/A	BP949400	BP949400
001	IOMP	N/A	N/A	N/A	N/A	N/A	N/A	LMA58900	LMA58900
REMOTE PRINTER									
cdd	0798	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000
cdd	0789.	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000	RPIOJ000
***SLCA-1 SYNC ***									
cdd	2788	CMM1L000	CMM1L000	CMM1L000	CMM1L000	CMM1L000	CMM1L000	CMM1L000	CMM1L000
SLCA-1 9.6 KLB NTR									
cdd	2788	NTR1C000	NTR1C000	NTR1C000	NTR1C000	NTR1C000	NTR1C000	NTR1C000	NTR1C000
SLCA-2 ASYNC									
cdd	2799	CMM2L000	CMM2L000	CMM2L000	CMM2L000	CMM2L000	CMM2L000	CMM2L000	CMM2L000
SLCA-3 UDLC									
cdd	2798	UDLCC000	UDLCC000	UDLCC000	UDLCC000	UDLCC000	UDLCC000	UDLCC000	UDLCC000
SLCA-3 RS-440									
cdd	2798-05	BIT3-000	BIT3-000	BIT3-000	BIT3-000	BIT3-000	BIT3-000	BIT3-000	BIT3-000
SLCA-5 56 KB NTR									
cdd	2986	NTR5F000	NTR5F000	NTR5F000	NTR5F000	NTR5F000	NTR5F000	NTR5F000	NTR5F000
WORKSTATION-PAINT TIME									
cdd	3560	WS1DJ000	WS1DJ000	WS1DJ000	WS1DJ000	WS1DJ000	WS1DJ000	WS1DJ000	WS1DJ000
-NO PAINT TIME***									
cdd	3560	WS1DG000	WS1DG000	WS1DG000	WS1DG000	WS1DG000	WS1DG000	N/A	N/A
KATAKANA WORKSTATION									
cdd	3560	WS1KJ000	WS1KJ000	WS1KJ000	WS1KJ000	WS1KJ000	WS1KJ000	WS1KJ000	WS1KJ000
WORKSTATION MODEL 2									
cdd	3561	WS2D-400	WS2D-400	WS2D-400	WS2D-400	WS2D-400	WS2D-400	WS2D-400	WS2D-400
WORKSTATION CONTROLLER									
cdd	WSC	WSC2-400	WSC2-400	WSC2-400	WSC2-400	WSC2-400	WSC2-400	WSC2-400	WSC2-400
X.21 BIT MODE									
cdd	2798	BITXD000	BITXD000	BITXD000	BITXD000	BITXD000	BITXD000	BITXD000	BITXD000
STREAMING TAPE Models 4, 6, and 8 only									
cdd	STCU	ITCUF000 (Mod 4)	ITCUF000 (Mod 6)	ITCUF000 (Mod 4)	ITCUF000 (Mod 6)	ITCUF000 (Mod 4)	ITCUF000 (Mod 6)	ITCUF000	ITCUF000
SLCA-3X.21 FUNCTION									
cdd	2798	BYTXB000	BYTXB000	BYTXB000	BYTXB000	BYTXB000	BYTXB000	BYTXB000	BYTXB000
SLCA-3-19.2 KB									
cdd	2798	UNI3A1	UNI3A1	UNI3A1	UNI3A1	UNI3A1	UNI3A1	UNI3A1	UNI3A1

NOTES: 1. No microcode is required for the SLCA autodialer.

        2. To display the content of the YMIC file, enter the
            following statement:

                FSTAT ,YMIC,RES

        3. For device address cdd:

                c
                    Is the channel number.

                dd
                    Is the control unit and device address.

4.3. UPDATING YSDF USING SDU

When new microcode for a device is installed and/or a device is updated and
new microcode is required, the system definition utility (SDU) must be
run to change the SDF file to reflect the new loadable microcode level
required. The model 8 user who does not have a workstation configured is
required to run the utility XSDU, which operates through console statements.
For example, when a system is first delivered, there is no entry for
microcode for Katakana workstations. The user with such a device should
use SDU to add the workstation device address and microcode name 'WS1KG000'
to the YSDF file.

Details for installing new microcode are provided in the System Installation
User Guide, UP-8839.

4.3.1. Updating the IMPL Area of SYSRES for Models 3 through 6

The PRPMIC canned job stream is automatically scheduled by SDU whenever any
initial microcode program load (IMPL) microcode changes are made. PRPMIC
moves the IMPL microcode levels reflected in the YSDF file from the YMIC
file to the IMPL area on the disk.

4.3.2. Creating the Model 8 Processor Microcode Diskette

In addition to updating YSDF, model 8 users must run the FDDODSKT canned
job stream whenever any processor microcode changes are made. FDvODSKT moves
the processor microcode reflected in YSDF from the YMIC file to a
diskette you have mounted for this purpose. Once FDDODSKT creates this new
processor microcode diskette, replace the old processor microcode diskette
with it.

4.3.3. Paint Time Enhancement Installation

If the paint time enhancement hardware is to be installed, follow these
guidelines:

1. Update the SDF file with the workstation paint time microcode.

2. Install the hardware.

3. IPL the system.

4.3.4. Updating the YSDF File for the Disk CACHE Portion of Model
           Upgrades (Models 4 and 6)

Users must update the YSDF file after installing CACHE program product
(X460-00). The procedure is as follows:

1. Call the system definition utility by entering SDU on the console and
   then pressing the XMIT key.

----

2. Complete the message prompting sequence using the cache microcode name
   that applies to your system. (See 4.2.)

4.4.   DUMPING YSDF TO DISK, DISKETTE, OR TAPE

   NOTE: Because Release 10.0 contains new microcode, SDU must be executed
           to update the YSDF file. (See 4.3.)

A job stream (SDFSAVE) is available to dump the YSDF from a RES pack onto
a disk, diskette, or tape. The job preps the medium (diskette or tape)
and allocates the necessary file. Later, the same job restores the YSDF
file onto RES. Any disk or tape and any single-sided, single-density
diskette may be used. The format of the statement to execute SDFSAVE is:

```
RU SDFSAVE,,FUNCTION=(DUMP     ),TYPE=(DISK     )
                     (RESTORE)        {DISKETTE}
                                      (TAPE     )


        ,VOLUME=(RES       )
                (vol-ser-no)
```

----

5. System Initialization and
    System Generation Considerations

5.1. GENERAL INFORMATION

A facility is provided for the delivery and installation of software
maintenance packages (SMPs) that contain changes to the OS/3 software.

It is recommended that the user system files be backed up by using the copy
routines before applying an SMP. (Refer to the System Installation User
Guide/Programmer Reference, UP-8839.)

An SMP installation job control stream is provided that:

o   installs all applicable corrections in the SMP;

o   regenerates the user system if the SMP affects it in such a way that it
    must be regenerated to be operable; and

o   prints an audit report on the status of each correction contained in the
    SMP.

If, at any time, a user requires a single software maintenance correction
(SMC), it will be supplied as soon as possible without waiting for the next
SMP delivery. In these special cases, the SMC must be installed using the
SMC process.

o   The first time that an IPL is attempted from a new SYSRES pack, it must
    be done without job queue recovery (JOBQUEREC=N specified); this
    initializes the job queues. Job queue recovery cannot be attempted at
    this first-time IPL since there is inconsistent/invalid data in the job
    queue area on disk.

    Failure to specify JOBQUEUE=N at the first-time IPL will cause the system
    to HPR, thereby making that IPL attempt impossible.

o   To avoid confusion when allocating disks, it is suggested that all fixed
    media disks be turned online prior to boot. At IPL time, all local
    devices should be online and ready.

o   Do not press the TRANSMIT key during the DBUS test portion of the IMPL
    sequence; a check stop occurs if this is done (Models 3-6 only).

5.2. INTERACTIVE SUPERVISOR MODIFICATION AT IPL

A new feature has been added to the system to allow for a resident shared
code directory index. This index allows for faster loading of shared code
and faster entry to shared code.

If the message MODIFY SUPERVISOR on the DATE/TIME screen is answered with
a Y, the operator is asked if a shared code directory index is to be built.
A response of Y builds the index (Models 3-6 only).

The index can also be configured at SYSGEN time via the SCDINDEX parameter.
The operator can reject the index by responding with N when asked, during
system initialization, if the index is not to be built.

5.3. BASIC SUPERVISOR (SY@BAS) - MODELS 3 THROUGH 6

One supervisor, SY@BAS, is supplied with System 80 Models 3 through 6; this basic supervisor is designed to meet the needs of a majority of users. If SY@BAS includes all user requirements, tailoring a supervisor is not necessary. If user requirements differ from the features of SY@BAS, refer to the System Installation User Guide, UP-8839, for generating a supervisor tailored to your needs.

SY@BAS features are:

1. Configuration of physical IOCS

    o 0789 printer
    o 0776 printer
    o 0719 reader
    o 0608 punch
    o 8417 disk (4)
    o 8417 disk, fixed head (2)
    o 8419 disk (2)
    o 8420 diskette (4)
    o 3560 workstation (2)
    o UNISERVO 10 tape (2)

2. Supervisor features

    o Fourteen job slots
    o Five switching priorities
    o ICAM support of local workstations
    o Job accounting
    o Spooling
    o System activity monitor
    o Console log

3. Specific capabilities

    o Transient areas   5
    o Error logging buffers   5
    o Max time (device type)   Wall clock
    o Max time   60 minutes
    o Resident modules   SM$LOCK, SM$LOD, SM$STXIT,
                                          SM$TASK, SM$ASCKE, SM$ATCH
    o Dynamically allocated
       load buffers   7 blocks
    o Dynamically allocated
       load table entries   7 per job
    o Spool file size   100 cylinders
    o Spool file bit map   128 words
    o Spool buffer   8 blocks
    o Spool output writer buffer   8 blocks
    o Shared load modules   DM$CFM, D3$M111, DM$W111, PR$IOE
    o Shared data management
       modules   80 24-byte slots
    o Expansion region size   4096 bytes
    o Job queue recovery   Yes

In the SY@BAS supervisor, devices 100 through 105 are configured for 8417 disks, and devices 106 and 107 are configured for 8419 disks. These devices cannot be used for the alternate run or spool devices if the hardware does not match the SY@BAS configuration.

> NOTES: 1.   Refer to the System Installation User Guide, UP-8838, for instructions on installing the software.
>
>   Spooling and job accounting will be disabled at IPL time if the program product spooling is not installed.
>
>   2.   Transient work area support (TRNWKAREA=YES) has been added to the starter supervisor SY@BAS as a performance enhancement for the SMP process.

5.4. BASIC SUPERVISOR (SY#BAS) – MODEL 8

One supervisor, SY#BAS, is supplied with the System 80 Model 8. If user requirements differ from the features or I/O devices of SY#BAS, refer to the System Installation User Guide, UP-8839, for generating a supervisor tailored to your needs.

SY#BAS features are:

1. Configuration of physical IOCS

   o 0770 printer (7)
   o SDMA (0776/0789/0798) printer
   o 0716 reader
   o 0719 reader
   o 8418 disk (6)
   o 8433 disk (4)
   o 8470 disk (16)
   o 8420 or 8422 diskette (4)
   o 3560 and 3561 workstation (2)
   o 8417 disk (12)
   o 8419 disk (4)

2. Supervisor features

   o Twenty-four jobs
   o Five switching priorities
   o ICAM support of local workstations
   o Job accounting
   o Spooling
   o System activity monitor
   o Console log

3. Specific capabilities

    o Transient areas   5
    o Error logging buffers   6
    o Resident modules   SM$LOCK, SM$LOD, SM$STXIT,
                                          SM$TASK, SM$ASCKE, SM$ATCH

    o Dynamically allocated
       load buffers   7 blocks
    o Dynamically allocated
       load table entries   7 per job
    o Spool file size   50 cylinders
    o Spool file bit map   64 words
    o Spool buffer   8 blocks
    o Spool output writer buffer   8 blocks
    o Shared load modules   DM$CFM, D3$M111, DM$W111, PR$IOE
    o Shared data management
       modules   80 24-byte slots
    o Expansion region size   4096 bytes
    o Job queue recovery   Yes

In the SY#BAS supervisor, the following device configurations apply:

1. Devices 2A0 - 2A2 and 3A0 - 3A2 are configured for 8416/8418 disks.

2. Devices 280 - 281 and 380 - 381 are configured for 8430/8433 disks.

3. Devices 290 - 297 and 390 - 397 are configured for 8470 disks.

4. Devices 2B0 - 2B5 and 3B0 - 3B5 are configured for 8417 disks.

5. Devices 2B6 - 2B7 and 3B6 - 3B7 are configured for 8419 disks.

These devices cannot be used if the hardware does not match the SY#BAS
configuration.

    NOTES: 1. Refer to the System Installation User Guide UP-8839, for
                instructions on installing the software.

                Spooling and job accounting will be disabled at IPL time if
                the program product spooling is not installed.

            2. Transient work area support (TRNWKAREA=YES) has been added
                to the starter supervisor SY#BAS as a performance
                enhancement for the SMP processor.

5.5. SYSTEM GENERATION GUIDELINES

o When the MIXED and CDM modes are used, there is a related CPU overhead.
   This overhead may be noticeable when the CPU timing information
   available from job accounting is used. Most of the overhead is associated
   with data management and as such gets charged to user jobs. Consideration
   of this fact may have to be given for any billing or charges based on job
   accounting information.

o To improve the performance of DDP (and also to help reduce main storage
   fragmentation), a capability is provided that allows the user to have the
   DDP modules resident that are common to all DDP functions and that are
   in the normal processing path.

   The user may, at supervisor generation time, specify

      RESHARE=DDPL
         All DDP modules required for local processing are made resident
         (approximately 37,000 bytes).

   or

      RESHARE=DDPR
         All DDP modules required for remote processing are made resident
         (approximately 82,000 bytes). This includes the group DDPL.

   The user may also modify the supervisor at system initialization time
   by specifying a Y to the question at the bottom of the screen regarding
   supervisor modification. Either group DDPL or DDPR may be added at
   initialization time. The same modules and sizes apply whether DDP is made
   resident at supervisor generation time or system initialization time.

o The minimum main storage requirement for Release 10.0 is 524K bytes.

o The maximum number of transient areas that can be created by using the
   TRANS keyword parameter is 15.

o When you use the TERM macro in the ICAM generation, do not specify
   either the PRIMARY or SECONDARY parameter option unless you have dual
   screen capability in your UTS 20. Doing so will yield unpredictable
   results; for example, other workstation users may not be able to log on.

o There are two IMS configuration parameters that cause screen format
   services (SFS) to allocate additional dynamic memory:

      RESFMT=n
         where n is the number of resident formats. The default is 1
         resident format per terminal for single thread and 3 resident
         formats for multithread.

      SFS=n
         where n is the number of concurrent SFS users.

The system allocates dynamic buffers according to the formula:

    no.-of-terminals x no.-of-resident-formats x format-size =
    allocated main storage

Using this formula, the following example illustrates the IMS/SFS
dynamic buffer allocation for a typical user:

    10 terminals x 3 x 4K = 120K

5.6. IMPL/IPL GUIDELINES

o You may use an 8470 disk as your SYSRES on the System 80 model 4 and
   model 6. However, due to a software restriction, you cannot IMPL or
   IPL from that drive. Instead, you must IMPL and IPL from an 8417 or
   8419. You may, however, load your supervisor from the 8470.

   Follow these steps to use an 8470 as SYSRES:

   1. To IMPL, answer the IMPEQUALCDD? message by keying in the
      device-id of the 8417 or 8419 you want to IMPL from.

   2. To IPL, answer the IPLEQUALCDD? message by keying in the
      device-id of the 8417 or 8419 you want to IPL from.

   3. After the IPL load device is selected and the IPL01 message is
      displayed requesting the supervisor you want to load, key in the
      supervisor name, S, device-id of the 8470 where your supervisor
      resides.

o The total number of transient areas must fall within the first 65K of
   main storage. During IPL, the number of transient areas will be reduced
   if they do not fall within this limit. If this occurs, the following
   message is displayed:

   NUMBER OF TRANSIENT AREAS REDUCED FROM nn TO nn

5.7. RESTORING FILES FROM PREVIOUS RELEASES TO RELEASE 10.0

The following files may include modules and records created by the user
while using a previous release:

    YCAT
    YSEC
    YFMT
    ESC$ESCORT.LIBRARY.FILES

These user-generated modules and records can be transferred to your Release
10.0 SYSRES volume by using the following procedure:

1. Select the media on which you want to save the file.

2. Use the JC$CAT utility for YCAT; use MLIB for the remainder
    of the files.

3. Save the files from your previous release to the selected save media.

4. Install Release 10.0 using the restore utility.

5. Restore the files to your Release 10.0 SYSRES volume.

6. The YSAVE file cannot be carried forward. Jobs must be resaved.

5.8. SYSTEM RELEASE INSTALLATION GUIDELINES

When you restore 8470 file formatted SCS tapes under Release 8.2 or 9.0
using the SG$DMPTD routine, the following message appears on the system
console:

        IS OUTPUT DEVICE A FIXED HEAD DEVICE (N,Y)

You must answer Y to this message.

The following guidelines must also be observed when you install file
formatted SCS tapes:

1. The disk you restore tapes onto must be prepped as an IPL/IMPL disk and
    it must have a volume serial number of RELxxx (xxx is the release level
    of the software you receive).

2. After the tape has been successfully restored, you must run PRPMIC to
    place the IMPL and IPL codes in their correct positions.

----

6. System Publication Updates

This section contains system publication update information for UP
documentation that became available after the publication cutoff
date. The affected UP documents are listed in the order of their UP
numbers. The page, subsection, etc, where the change is to be made is
listed along with the updated information.

The information in this section will be included in the next scheduled
update of the UP manuals.

o   UP-8054 Rev. 4 Sort/Merge Programmer Reference

    -   Table E-2

        Add the following data transfer rate information for UNISERVO 26 and
        UNISERVO 28 as shown:

                    UNISERVO 26   UNISERVO 28
                    -----------   -----------
                    120,000 bps   200,000 bps
                     60,000 bps   100,000 bps
                         -                  -

                         -                  -
                         -                  -

o   UP-8076 System Messages Programmer/Operator Reference

    Section 2

    Add the following messages:

        MC#12 cca-name IS AN RBP NETWORK. UP/DO OR LINE/TERM PROHIBITED

            Unsolicited keyins to up or down an RBP line are not permitted.

            Shut down RBP to free the line.

        MC#19 cca-name LWS ddd llll tttt UNRECV; SENSE ssss; LINE DOWN

            An unrecoverable error has been returned to ICAM by WSAT when
            processing an input or output command to a local workstation. The
            line is marked down by ICAM and any dynamic session is aborted.

            If the line cannot be brought back up via an unsolicited keyin or
            $$SON command, check the hardware. The sense bits should help to
            pinpoint the problem.

        R265

            The maximum number of LFD statements (255) has been exceeded. The
            job is not scheduled but the control stream is scanned for other
            errors.

            Reduce the number of LFD statements and resubmit the job.

Change the description for the DM8E filename chan/device WRITE
PROTECT WITH INIT/EXTEND message to read as follows:

> During the opening of a disk or data set label diskette, a write
> disable condition was detected (for example, the write protect
> notch on a diskette or the write protect switch was set on a disk).
>
> Correct the error condition. Either change the specification and
> process the file in its present condition or change the write protect
> status of the hardware and rerun the job.

Change the second paragraph of the description of error code 11 for
the VV09 INVALID LABEL FOR FILE=filename EC-nn message to read as
follows:

> No additional damage can occur if the logical extent information is
> a subset of the physical extent information.

Section 5

Add the following messages:

JOB IS BEING MOVED X

> This response to the DI JS command indicates job status (X) as
> follows:
>
> 1 Memcon active for this job.
> 3 Memcon active for this job, and task is waited.
> 5 Memcon active for this job, and job is going immovable.
> 7 Memcon active for this job, job is going immovable, and task
>   is waited.
> 9 Memcon active for this job, and job is currently active in
>   memory consolidation.
> B Memcon active for this job, job is currently active in
>   consolidation, and task is waited.

WRONG CCA NAME ON NETREQ - JOB BEING CANCELLED

> This informational message is displayed before the user job is
> cancelled with error code 440. The cca-name for the network
> request does not match the name defined in the network.

o UP-8342 Sort/Merge User Guide

Subsection 1.7.2

Table 1-3

Add the following data transfer rate information for UNISERVO 26 and
UNISERVO 28 as shown:

UNISERVO 26	UNISERVO 28
120,000 bps	200,000 bps
60,000 bps	100,000 bps
-	-
-	-
-	-

----

o UP-8550 Integrated Communications Access Method (ICAM) Standard MCP
            Interface (STDMCP) User Guide

Table 2-1. Output Delivery Notice Status Codes

Add note 1 to device status 2, note 2 to device status 3, and note 3 to
device status 4:

   NOTE 1:

   An out-of-paper condition on an Aux device will be reported as a
   status 3 on a UTS 20 or UTS 40.

   NOTE 2:

   Status 3 will also be reported for Aux devices on a UTS 20 or UTS 40
   if the lid of a printer is raised or a printer is powered off during
   a print operation.

   NOTE 3:

   Status 4 is also reported for Aux devices on a UTS 20 or UTS 40 when
   a printer is offline or end of tape occurs on a TCS.

o UP-8613 1974 American National Standard COBOL Programmer Reference

Subsection 5.3.1.7

Change the last sentence in Rule 6 to read as follows:

   For an explanation of buffer offset and ASCII tape file formats, see
   the consolidated data management concepts and facilities, UP-9978
   (current version).

o UP-8839 System Installation User Guide

Subsection 1.5

Change the third sentence to read as follows:

   That is, if you order your optional software at the same time you
   order your standard OS/3 release software, we deliver the optional
   software on diskettes unless you ordered the release on disk.

Subsection 1.5.3

Insert the following sentence before the last sentence in the first
paragraph:

   The optional software is delivered on separate release diskettes.

- Subsection 1.6.4

  Change the second sentence to read as follows:

      This control stream copies the standard release software from the
      dump/restore tape to an output disk that you specify at run time.

  Subsection 2.1.2

  Change this subsection to read as follows:

      As an existing user, your software is released as follows:

      1. Optional OS/3 components are delivered separately on diskettes;
          or

      2. an entire new release of OS/3, including new optional components,
          is delivered on disk or diskette. The standard OS/3 software is
          delivered on tape, and optional OS/3 components are delivered
          separately on diskettes.

      Let's discuss your concerns when installing each type of release.

  Subsection 2.2.1

  Change the last bulleted item to read as follows:

      install standard release software from tapes (for existing users who
      receive new OS/3 releases).

  Subsection 2.2.2

  Add the following bulleted item at the end of this subsection:

      install standard release software from tapes (for existing users).

  Subsection 2.2.2.4

  Change the first paragraph to read as follows:

      SPERRY delivers Model 8 standard release software on dump/restore
      tapes of 8417, 8418-II, 8419, 8430, and 8433 disks. If you order your
      release on tape, however, you must have an existing system.

  Change the last sentence of the last paragraph to read as follows:

      You can then mount this disk on your Model 8, generate a supervisor
      if SY#BAS does not meet your requirements, and begin installing
      optional release software. (See 2.2.2.2 for details.)

  Subsection 3.1.1

  SY#BAS (Model 8) supports, I/O DEVICES

  The line, 1 - 0716 reader (004) should read 1 - 0716 reader (006).

Subsection 3.2.1

Replace the LOGON request screen with the following screen:

                    OS/3 INTERACTIVE CONTROL SYSTEM

     LOGON IDENTIFICATION: USER-ID   >------<
                                     ACCOUNT NUMBER   >----<
                                     PASSWORD   >   <
                                     EXECUTION PROFILE: >--------<

     OPTIONS: BULLETIN   >YES<
                                     LOG   >YES<
                                     NEW PASSWORD   >   <

In step 4, change UP-8845 to UP-9972.

Subsection 4.1

-   SUPGEN Phase, Model 8 FILELOCK parameter

    Change the word as to or in the first sentence of the description for
    YES.

-   SUPGEN Phase, VVAVR parameter

    Change the word ''recovery'' to ''recognition'' in the first sentence
    of the description.

    Change the ''UPO8859'' to ''UP-8859'' in the second sentence of the
    description.

-   SUPGEN Phase, DDPSC parameter

    Remove the format $\left[DDPSC=\begin{Bmatrix} NO \\ YES \end{Bmatrix} \right]$

    The correct format for this parameter is $DDPSC=\begin{Bmatrix} NO \\ YES \\ REM \end{Bmatrix}$

-   SUPGEN Phase, CACHESEGSIZE parameter

    The correct format for this parameter is $\left[CACHESEGSIZE=\begin{Bmatrix} 2-15 \\ YES \end{Bmatrix} \right]$

    Change the first sentence of the description to read as follows:

        Specifies the number of 1024-byte blocks in a CACHE segment.

    Change the word ''offset'' to ''effect'' in the first sentence of the
    last paragraph of the description.

- I/OGEN Phase Models 3-6, WORKSTATION ADDR and TYPE parameters

  Delete 3562 from both pa

- I/OGEN Phase Models 3-6, REMWORKSTATION SCRENMEM parameter

  Delete (for 3561/3562) from this parameter.

  Change the first sentence in the description to read as follows:

      Specifies single or dual screen support for UTS 20, UTS 30, and
      UTS 40 workstations.

  Change the last sentence in the description to read as follows:

      Can be specified for a UTS 20, UTS 30, or UTS 40 workstation only
      if it has the screen bypass option.

- I/OGEN Phase Model 8, TAPE COCHAN parameter

  Delete the 4 and 5 values. The valid values are 1, 2, 3, 6, or 7.

- I/OGEN Phase, REMWORKSTATION SCRENMEM parameter

  Delete (for 3561) from this parameter.

  Change the default for this parameter to 1.

  Change the first sentence of the description to read as follows:

      Specifies single or dual screen support for UTS 20, UTS 30, and
      UTS 40 workstations.

  Change the last sentence in the description to read as follows:

      Can be specified for a UTS 20, UTS 30, or UTS 40 workstation only
      if it has the screen bypass option.

o UP-8859 Operations Handbook Operator Reference

   Subsection 3.3.2

   - Step 1

     Change the last sentence in the definition of S to read as follows:

         This process is time consuming and is only necessary when a
         symbiont size has changed.

     Change the definition of L to read as follows:

         Specifies the special supervisor load for stand-alone programs.

Subsection 12.1

Change ''(for models 3 through 6)'' to ''(for Models 4 and 6)'' in the
first sentence.

Subsection 12.1.1.2

Change the column headed ''Models 3 through 6'' to ''Models 4 and 6'' in
the Default Cache Buffer Segment Size list.

Subsection 12.1.6

-   Figure 12-1

    Change the sentence that precedes Figure 12-1 to read as follows:

        Figure 12-1 shows samples of the statistics displayed at the
        system console for Models 4, 6, and 8.

    Change the heading MODELS 3-6 to MODELS 4 and 6.

    Change the first sentence in the bulleted item Number of unreferenced
    I/O's to read as follows:

        Unreferenced I/O's are a count of the number of segments that were
        reused without ever having been referenced by read or search
        read commands.

o   UP-9209 IMS Data Definition and UNIQUE User Guide

    Subsection 3.21

    Change the first bulleted item in the data-name-1 description to read
    as follows:

    o   A record described with the FROM or FROM CONTROL BREAK format of
        the FROM clause, data-name-1 must be part of that record's primary
        key only.

    Add the following note to subsection 7.8 after the Embedded NEXT command
    subject:

        NOTE: Do not attempt to update a common storage area file via
                UNIQUE. UNIQUE can access a common storage area file through
                defined record management, but only through a supplement
                definition. You must not specify ASSUMES CONTROLLED ROLE IN
                UPDATE in the supplement definition.

Subsection 7.22

Add the following at the end of the subsection:

> If you want a complete LIST output in addition to the statistical
> results, you must specify LIST ALL before any other display content
> specification. If you do not specify ALL, only statistical results
> are given.
>
> For example:
>
> LIST ALL IF PART-PRICE<500; COUNT

o UP-9317 Menu Services Concepts and Facilities

Subsection 2.4

Change the DISPLAY menu function command description to:

> This command displays the screen format, specified by format-name,
> purely for informational purposes. This screen may or may not have
> input fields. Screens that contain output or bidirectional fields
> cause an error and are not displayed.

o UP-9734 MAPPER 80 Run Functions User Guide

Subsection 5.1.38

Change the format-name definition to read as follows:

> Specifies the SFS format name to be displayed. This must be from 2 to
> 8 alphanumeric characters and the first character should be the
> letter U.

Change the second set of examples to:

> When there is no output data:
>   ∂SFS U8000 /V1I3,V2A3
> When there is no input data:
>   ∂SFS U9 ABC
> When there is no input or output data:
>   ∂SFS UJLH0602

o UP-9737 MAPPER 80 System Operator and Coordinator User Guide

Subsection 5.3.4

Change the first paragraph to read as follows:

> The MAPRES utility takes the MAPPER 80 report information from a
> MIRAM file previously created with MAPDUM and restores the specified
> modes to the MAPPER 80 data base.

Change the last two paragraphs under Control Statement #KEY to:

The #KEY CHECK control statement cannot be used when restoring a
single mode using MAPRES.

You should usually run MAPRES by using the #KEY CHECK control
statement. If not, internal indexes are not restored. In this
situation, the binary find (BF) function cannot be used on the
restored reports until each report is manually duplicated or restored
using the MAPRID utility.

o UP-9745 ICAM Network Definition and Operations User Guide

Table 2-13

Change MAPPER 15 to MAPPER 5.

Subsection 6.1.4

Change the bulleted item FEATURES= to read as follows:

FEATURES=(U20),(U40),(U200), or (U400) on the TERM macroinstruction
(UTS 30 terminals are covered under FEATURES=(U40).

Subsection 6.3.1

Change the last sentence to read as follows:

If an initiate confidence test (ESC Q) occurs during downline
loading, the auxiliary devices should be deallocated; otherwise, the
terminal operator should press RESET.

o UP-9748 Integrated Communications Access Method (ICAM) Utilities User
Guide

Subsection 3.11.6

Add the following:

For forms control, specify the FORMS parameter in the configuration
file:

FORMS filename

The forms overflow code is 12. The home paper code is 1. The
following are examples of forms files for 5 1/2-, 8-, and 11-inch
forms:

	Line number	code
5 1/2-inch	31	12
	33	1
8-inch	44	12
	48	1
11-inch	63	12
	66	1

o UP-9972 Interactive Services Commands and Facilities User Guide

   Subsection 2.3.1

   Change the note that follows the logon menu screens to read as follows:

   NOTE:

   When you log on at either a UTS40, UTS40D, UTS400, Sperry PC,
   or an SVT 1120, the password entry is not displayed.

o UP-9976 General Editor User Guide/Programmer Reference

   Subsection 1.2.1

   Change the first sentence to read as follows:

   The OS/3 editor contains a user-controllable data entry saving
   feature called AUTOSAVE, which can periodically copy your data
   entries to a user-specified save file.

   Subsection 7.9

   In the description of the AUTO parameter, change the first sentence to
   read as follows:

   Activates AUTOSAVE, which automatically saves data entries by
   copying a user's proc (main proc) work space to the file specified in
   SAVEFILE. at a frequency rate designated by the user.

   In the description of the AUTO parameter, change the last sentence in
   Note 2 to read as follows:

   The user must identify and correct the error, then reinitialize
   AUTOSAVE with another @SET/@AUTO sequence.

In the typical examples of using the @SET directive, change the description of the last example to read as follows:

Sets EDT to save the user's proc 0 (main proc) every 10 input lines to the module EDTSAVE on the file YSRC on the RES pack.

o   UP-9985 System Operations Summary

Section 1

Change the last line under STATEMENT CONVENTIONS to:

Underlining ----   Represents the abbreviated form of the entry

Section 4

The abbreviated form of the SHUTDOWN command is not accepted. Change the format of the SHUTDOWN command to:

SHUTDOWN [DDP]

Section 9

Disk Cache Facility

Change the CM SIZ=n description to read as follows:

Initializes DCF with a new cache buffer size

Change ''CMSEG=n'' to ''CM SEG=n'' and change the description to read as follows:

Initializes DCF with a new segment size.

Change ''CM RESEG=n'' to ''OO CM RESEG=n''

Change ''OO CM STA or OO CM STARES'' to ''OO CM STA'' and change the description to read as follows:

Displays DCF statistics

Add the following entry and description:

OO CM STARES   Displays DCF statistics and resets all counters
                maintained by DCF.

                                        Appendix A.   Macro/Module
                                                      Description Listing

A canned job stream, MODLST, is available on the release disk to provide the
OS/3 macro/module listing. This job stream provides an alphanumerically
ordered listing of the contents of each of the 11 system libraries,
including the description and size of each module. The job may be executed
by entering the following system command:

   RV MODLST[,,VSN=xxxxxx]

where:

   xxxxxx
      Is the VSN of an optional work disk. If this parameter is omitted, the
      work space for the job is allocated on the disk containing the RUN
      library. Disk work-space requirements for MODLST are as follows:

         8416/8418 (Model 8)   30 cylinders
         8430 (Model 8)   10 cylinders
         8433 (Model 8)   10 cylinders
         8417 (Models 4, 6, and 8)   15 cylinders
         8419 (Models 4, 6, and 8)   30 cylinders
         8470 (Models 4, 6, and 8)   4 cylinders

The job stream executes in three steps:

1. Program DMENVR is used to determine if CDI data management is available
    and sets on UPSI bit accordingly. Otherwise, DTF data management
    versions are used.

2. Either MODXTR (DTF mode) or CMDSTR (CDI mode) is used to extract data
    from each module in the system libraries to an output file for step 3.

3. The output file from step 2 is submitted as input to the MODLST (DTF
    mode) or CMDLST (CDI mode) program, which sorts the input and then
    produces the macro/module listing.

Appendix B.   SUR Reference

Direct inquiries, concerning specific system user reports (SURs) corrected
by this release of the software, to the Sperry Support Center.

Appendix C. Main Storage Estimator

This appendix contains information that can be used to estimate the main
storage needs of System 80 for Release 10.0. Included are storage estimates
for the various components of the operating system, a chart to aid in
calculating the total amount of main storage required, and a list of the
main storage capacities available with System 80 systems.

C.1. MAIN STORAGE COMPONENTS

The main storage estimates of the OS/3 Operating System software are listed
by the following categories:

    Main storage
    Supervisor size
    Shared data management code
    DTF sizes
    Job prologue
    Space for user programs
    Integrated communications access method (ICAM)
    Information management system (IMS)
    Data base management system (DMS)
    MAPPER 80 software
    Data utilities
    Other system software
    Emulation
    OS/3 disk requirements
    Interactive command processor
    MENU generator
    Screen format services
    ESCORT Programming Language

C.2.   CALCULATING MAIN STORAGE REQUIREMENTS

The main storage estimator chart (Figure C-1) provides a convenient
checklist for constructing a software system from the individual software
components.

Main storage requirements can be calculated as follows:

1. Determine which software components are to be used.

2. Calculate the amount of main storage required for each component, using
    the appropriate subsection (C.3 through C.9) in Figure C-1. The value
    (in bytes) in subsections C.3 through C.9 is indicated in parentheses.

3. List each program to be run and calculate total main storage required
    (C.10 through C.12).

4. Total all the entries made in Figure C-1 to arrive at the main storage
    requirements.

        NOTE: The total obtained in step 4 may be reduced by:

            o Reducing the number of programs to be run

            o Modifying the size/type of programs to be run

            o Eliminating certain software components that are not used
               regularly and not required to be in main storage all the
               time

5. Select the main storage size (Figure C-1) closest to (but greater than)
    the total in Figure C-1 to determine the size needed.

        SUPERVISOR (C.3)   ----------------
        ICAM (C.4)   ----------------
        IMS (C.5)   ---------------
        DMS (C.6)   ---------------
        SYSTEM SOFTWARE (C.7)   ---------------
        DATA UTILITIES (C.8)   ---------------
        EMULATION (C.9)   ---------------
                SUBTOTALS   ----------------

    PROGRAM SIZES (C.10)

        (Models 3 through 8)   (Model 8 only)   (Model 8 only)

        #1 ---------------   #15 ---------------   #32 ---------------
        #2 ---------------   #16 ---------------   #33 ---------------
        #3 ---------------   #17 ---------------   #34 ---------------
        #4 ---------------   #18 ---------------   #35 ---------------
        #5 ---------------   #19 ---------------   #36 ---------------
        #6 ---------------   #20 ---------------   #37 ---------------
        #7 ---------------   #21 ---------------   #38 ---------------
        #8 ---------------   #22 ---------------   #39 ---------------
        #9 ---------------   #23 ---------------   #40 ---------------
        #10 ---------------   #24 ---------------   #41 ---------------
        #11 ---------------   #25 ---------------   #42 ---------------
        #12 ---------------   #26 ---------------   #43 ---------------
        #13 ---------------   #27 ---------------   #44 ---------------
        #14 ---------------   #28 ---------------   #45 ---------------
                               #29 ---------------   #46 ---------------
                               #30 ---------------   #47 ---------------
                               #31 ---------------   #48 ---------------

    CONCURRENT SYMBIONTS (C.11)   ---------------
    SHARED D.M. (C.12)   ---------------

        SUBTOTALS   ----------------

    Totals - ESTIMATED MAIN STORAGE REQUIREMENTS   ----------------

    MAIN STORAGE SIZE RECOMMENDATIONS: Select size closest to (but greater
                                          than) your estimated main storage
                                          requirements.

                Models 3-6   Model 8
                ----------   -------

                  524,288   1,048,576*
                1,572,864*   2,097,152*
                2,097,152*   4,194,304*
                2,621,440*   6,291,456*
                3,145,728*   8,388,608*
                3,670,016*
                4,194,304*

    * Systems with Main Storage Expansion

                    Figure C-1. Main Storage Estimator Chart

C.3. SUPERVISOR SIZE

1. Minimum requirements for a supervisor

   The minimum requirements for a supervisor include:

   a. One job slot
   b. One task switching priority
   c. Multitasking
   d. Interrupt handling
   e. Storage protect
   f. One transient area
   g. Transient loader
   h. Console control facilities
   i. Support for peripherals
      o Printer
      o Two disk drives
      o One diskette drive
   j. ECC (error correction code) for IDA
   k. AVR
   l. System access technique (SAT) required
      for disk data management and system software
   m. Resident loader

2. Supervisor options (can be added to minimum supervisor)

3. Supervisor functions (available through transients) that
   can optionally be made resident:

   a. SM$LOCK - Resident system lock feature   (900) -------
   b. SM$ATCH - Resident multitasking (ATTACH macro)   (1200) -------
   c. SM$TASK - Resident multitasking (AWAKE, TYIELD,
      CHAP, WAITM, and POST macros)   (1100) -------
   d. SM$STXIT - Resident island code control (STXIT
      and EXIT macros with island code
      activation)   (1400) -------
   e. SMG$GTPUT - Resident information passing (GETCOM,
      PUTCOM, and GETINF macros)   (760) -------
   f. SM$DBS - Resident DBS   (300) -------

4. Sum of items 1, 2, and 3 - round to 1024 or multiples of 1024

5. Basic supervisor

   o Models 3 through 6   13,735 -------
   o Model 8   14,277 -------

   This is the starting point for all other features. The basic supervisor
   includes:

   a. One to 14 job slots (Models 3 through 6), one to 48 job slots
       (Model 8) (Refer to 6a.)
   b. Integrated communications access method (ICAM) interface
   c. One to 60 task switching priorities (Refer to 6c.)
   d. Capability to add selector and multiplexer channel devices
   e. Error logging interface
   f. Minimum timer services for I/O clock (Refer to 6g.)
   g. Items 1c through 1l (minimum supervisor)

6. Additional supervisor options

   a. Multijobbing (4 bytes x number of job slots x
       number of I/O data paths). Note that the 0605
       punch with read feature is one data path.   -------
   b. Printer/punch/reader/RBP/system log/
       spooling (Table C-1)   -------
   c. Multipriorities (4 bytes x number of
       execution priorities)   -------
   d. Job accounting   (350) -------
   e. SYSDUMP   (1384) -------
   f. Online diagnostics   (1400) -------
   g. Clock support
       GETTIME macro support   (150) -------
       SETTIME macro support   (200) -------
   h. Additional transient areas
       1200 bytes each; 15 maximum. One
       transient area is included
       in Basic Supervisor.   -------
   i. Console logging
       Console log dispatcher   (450) -------
       Console log spool control table   (228) -------
       Console log buffer:
         Minimum   (304) -------
         Normal   (560) -------
         Maximum   (1072) -------
   j. Shared code directory
       (40 bytes x number of
       shared code directory slots)   -------
   k. Interactive command processing table   (64) -------
   l. System activity monitor (SAM)   (344) -------
   m. Add total of supervisor options in item 3   -------
   n. Shared code directory index
       (16 x number of modules in the
       shared code load library)   (5328) -------
   o. Resource management   (2832) -------

----

    p. Security
          Resident module   (1384) -------
          Resident table
              Fixed portion   (152) -------
              (14 x number of users)   -------
              (8 x number of command profiles)   -------

7. Sum of items 5 and 6; round to 1024 or multiples of 1024   -------

C.3.1. PIOCS Sizes

o Models 3 through 6

PIOCS Resident -   12,755

        448 x number of DMA disks   (----)
        304 x number of diskettes   (----)
        636 x number of local
         workstations   (----)
        264 x number of printers   (----)
        264 x number of readers
         and punches   (----)
        304 x number of tapes   (----)

        If 8470 disks are configured:
        1396 + 448 x number of 8470 disks   (----)

        If tape block numbering is configured:
        Add 1640   (----)

        Sum of PIOCS sizes   -------

o Model 8

PIOCS Resident -   19,222

        (Includes 1 LMUX, 1 USEL, and
        1 DMUX channel; plus support
        for 8418 or 8470 disk at 1374
        fixed size)

        256 x number of additional channels   (----)
        92 x number of additional USEL channels (----)
        448 x number of disks   (----)
        304 x number of diskettes   (----)
        636 x number of local workstations   (----)
        264 x number of printers, readers,
         and punches   (----)
        304 x number of tapes   (----)

        If 8430/8433 disks are configured:
        Add 2028   (----)

        If tape block numbering is configured:
        Add 1640   (----)

        Sum of PIOCS sizes   -------

C.3.2. Interactive Command Processor Size

The interactive command processor consists of resident code and shared code
modules. The resident code remains in main storage as long as one
workstation is logged on or commands are being entered from the console.
Shared code modules remain in main storage until they are unused and their
main storage is needed for some other purpose.

1. Basic interactive services symbiont
    (including 1024 prologue)   (8192) -------

2. DDP support (See note 1.)   (8192) -------

3. Remote workstation support (See note 2.)   (11764) -------

4. ICAM support (See note 3).   (1024) -------

5. Dynamic open file table (26 x number of users
    configured)   -------

6. Workstation control table (56 per logged-on
    workstation)   -------

7. Thread control packet (344 x number of
    commands running)   -------

8. Shared code command modules

    a. COMMAND PROCESSOR   4256 + (300 x number of users)   -------
    b. COPY, PRINT, PUNCH   1916 + (316 x number of users)   -------
    c. FSTAT, VTOC   2648 + (408 x number of users)   -------
    d. COMMENT   648 + (208 x number of users)   -------
    e. RECOVER   1536 + (304 x number of users)   -------
    f. ALLOCATE   256 + (56 x number of users)   -------
    g. ERASE   800 + (448 x number of users)   -------
    h. ENTER   1024 + (320 x number of users)   -------
    i. LOGON   4096 + (800 x number of users)   -------

    NOTES: 1. DDP support is included only if the DDP product is
                separately purchased by the customer, as evidenced by the
                presence of the load module DD$ICM in YLOD.

            2. Remote workstation support is included only if remote work-
                stations are configured in the supervisor and load modules
                WS$WKS and WS$TRM are present in YLOD.

            3. ICAM support is included only if needed, i.e., if DDP or
                remote workstations are supported.

            4. The size of the I/S symbiont is determined dynamically when
                RC$$IS is initially loaded.

            5. On Releases 7.0 and 7.1, the modules required to support
                remote workstations and ICAM were separately loaded
                elsewhere in main storage, not bound into the I/S symbiont.
                The change was made to reduce memory fragmentation.

----

    j. LOGOFF   (1344)   -------
    k. SMU   (12,460)   -------
    l. SDU   1900 + (436 x number of users)   -------
    m. HELP   432 + (192 x number of users)   -------
    n. SCREEN   1408 + (40 x number of users)   -------
    o. STATUS   1824 + (125 x number of users)   -------
    p. SECURITY   (2816)   -------

7. Dynamic file management

    a. Dynamic open
        Root   (264 + 240 x number of users)
        Phase I   (3176 + 184 x number of users)
        Phase II   (3296 + 664 x number of users)
        Phase III   (376 + 56 x number of users)
        Minimum open   (3280 + 906 x number of users)   -------
    b. Dynamic close   (712 + 304 x number of users)   -------
    c. Spool file access   (6880) -------
    d. VTOC access   (2536) -------
    e. Workstation system
        mode access   (1776) -------

8. Library utilities   -------

Table C-1. Spooling Size Estimates

Component	Options			
	Output Print/Punch	Input Read/ Print Punch	RBP Print/ Punch/Read/ JCS	
Spooler	5900	5900	5900	5900
System Spool Control Tables (Single VOLUME)	728	728	728	728 -------
Directories	72	96	168	

Virtual PUBS:
-------- ----

Reader   Default is 32 x number of job slots
            or user-specified number x 32.   -------

Printer   Default is 64 x number of job slots
            or user-specified number x 32.   -------

Punch   Default is 32 x number of job slots
            or user-specified number x 32.   -------

Bit Map   Default is 256 bytes or user-specified
            size x 4 bytes.   -------

                                              TOTAL   -------

C.3.3. MENU Generator

The MENU generator requires the following main storage:

    Root and I/O   (6288) -------
    Buffers   (15,328) -------
    CREATE functionality   (41,744)
            or
    MODIFY functionality   (45,568)
            or
    DISPLAY functionality   (26,224) -------

        NOTE: Execution also requires the MENU processor, screen format
               services, and library utilities.

C.3.4. Screen Format Services

Screen format services requires the following main storage:

    Screen format generator   (50,000) -------
    Screen format coordinator   (19,000) -------
    Input virtualizer   (6144) -------
    Output virtualizer   (6000) -------
    VT symbiont   (1600) -------

C.4. INTEGRATED COMMUNICATIONS ACCESS METHOD (ICAM)

There are five different interface levels: CPI, DDI, TCI, RBP, and STDMCP.
Storage estimates for an ICAM generation are calculated as follows:

1. Job prologue

   Preamble   (304) -------
   TCBs
   a. Primary TCB for all configurations   (320) -------
   b. ICAM overlays (all configurations
      except CPI)   (320) -------
   c. TCB for each DISCFIL Macro   (320) -------
   d. TCB for each JRNFILE Macro   (320) -------
   e. TCB for RBP interface   (320) -------
   f. TCB for a CCA with TYPE=(GBL)   (320) -------
   g. Open file table 4 + (20 x number
      of total DISCFIL and JRNFILE
      macros in all CCAs)   -------
   h. Phase load table   (136) -------
   i. TCB for SCLA load (if TSF desired)   (320) -------
   j. TCB for TSF   (320) -------

2. Code present for all configurations

   Timer services   (450) -------
   General information table (Table C-2)   -------
   Activity control   (4600) -------
   Software monitor   (600) -------
   Internal stack control   (1000) -------

3. Terminal support facility (TSF)

   Basic   (16,100) -------
   If ICAM configured only for CPI   (1100) -------

4. Code present for all non-CPI configurations

   Common subroutines   (700) -------
   Buffer pool control   (1100) -------
   Message control interface   (1500) -------
   Overlay control and total overlay area size   (4300) -------
   Communications control area (Table C-3)
   Remote device handlers:
   o Common subroutines - 1-time requirement   (1300) -------
   o If any remote batch terminals   (600) -------
   o U100/U200 - interactive mode   (6700) -------
   o The following elements are optional as add-ons to
     UTS 100/200 interactive mode:
     a. COP and/or 800 terminal printer   (1000)
     b. Tape cassette and/or diskette   (1500)
     c. DCT 1000 - interactive mode   (700)
     d. DCT 1000 - batch mode   (3500)

NOTES: 1. If more than one device is desired, choose
            device with the largest size. This logic will
            support the other devices.

        2. The add-on size for tape cassette and/or diskette
            support presupposes COP and/or terminal printer
            support. The add-on size for cassette/diskette
            without printer support is 2000.

    e. UTS 400 native mode and UTS 4000   (800)
    f. Katakana support on UTS 400 and UTS 4000   (1400) --------

o DCT 500 SERIES/TTY (nonaddressed and ASCII mode) (3100) --------
   a. TTY - baudot mode   (0) --------
   b. Address mode and/or auxiliary
       device processing   (1800) --------

           NOTE: When both a and b are selected, add an
                  additional 600.   (640) --------

o BSC - Generalized mode   ('800) --------
   a. 2780 Mode   (50) --------
   b. Line buffer toggling   (0) --------
o DCT 2000 - Standard   (2300) --------
   a. Punch capability   (100) --------
   b. DCT 2000 emulation mode   (100) --------
o U1004/9200/9300   (2500) --------
o NTR - full duplex   (2200) --------
o Local workstation support   (7000) --------
      (does not require TSF)
o IBM 3270 real terminal handler   (6800) --------
o DATEX-L public data network (Germany)   (4300) --------
o Remote workstation support   (31,600) --------
      (common subroutine not required for this RDH)
o IBM 3270 emulator   (17,700) --------
o MAPPER 5 RDH   (4100) --------

5. Code optional for all configurations

    Fast overlay loading   (1100) --------
    GAWAKE processing   (1800) --------
    Operator communication (required for RBP)   (1400) --------
    Buffer pool expansion   (1300) --------

6. Code optional for STDMCP or TCI configurations only

    Format edit processing   (1600) -------
    MPPS processing   (12,900 max) -------
    History journaling and checkpoint   (3400) -------
    Distribution list (DLIST) processing   (700) -------

7. User interface code

    a. Global network support in ICAM

        - Minimum code   (14,000) -------
        - Add if DCA=YES specified on CCA   (30,000) -------
        - Add if PROTYP=INIT-1 on TERM   (4700) -------
        - Add if PROTYP=RB-2 on TERM   (2600) -------
        - Add if DEVICE=(ABM or NRM) on VLINE   (14,400) -------
        - Add if type=packet for PDN proc   (29,000) -------
        - Add if type=packet and carrier=DATAPAC   (16,000) -------
          or TRANSPAC or DATEX or PSS
        - Add if NORDIC   (22,000) -------
        - Add if type=packet and carrier=DDX   (18,300) -------
        - Add if catp=E out for SUB proc   (24,500) -------
        - Add if catp=11 for SUB proc   (16,400) -------
        - Add if locap type=(STDMCP) in CCA   (0) -------
        - Add if locap type=(DMI) in CCA   (9300) -------
        - Add to ICAM if JOBINIT specified on LOCAP
          macro for COBOL communications user program   (800) -------

    b. Dedicated and/or global CCA support in ICAM
        COBOL message control system
        (CMCS), add to user program   (3200) -------
        CPI   (3100) -------
        STDMCP   (0) -------
        TCI   (6200) -------
        DDI   (1400 max) -------
        RBP Refer to UP-9748 section on minimum RBP sizing
            (DDI interface is required for RBP).

----

8. Code required for STDMCP, TCI, or global network
   configurations

         MUST processing   (5500 max) -------
         Main storage queueing   (3000 max) -------
                   or
         Main storage and/or disk queueing   (7400 max) -------
         Communication network control (CNC)   (3300 max) -------
         Session control subroutine   (3100) -------

9. For total ICAM symbiont size, add all   -------
   applicable items from items 1 through 8

10. The only interface supported through transient   -------
    ICAM is TCI, and its total size, including
    prologue, is   (9700) -------

11. Refer to Table C-4 for ICAM utilization of
    dynamic main storage.   -------

12. For the size of ICAM utility programs, refer to the
    respective UP manual. These utilities are executed as
    programs and handle the following functions:

     - Journal file data reduction program (JUST)   (UP-9748) -------
     - ICAM device emulation system (IDES)   (UP-9748) -------
     - Global user service task (GUST)   (UP-9745) -------
     - SLCA dump utility (TSF, optional)   (UP-9748) -------
     - Remote terminal processor (RTP)   (UP-8841) -------
     - Nine thousand remote (NTR)   (UP-9748) -------
     - ICAM trace facility (ITF)   (UP-9748) -------
     - ICAM EDIT dump (IED)   (UP-9748) -------

             Table C-2. General Information Table Size Calculation

     ----
       SIZE=1500 (if TSF desired) + 3800 + (20 x (total no.
       of configured CCAs)) + (490 x (total no. of SCLAs))

Table C-3. Communication Control Area Size Calculations

Macro	Decimal Size (Bytes) for Each Occurrence of Macro
CCA* (DEDICATED)	512
CCA (GLOBAL-NONDCA)	724
CCA (GLOBAL-DCA)	2811
BUFFERS (ARP)	140 + 56 x number of ARPS
BUFFERS (NETWORK BUFFERS)	140 + size of buffer x number of buffers
BUFFERS (LNKPAK)	140 + size of buffer x number of buffers
BUFFERS (UDUCT)	140 + 96 x number of UDUCTs
BUFFERS (STATS)	4 x number of ARPS + 4 x number of network buffers + 4 x no. of UDUCTs + 4 x no. of LNKPAKs
LINE (MINIMUM AMT.)	204
LINE (LINE BUFFERS)	Refer to UP-9745.
PGROUP (Remote W.S. only)	56
TERM	152 + size of each message queue
DLIST	4 + 4 x number of destinations in list
EUP	228
LOCAP	172 + size of each message queue
NODE	116
SESSION (LOCAL)	60
SESSION (REMOTE) NONDCA)	116
SESSION (REMOTE) DCA)	0
PDN	76
TRUNK	66 + (no. of PUCs x 104) + (no. of SVCs x 104)
VLINE	204
SUB	40
VLINE (X25)	204 + size of packet buffer pool + 30
VLINE (ABM)	204
MESSAGE QUEUE	CORE=36　　　　DISK=64
LPORT	88
PRCS	52 + size of each message QUEUE
DISCFILE (TCI)	500
DISCFILE (DISK QUEUED)	700
JRNFILE	450 + number of staging buffers x size of staging buffer
TRANSLATE TABLES	384 x number of device types + total size of all user-supplied translate tables
ENDCCA	36 + 8 x number of end users**
MPPS	Average is 8 per macro + ERRMSG sizes.

*Size of communications control area is 0 for a CPI user.

**In this context, an end user is a terminal, line, LOCAP, PRCS, or MPPS.

Table C-4. Dynamic Main Storage Utilization by ICAM

Session Control Table Sizes for Dynamic Session*	

Dynamic sessions	Per local session: 120 bytes
	Per remote session: 236 bytes
	    plus 120 bytes
	(for each 60 dynamic sessions)
	    plus 128 bytes
	(for each CUP to remote CUP session)
	    plus 104 bytes
	(for each session in PDN network)

Dynamic buffer pool
Expansion
	per expansion pool: 144 bytes
	    plus expansion factor, as a
	    percentage, x (number of
	    buffers x (size in bytes + 4))

ILR macro Implementation Language	Per task control block: 400 bytes
ICAM trace facility	per event traced: 32 bytes (as specified in the event keyword, E=) plus 50 bytes (header)

*To calculate the total dynamic main storage required
by ICAM for dynamic session establishment, multiply
the maximum number of current sessions by the sizes
of the session control table.

C.5. INFORMATION MANAGEMENT SYSTEM (IMS)

The main storage requirements for both single-thread and multithread IMS can
be found in the OS/3 IMS System Support Functions User Guide, UP-11907.

C.6. DMS MAIN STORAGE REQUIREMENTS

The DMS system consists of a DBMS run-time component, which executes as a
privileged job; language processors, which execute from separate jobs but
require the DBMS job to be active; and stand-alone utilities, which do not
require the DBMS job to be active. Explicit main storage specification on
the // JOB statement is required for the DBMS job and to execute DMS
utilities.

Main storage space requirements are as follows:

DBMS Job

Load module	72,080 bytes
Each thread-control block: Batch	492 bytes
IMS	3,564 bytes
Maximum IMS-terminals (IX84)	------ bytes
DMCL load module	------ bytes
File DTFs and tables (K x 160)	------ bytes
Data buffer control entries (N x 32)	------ bytes
Data base buffers (N x page size)	------ bytes
Space buffer control entries (M x 24)	------ bytes
Space inventory buffers (M x page size)	------ bytes
Lock space	------ bytes
CALC routine 2	------ bytes
Subschema pool 3	------ bytes
Total	------ bytes

1. If the ABSOLUTE option of the ALLOCATE LOCKS statement is not specified,
   the lock space calculation is based on the maximum number of currency
   locks that may be required for the total schema plus any KEEP locks
   explicitly specified. For each DMCL, the calculation is:

   $$24\ [U(1+A+3C)+3K]$$

   where:

       U is the maximum number of run units for the DMCL (batch run units).
       A is the number of area types in the schema.
       C is the maximum number of currency locks derived from the following
         rule: If a record type is not a member in any set type (excluding
         CALC), then it will have one locked occurrence; otherwise, it will
         have one locked occurrence for each set membership.
       K is the KEEP lock specification from START-UP.

   If the ABSOLUTE option of the ALLOCATE LOCKS statement is specified, the
   total lock space for the DMCL is

       $$72L$$

   where:

       1 is the number of absolute locks specified.

----

2. CALC00 is 536 bytes.
   CALC01 is 240 bytes.

3. Space remaining from the main storage specification on the // JOB
   statement is assigned to the subschema pool. This space must be large
   enough to fit all subschema load modules that will be active
   concurrently (+28 bytes per subschema +4.)

   DMS language processors:

Schema	(SCHMAP)	94,948 bytes
Subschema	(SUBSP)	80,620 bytes
DMCL	(DMCLP)	69,708 bytes
DML	(DMLP)	102,620 bytes
Conversational DML	(CDML)	58,885 bytes

   DMS utility load module sizes:

Initialization	(DBINT)	32,696 bytes	(Notes 1,2,3,4)
Page dump and alter	(DBPAG)	55,330 bytes	(Notes 1,2,4,5)
Security dump	(DBDUM)	59,416 bytes	(Notes 1,2,4,6)
Security restore	(DBRES)	43,424 bytes	(Notes 1,2,3,4)
Recovery	(DBREC)	61,080 bytes	(Notes 1,2,3)
Journal audit	(JFAUD)	67,736 bytes	(Notes 1,2,3)
Journal fix	(JFFIX)	18,072 bytes	(Notes 1,2,3)
Data dictionary reload	(DDRELD)	53,676 bytes	
Data dictionary unload	(DDUNLD)	54,988 bytes	

   NOTES: 1. Add DMCL load module size.

           2. Add data base buffers.

           3. Add space inventory buffers.

           4. Add DTF and tables (160 per file).

           5. Add CALC routine (if required).

           6. Add request/header space (2000 - 4000).

           See Data Base Management System (DMS) System Support
           Functions User Guide, UP-10870, for detailed information.

C.7. MAPPER 80 SOFTWARE MAIN STORAGE REQUIREMENTS

1. Main MAPPER 80 job   (112,640)
   Plus (64,512 x number of workstations)   -------
   Plus (27,648 x number of aux printers)   -------
                                                                        ----

2. MAPDMY utility   (23,136) -------

3. MAPGEN utility   (56,760) -------

4. MAPLOD utility (57,720 + optional user own code)   -------

----

5. MAPLST utility (54,816 + optional user own code)   -------

6. MAPDMS utility (48,186 + user code)   -------

7. MAPRAD utility   (56,984)   -------

8. MAPDUM utility   (40,176)   -------

9. MAPRES utility   (41,488)   -------

C.8. SYSTEM SOFTWARE REQUIREMENTS

System software main storage requirements are calculated by using the
following values:

1. Language processors:

        a. Assembler   (20,480)* -------
        b. RPG II   (33,044)* -------
        c. COBOL
            o Extended (ANSI-1968) (Model 8 only)   (45,056)* -------
            o ANSI-1974   (57,344)* -------
        d. FORTRAN
            o Basic (Model 8 only)   (23,552)* -------
            o FORTRAN IV   Small(67,584)* -------
                                               Large(102,400)* -------
        e. PL/M   (143,000)* -------
        f. MAC80   (102,400)* -------
        g. BASIC
            o Sharable load module and control
               system memory   (46,016)* -------
            o Stack frames, dynamic buffers, etc   (9216 x number
                                                     of users) -------
            o Source text, tables, interpretive (Estimate 1024 for every
               code, etc   5 to 7 lines BASIC
                                                    source program) -------
        h. EDT
            o Sharable load module and control
               system memory   (49,000)* -------
            o Stack frames, dynamic buffers, etc   (7700 x number
                                                     of users) -------
        i. EFP
            o Sharable local module (Note EDT is required.) (3134)* -------
            o Stack frames, dynamic buffers, etc   (5192 x number
                                                     of users) -------
        j. ESCORT Programming Language (approximate)
            o Basic first user   (39,000)** -------
               plus   (20,000) for each
                                                        additional user
            o Structure processor   (21,000)   -------
            o Tutorial   (15,000)   -------
               plus   (1500) for each
                                                    additional user
            o Program/job mode   (21,000)   -------
               plus   (3000) for each
                                                    additional user

----

        o Compiler I   (22,000)   -------
           plus   (6000) for each
                                                       additional user
        o Compiler II   (42,000)   -------
           plus   (27,000) for each
                                                       additional user
        o Run time   (36,000)   -------
        o Report system   (51,000)   -------
           plus   (8000) for each
                                                       additional user
        o Report system utility   (16,000)   -------

    k. RPG II auto report   (51,200)* -------
    l. Dialog specification language translator   (67,000)   -------
    m. Dialog processor   (74,000)   -------
        o Audit file
           processing   (25,000)   -------
        o Job control dialog
           processing   (60,000)   -------
        o System generation dialog
           processing   (115,200) -------
    n. RPG II editor ***
        Sharable load module   (16,917)* -------
        Stack frames, buffers, etc
            (2950 x no. of users)   -------
    o. COBOL Editor***
        Sharable load module   (53,500)   -------
        Stack frames, buffers, etc
            (9192 x no. of users)   -------

   *Size listed does not include the job prologue size.

  **The system provides an additional 80,000 bytes (approx.) for the screen
    format generator, utilities, etc.

 ***RPGEDT and COBEDT run with EDT and screen format services; their sizes
    must also be considered.

  2. Linkage editor   (17,516)* -------

      a. The linkage editor requires an additional
          buffer to develop reference table entries.   (7060)*   -------

          Total size   (24,577)* -------

  3. Librarian   (65,536)* -------

  4. File utility
      (See specific figures in C.9.)   -------

  5. Sort/Merge

      a. SORT/MERGE subroutine logical code   (12,400)   -------
          (added to user processor code)

          Sort function:

              If record size greater than 100, add
              5x record size to total.

----

   b. Independent SORT/MERGE   (16,784)* -------

      Merge function:

         For merge function, add 2x block size
         for each additional file beyond first file.

   c. SORT3   (16,384)* -------

6. JOBLOG report program   (23,500)* -------

7. System activity monitor report
   program (SAMRPT) (without prologue)   (102,400)* -------

8. Nine thousand remote (NTR)

   o The module size of a basic NTR system (which supports the console,
      one card reader, one card punch, and one printer) is 33,180 bytes.
      This is composed of the following modules:

Basic NTR modules (includes console)	(23,250)
NTR global tables	(4,300)
Card reader	(750)
Printer	(3,900)
Card punch	(980)

Total basic NTR	(33,180)

     In addition, the following information should be considered in
     determining NTR size:

General ICAM buffer and console	(7,300)	
support (5 x BLOCKIN size)	Note 1	
Add for each card punch/printer	(5,840)	
(2 x BLOCKIN size)	Note 2	
Add for each card reader	(1,024)	
(2 x BLOCKOUT size)	Note 3	

Subtotal additional items	(14,164)	
Total basic NTR plus additional items	47,344	

        NOTES: 1. Based on BLOCKIN size of 1460
                   2. Based on BLOCKIN size of 1460 (1 card punch/1
                      printer)
                   3. Based on BLOCKOUT size of 512 (1 card reader)

   o Add for each additional card reader

2 x BLOCKOUT size (512)	(1024)
720 bytes DTF/DCA/image buffers	(720)

	(1744)

----

    o   Add for each additional printer/punch
        2 x BLOCKOUT size (1460)   (2920)
        2560 bytes DTF/DCA/VFB/image buffers   (2560)

                                            (5480)

         NOTE: The // JOB job control card should not specify a MIN/MAX
                size. The NTR load module will be generated with the
                proper size.

9.   DDP   (194,560)   -------

10. File placement analyzer (FIPLAN)   (203,448)   -------

11. Online Transfer (OLTRAN)   (126,976)   -------

C.9. DATA UTILITIES REQUIREMENTS

Most data utility executions (batch and conversational) will run in 32K
bytes of main storage. If a more accurate size is required (larger or
smaller), the following formula may be used:

    M = maximum of (43500,B)

where:

    M

       Is the minimum amount of main storage required to run this job.

    B

       Is the total size of the required functional routines, DTFs, IOCS
       modules, and data management buffers. B can be determined by using
       the following formula:

       $B = (29200 + FT + IOT + C + D + E + F + G + H + I + J)$

    where:

       FT

          Is the total size of the functional routines required by this
          job. The sizes of the functional routines are specified in
          Table C-5 along with the parameters that specify the function.

       IOT

          Is the size of all DTFs and I/O routine modules for all files
          used in this job. The printer DTF and I/O routine module are
          included in the printer routine (noted in the routine size
          table, Table C-5); therefore, printer files are not included
          in this value. Use Table C-6 for running job in a mixed or
          CDI-only environment.

       C

          Is the maximum INPUT1 record size for ISAM or NI files as
          specified in the INPUT1 VTOC entry.

D

Is the INPUT1 block/buffer size as specified in the second
entry of the A=( ) parameter. If the INPUT1 file is a disk
file (other than IRAM/MIRAM), then the block size is taken
from the disk file format labels.

E

Is the maximum record size for the ISAM OUTPUT1 or NI
OUTPUT1/INPUT2 file. For NI INPUT2 files, this value is taken
from the file format labels.

F

Is the OUTPUT1/INPUT2 block/buffer size as specified in the
second entry of the B=( ) parameter. If this is a compare
(K2), then the INPUT2 block size is taken from the INPUT2 file
format labels for disk files (other then IRAM/MIRAM).

G

This variable is for ISAM INPUT1 files only. It is the disk
file key length and is taken from the disk file format labels.

H

This variable is for ISAM OUTPUT1/INPUT2 files only. It is the
record key length as specified in the V=() parameter. If this
is a compare (K2), then the key length is taken from the disk
file format labels.

I

This variable is for IRAM and MIRAM INPUT1 disk files only. It
is the index buffer size and is taken from the disk file
format labels.

J

This variable is for IRAM and MIRAM OUTPUT1/INPUT2 files only.
It represents the disk file index buffer size and it is
calculated by multiplying the second entry in the OR=(I,n) or
the OM=(I,n) parameter by 256 decimal. If this is a compare
(K2), then this value is taken from the disk file format
labels.

Table C-5. Functional Routine Sizes

Function	Invoking Parameter	Size (decimal)
Correction	COR statement	5250 (See note 2.)
Select/delete	SEL/DEL statement	1450
Field selection	FS statement (See note 1.)	2650 (See note 3.)
Sequence checking	X=( ) parameter	700
Compare	K2 parameter	4050
Print routine	UCP, UTP, UDP, or DP	3700

NOTES: 1.   This routine is also invoked for operations involving
              variable DAM files and/or variable NI files with keys and
              whenever the output record length is greater than the
              input record length.

         2.   Add the maximum INPUT1 file record size to this figure.

         3.   Add the maximum OUTPUT1/INPUT2 file record size to this
              figure.

Table C-6. I/O Routine Sizes for Mixed or CDI Only

Type	Input 1	Input 2	Output 1	Output 2
8413/card	475	475	485	565
Tape	1350	1225	1225	
SAM disk	890	780	675	
ISAM disk	1000	840	1025	
DAM disk	800	790	725	
NI disk	1450	1355	1355	
IRAM disk	900	900	1000	
MIRAM disk	1025	785	1225	
DCON4 TP.	775			
Diskette	1025	775	1225	

C.10. PROGRAM SIZES

The program sizes are calculated as follows: up to 14 job slots are
supported for models 3 through 6; up to 47 job slots plus 1 job slot
reserved for IS are supported for model 8.

(Use for batch or real-time programs)

Job number	1	2	3	4	5	6	-14 (models 3-6)
							-47 (model 8)
1. Job prologue (C.10.1)	----	----	----	----	----	----	----
	---						
2. DM control structures (C.10.2)	----	----	----	----	----	----	----
3. I/O buffers	----	----	----	----	----	----	----
4. User-coded logic	----	----	----	----	----	----	----
5. Estimated user program sizes (Round up to a multiple of 1024 bytes - minimum job size is 8192 bytes.)	----	----	----	----	----	----	----
	a.	b.	c.	d.	e.	f.	g.

C.10.1. Job Prologue Size

Determine the job prologue size for each job in the system. The prologue
size is rounded out to storage size and modularity. The prologue size can be
estimated as follows:

1. Job preamble   (288) -------

2. TCBs (task control blocks)
   One for each task - a minimum of one is
   required (224 if floating point is configured;
   otherwise, 192.)   -------

3. Job accounting table
   56 + (4 x number of unique devices
   used by the user job)   -------

4. Open file table
   4 + (20 x number of possible active
   files)   -------

5. Extents
   56 + (8 x number of logical extents
   x number of possible active files)   -------

----

6. PUB allocation table
    4 x (number of disk drives excluding RES,
    RUN, and other nonallocatable disks)   -------

7. Prologue EXTRN table   (48) -------

8. Phase load table   (136) -------
    Included in jobs with:
      // OPTION JOBDUMP or
      // OPTION ABRDUMP

9. Spool tables   (136) -------

10. Spool tables
    o Job log spool control table   (228) -------

    o Spool device buffers   (1104) -------
       (The size of buffers is preset to
       1104 bytes; this value can be
       modified via SYSGEN or JCL.)

    Spool device buffers=
       16+n[32+m(256)]

    where:

       n=2 if RUN processor detects
       spooler reader, printer, or
       punch. Otherwise, n=1.
       m is defined at SYSGEN.
       (default=2)

       The user can change n and m by specifying different
       values in positional parameter 9
       of the // JOB card.

    Spool control table=   --------
    228 x number of active
    unit record devices

    Spool control table=
       228 x (number of spooled readers)
       +228 x (number of spooled punches)
       +(2p + 230 for each spooled printer)

    where:

       p=number of skip codes for this
       printer (from the // SPL or
       // VFB card. Default=7)

    o Line control table   (16) -------
       2 x number of skip codes (default=8
       codes); x=number of printer files.
       User may use the // SPL statement
       to modify the number of skip codes for
       a print file.

----

o Optional dedicated buffers   -------

   Each spool file in a job may
   request dedicated buffers. This
   is only advisable for jobs that
   require a large amount of printed output.

   Optional dedicated buffers=
       16+n[32+m(256)]

   where:

       n = the n specified in the // SPL statement.
       m = the m specified in the // SPL statement.

11. Data management interface routines   (172) -------

C.10.2. Data Management Control Structure Sizes

For each control structure (DTF, CDIB, or RIB) included in the user program,
multiply the number of bytes in the table by the number of Control
Structures. Enter the results in the appropriate spaces on the user program
estimator, C.10, item 3.

        Device   DTF element (bytes/file)
        ------   ------------------------

1. SAM - low-speed devices:

    a. Card reader   (116) -------
    b. Card punch   (120) -------
    c. Punch with automatic retry   (812) -------
    d. Printer   (92) -------

2. SAM - high-speed devices:

    a. Tape   (242) -------
    b. Disk   (242) -------

3. DAM - relative address   (242) -------

4. ISAM

    a. Add/retrieve   (396) -------
    b. Retrieve   (372) -------
    c. Add   (396) -------
    d. Load   (332) -------

Device	DTF element (bytes/file)

5. IRAM

    a. Indexed   (387) -------
    b. Nonindexed   (240) -------

6. MIRAM   (388) -------

7. CDIB   (44) -------

8. RIB*   (n) -------

9. Total of items 1 through 6   -------

*The resource information block (RIB) varies in size, depending on the
number and type of parameters specified. To approximate the size of the RIB
(n), use the expression:

    n= 4 + [(3 x number of numeric parameters specified) +
           (5 x number of symbolic or indirect parameters
           specified)]

C.11. CONTROL SYSTEM SYMBIONTS

The following control system symbionts are temporarily loaded into main
storage on behalf of user jobs. The user should reserve sufficient main
storage so that these symbionts may be loaded as required. (These symbionts
relinquish their main storage following termination of their function.)

Symbiont	Storage Requirement	
	Hex.	Decimal
Run processor (RU,RV,RB)		
Min	5D00	23808
Max	B700	46848
File processor	2400	9216
Output writer*		
(printer and punch) 5400 + (SPOOLOWBUFR-2) x 256		
Input reader		4200
System utility		
SU		26000
TU		48000
Output writer (diskette)*		7500
Spool		
Min		20500
System activity monitor (standard size)	4200	
(extended size)	5200	
Save processor	3800	14,338
SC processor (restore)	3000	12,288

*Size does not include prologue (preamble + TCB + 16)

C.12. SHARED DATA MANAGEMENT

All data management is shared - no data management routines are included in user programs.

1. Low-speed devices

     a. SAM (sequential access method) card   3000
        (reader/punch/combined)   -------

     b. SAM printer   1420
                                                 ----

     c. SAM diskette (8413)   4346
                                                 ----

     d. WSAM (workstation access method)   9216
                                                 ----

2. High-speed devices

     a. SAM tape   3724
                                                 ----

     b. SAM/DAM (sequential direct access method) disk   3830
                                               ----

     c. ISAM (indexed sequential access method) disk   4266
                                               ----

     d. IRAM (indexed random access method) disk   2744
                                               ----

     e. MIRAM (multiple indexed random access method) disk   10,434

C.13. SHARED CODE MODULE NAME CROSS-REFERENCE

The following listing contains cross-references to shared code module names.

```
    LINE    SOURCE STATEMENT                                      OS/3 ASM 83/11/21
    A2445*MSSSTLNK EQU    44 SAT SUBR. LENGTH                          PSSC6890
    A2446*MSSCLSAD EQU    MSSSCLNK-20 CLOSEALL START ADDR              PSSO6900
    A2447*         SHAREQU                                             PSSO6920
    B2448**                                                           PSSO0030
    B2449**    EQUATES FOR KEY 0 SHARED CODE ID'S                     PSSO0040
    B2450**                                                           PSSO0050
    B2451**                                                           PSSCOM60
    B2452**    START OF DTF MODE SHARED CODE ID'S                     PSSO0070
    B2453**                                                           PSSO0060
    B2454*SCSSTDTF EQU    X'10' START OF DTF MODE ID'S                PSSO0090
    B2455*SCSMIRAM EQU    X'10' (O3SM11110)     MIRAM DISK DATA MGMT   PSSCO100
    B2456*SCSTAPE  EQU    X'11' (DDSTIII10)     MAG TAPE DATA MGMT     PSSCO110
    B2457*SCSPRINT EQU    X'12' (PRSIOEDD)      PRINTER DATA MGMT      PSSO0120
    B2458*SCSCARD  EQU    X'13' (CDSIOJJC)      CARD READER/PUNCH DATA MGMT  PSSO0130
    B2459*SCSNI    EQU    X'14' (DDSNIIIC)      SAM/DAM/NI DISK DATA MGMT    PSSO0140
    B2460*SCSISAM  EQU    X'15' (ISS13130)      ISAM DISK DATA MGMT    PSSO0150
    B2461*SCSIRAM  EQU    X'16' (C3STIIIC)      IRAM DISK DATA MGMT    PSSO0160
    B2462*SCSSAT   EQU    X'17' ISATS3     )    SAT DISK DATA MANAGEMENT    PSSO0170
    B2463*SCSSTAPE EQU    X'18' (STS11100)      TAPE/UR SAT MODULE     PSSO0180
    B2464*SCSCARDD EQU    X'19' (CDSIODJC)      CARD/DISKETTE MODULE   PSSO0190
    B2465*SCSOCFM  EQU    X'1A' (LUSOCFMC)      LIBRARY UTILITY OPEN   PSSO0200
    B2466*SCSDME13 EQU    X'1B' (DMSDME13)      UNOPEN FILE PROCESSING PSSO0210
    B2467**                                                           PSSO0220
    B2468**    END OF DTF MODE SHARED CODE ID'S                       PSSO0230
    B2469**                                                           PSSO0240
    B2470*SCSEODTF EQU    X'1E' END OF DTF MODE IDS                   PSSO0250
    B2471**                                                           PSSO0260
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82472+*    START OF CDI MODE SHARED CODE ID'S                              PSS00270
82473+*                                                                    PSS00280
82474+SCSSTCDI EQU    X'1E' START OF CDI MODE IDS                          PSS00290
82475+SCSCNVRT EQU    X'1F' (SFSCNVRT)    FORMAT CONVERSION (R7 TO R8)     PSS00300
82476+SCSINT20 EQU    X'20' (SFSINT20)    INT-2 OUTPUT CONVERTER           PSS00310
82477+SCSINT2P EQU    X'21' (SFSINT2P)    INT-2 PRINTER OUTPUT CONVERTER   PSS00320
82478+SCSIPC   EQU    X'22' (IPCSPROC)    CDI INTERPROCESS CONTROL         PSS00330
82479+SCSPRCR  EQU    X'23' (MNSPRCRC)    IS MENU PROCESSOR                PSS00340
82480+SCSCTLI  EQU    X'24' (SFCSCTLI)    SCREEN FORMAT COORD INIT/TERM    PSS00350
82481+SCSFSP   EQU    X'25' (DMSFSPU0)    D.M. FILE SHARE PROCESSOR        PSS00360
82482+SCSINT2T EQU    X'26' (SFSINT2I)    INT-2 INPUT VIRTUALIZER          PSS00370
82483+SCSOPEN  EQU    X'27' (SCSOPEN0)    OPEN INTERFACE FOR SUBFILES      PSS00380
82484+SCSCLOSE EQU    X'28' (SCSCLOSE)    CLOSE INTERFACE FOR SUBFILES     PSS00390
82485+SCSRCCMD EQU    X'29' (RCSCMDJ0)    RC COMMAND PROCESSOR             PSS00400
82486+SCSLKUP  EQU    X'2A' (RCSLKUP0)    RC COMMAND LOOKUP ROUTINE        PSS00410
82487+SCSDNOP3 EQU    X'2B' (RCSDNOP3)    DISTRIB DATA PROC MODULE         PSS00420
82488+SCSRLDIN EQU    X'2C' (RCDSINC0)    RPG EDT INPUT CONTROL MODULE     PSS00430
82489+SCSREDOT EQU    X'2D' (REDSOUT0)    RPG EDT OUTPUT CONTROL MODULE    PSS00440
82490+SCSREDVR EQU    X'2E' (REDSVER0)    RPG EDT VERIFY CALL MODULE       PSS00450
82491+SCSCFM   EQU    X'2F' (DMSCFMU0)    CENTRALIZED FILE MANAGER         PSS00460
82492+SCSOTRAN EQU    X'30' (SFSINT10)    OUTPUT INT-1 DCI CONVERTER       PSS00470
82493+SCSCTLR  EQU    X'31' (SFCSCTLR)    SCREEN FORMAT SERVICES CONTROL   PSS00480
82494+SCSDPOPN EQU    X'32' (DPROPNU0)    DIALOG PROC OPEN MODULE          PSS00490
82495+SCSDP9   EQU    X'33' (DPBUGUUC)    DIALOG PROCESSOR INTERPRETER     PSS00500
82496+SCSITRAN EQU    X'34' (SFSINT1I)    INPUT INT-1 DCI CONVERTER        PSS00510
82497+SCSWSAM  EQU    X'35' (DMSW1110)    WORK STATION IOCS MODULE         PSS00520
82498+SCSOPROI EQU    X'36' (RCSOPRU1)    RC CONSOLE ACCESS                PSS00530
82499+SCSRCAM  EQU    X'37' (RCSRCAM0)    REMOTE CONTROLLER ACCESS METHOD  PSS00540
82500+SCSDNCLS EQU    X'38' (RCSDNCLS)    DYNAMIC CLOSE                    PSS00550
82501+SCSDNOP2 EQU    X'39' (RCSDNOP2)    DYNAMIC OPEN - OVERLAY II        PSS00560
82502+SCSDNOP1 EQU    X'3A' (RCSDNOP1)    DYNAMIC OPEN - OVERLAY I         PSS00570
82503+SCSDNOPN EQU    X'3B' (RCSDNOPN)    DYNAMIC OPEN - OVERLAY I         PSS00580
82504+SCSSPXFR EQU    X'3C' (RCSSPXFR)    SPOOL FILE ACCESS                PSS00590
82505+SCSMIAQ  EQU    X'3D' (DMSMIAQC)    MIRAM APPLY/QUERY PROCESSOR      PSS00600
82506+SCSDROUT EQU    X'3E' (LUSDROUT)    SAT LIBRARY UTILITIES            PSS00610
82507+SCSMROUT EQU    X'3F' (LUSMROUT)    MIRAM LIBRARY UTILITIES          PSS00620
82508+SCSAPCY  EQU    X'40' (WSSAPQYC)    WORKSTATION APPLY/QUERRY         PSS00630
82509+SCSVTOC  EQU    X'41' (RCSVTOC0)    VTOC ACCESS MODULE               PSS00640
82510+SCSFMAPY EQU    X'42' (SFSFMAPY)    SFS APPLY/QUERY                  PSS00650
82511+SCSDPAQ  EQU    X'43' (DPBCQ0G0)    DIALOG PROCESSOR APPLY/QUERY     PSS00660
82512+SCSGTMSG EQU    X'44' (RCSGTMSG)    RC GETMSG ROUTINE FOR CDI        PSS00670
82513+SCSRFP   EQU    X'46' (DMSRFPU0)    D.M. REMOTE FILE PROCESSOR       PSS00680
82514+SCSPDSCL EQU    X'47' (SCSPDSCL)    PADS ACTIVATION MODULE           PSS00690
82515+SCSOVRFY EQU    X'48' (SFSOVRFY)    SFS OUTPUT VERIFICATION          PSS00700
82516+SCSCBESN EQU    X'49' (COBEDTSN)    COBOL EDITOR SCREEN MODULE       PSS00710
82517+SCSCBEAB EQU    X'4A' (COBEDTAB)    COBOL EDITOR ABBREVIATION MOD    PSS00720
82518+SCSCBERT EQU    X'4B' (COBEDTRT)    COBOL EDITOR ROOT MODULE         PSS00730
82519+SCSGETCS EQU    X'4C' (CLGETCS0)    GETCS/SETCS FOR ICS              PSS00740
82520+SCSADTST EQU    X'4D' (ADSCFMG0)    ACTIVE DICT SERVICES INTERFACE   PSS00750
82521+SCSSERV  EQU    X'4E' (DMSSERV0)    DATA MGNT SERVICE MODULE         PSS00760
82522+*                                                                    PSS00770
82523+*    END OF CDI MODE SHARED CODE ID'S                               PSS00780
```

Appendix D.   Disk Space Requirements

This appendix helps determine the disk space requirements for OS/3 software
on a user-generated SYSRES volume. A definition of the OS/3 SYSRES files and
sizes is provided in addition to SYSGEN information for controlling the
presence or absence of the files.

Three of the files may vary considerably for combinations of the components
to be deleted. Consequently, detailed definitions for each of these files
are provided in a similar fashion.

OS/3 also requires disk space for run libraries for each job and for scratch
files for some of its components during execution. The amount of space used
for those temporary files is much more difficult to estimate.

D.1. SYSRES FILE DEFINITIONS

The name, together with the use or content of each of the OS/3 SYSRES files,
is listed in alphabetic order as follows:

File	Description
IVPLIB	This file is the installation verification program (IVP) library.
SG$JCS	This librarian file contains job control procedures used in the SYSGEN process.
SG$LOD	This librarian file contains load modules used in the SYSGEN process.
SG$MAC	This librarian file contains macros used in the SYSGEN process.
SG$OBJ	This librarian file contains object modules and subroutines used in the SYSGEN process.
SG$XXX	This area is used to store variables when loading unbundled products to the user's disk.
SMCAUDIT	This is an audit trail of the SMC application process.
SMCBSAT	This librarian file is used to store copies of modules that have been changed by SMCs.

File	Description
SMCFILE	This file contains all software maintenance corrections (SMCs) processed for the system.
VTOC	This area of disk contains the volume table of contents (VTOC), which OS/3 uses to allocate and deallocate space on the SYSRES volume.
$IMPL	This file contains the initial microprogram load that is provided for loading of microcode into the CPU control storage.
$IPL	This file contains the initial program load and provides the initiation of processing.
YCAT	This file is used by job control to record the cataloged files made by the customer.
YDIALOG	This MIRAM file contains system dialogs for SYSGEN and JCL.
YDUMP	This is a storage area used by SYSDUMP processing. An image of main storage is written into this file and then read during the dump analysis processing.
YELOG	This is a storage area that the supervisor uses to record the I/O error history.
YESUM	This file contains the error log summary.
YFMT	This file contains the system screen formats and system menus.
YHELP	This MIRAM file contains help screen modules.
YJCS	This librarian file houses stored job control streams and job control procedures.
YLOD	This librarian file holds the load modules for the system.
YOBJ	This librarian file contains the object module subroutines for data management and the run-time library for each compiler. These object modules are included by the linkage editor for subsequent program execution.
YMAC	This librarian file holds the interface procedures and macros for the components that may be referenced from assembled code.
YMIC	This file contains all microcode levels for peripherals and the CPU.

File	Description
YSAVE	This file contains the saved run-library modules.
YSCLOD	This is the shared code load library file.
YSDF	This file contains the directory of microcode levels that will be downline loaded to each peripheral and the CPU from the YMIC file.
YSEC	This file contains user-ids and passwords when LOGON security is configured.
YSHR	This file holds information about files that are currently OPEN in the system and their ability to be shared.
YSJF	This file logs data that is used to determine system stability when log stability data is configured.
YSMCLOG	This file is the software maintenance correction log.
YSRC	This librarian file contains the source and copy modules provided.
YSYSTEM TABLES	This file contains tables for the system.
YTRAN	This file holds the OS/3 transient modules and the canned messages for console and printed display.
YTRANA	This file holds exactly what YTRAN holds. When the Supervisor has an error accessing YTRAN, it recovers by trying to access YTRANA.

D.2. INDIVIDUAL FILE REQUIREMENTS

The disk space requirements for files are shown in type-number sequence in tables. All cylinder values are shown in decimal.

Cylinder values are based on the following:

Type	Blocks per Cylinder
8430, 8433 (Model 8)	627
8417 (Models 3 through 6, and 8)	840
8419 (Models 3 through 6, and 8)	350
8416 (Model 8)	280
8418 (Model 8)	280
8470 (Models 4, 6, and 8)	3072

where a block is a 256-byte record or sector.

NOTE: In the tables, the contents of the columns are as follows:

      Column 1   Indicates the item or file.

      Column 2   Indicates the number of 256-byte blocks of disk
                      space required by the item.

      Columns 3-7   Indicate the block size (in cylinders) for each
                      type of SYSRES volume.

The last line of each table indicates the total number of blocks
required for that particular product.

6210-00 SYSTEM SOFTWARE

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	2676	9.74	4.35	0.88	3.24	7.79
SYSLOD	12190	44.40	19.83	4.04	14.80	35.52
SYSMAC	14581	53.11	23.72	4.84	17.70	42.49
SYSMIC	3325	12.11	5.40	1.10	4.03	9.69
SYSOBJ	532	1.93	0.86	0.17	0.64	1.55
SYSSCLOD	1724	6.28	2.80	0.57	2.09	5.02
SYSSRC	499	1.81	0.81	0.16	0.60	1.45
IVPLIB	3353	12.21	5.45	1.11	4.07	9.77
S6SJCS	2432	8.85	3.95	0.80	2.95	7.08
S6SLOD	1001	3.64	1.62	0.33	1.21	2.91
S6SMAC	11041	40.22	17.96	3.66	13.40	32.17
S6SOBJ	1537	5.59	2.50	0.51	1.86	4.47
6210-00	54891	199.96	89.29	18.22	66.65	159.96

6130-05 UTS4000 COBOL

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	1297	4.72	2.10	0.43	1.57	3.77
SYSSRC	327	1.19	0.53	0.10	0.39	0.95
6130-05	1624	5.91	2.64	0.53	1.97	4.73

6201-03 UTS400 EDIT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	1619	5.89	2.63	0.53	1.96	4.71
6201-03	1619	5.89	2.63	0.53	1.96	4.71

6211-00 DATA UTILITIES

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	5	0.01	0.00	0.00	0.00	0.01
SYSLOD	928	3.38	1.50	0.30	1.12	2.70
6211-00	933	3.39	1.51	0.30	1.13	2.71

6212-00 SORT MERGE

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	146	0.53	0.23	0.04	0.17	0.42
6212-00	146	0.53	0.23	0.04	0.17	0.42

6213-00 SORT3

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	161	0.58	0.26	0.05	0.19	0.46
6213-00	161	0.58	0.26	0.05	0.19	0.46

6214-00 SCREEN FMT GENERATOR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	60	0.21	0.09	0.01	0.07	0.17
SYSLOD	643	2.34	1.04	0.21	0.78	1.87
6214-00	703	2.56	1.14	0.23	0.85	2.04

6215-00 DIALOG SPEC LANGUAGE

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	200	0.72	0.32	0.06	0.24	0.58
6215-00	200	0.72	0.32	0.06	0.24	0.58

6216-00 SPOOLER

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	24	0.08	0.03	0.00	0.02	0.06
SYSLOD	626	2.28	1.01	0.20	0.76	1.82
6216-00	650	2.36	1.05	0.21	0.78	1.89

6217-00 IMS - S/T

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	198	0.72	0.32	0.06	0.24	0.57
SYSMAC	127	0.46	0.20	0.04	0.15	0.37
SYSOBJ	182	0.66	0.29	0.06	0.22	0.53
SYSSRC	24	0.08	0.03	0.00	0.02	0.06
SYSLOD	874	3.18	1.42	0.29	1.06	2.54
SGSMAC	0	0.00	0.00	0.00	0.00	0.00
6217-00	1405	5.11	2.28	0.46	1.70	4.09

6218-00 DMS

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	78	0.28	0.12	0.02	0.09	0.22
SYSLOD	4450	16.21	7.23	1.47	5.40	12.96
SYSOBJ	17	0.06	0.02	0.00	0.02	0.04
SYSSRC	145	0.52	0.23	0.04	0.17	0.42
6218-00	4690	17.08	7.62	1.55	5.69	13.66

6219-00 RPGII

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSOBJ	172	0.62	0.27	0.05	0.20	0.50
SYSLOD	1085	3.95	1.76	0.36	1.31	3.16
6219-00	1257	4.57	2.04	0.41	1.52	3.66

6220-00 RPG EDIT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	242	0.88	0.39	0.08	0.29	0.70
6220-00	242	0.88	0.39	0.08	0.29	0.70

6221-00 RPG AUTO REPORT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	369	1.34	0.60	0.12	0.44	1.07
6221-00	369	1.34	0.60	0.12	0.44	1.07

6222-00 COBOL 74

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	1694	6.17	2.75	0.56	2.05	4.93
SYSOBJ	207	0.75	0.33	0.06	0.25	0.60
6222-00	1901	6.92	3.09	0.63	2.30	5.54

6222-01 COBOL EDITOR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	346	1.26	0.56	0.11	0.42	1.00
6222-01	346	1.26	0.56	0.11	0.42	1.00

6218-00 DMS

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	78	0.28	0.12	0.02	0.09	0.22
SYSLOD	4450	16.21	7.23	1.47	5.40	12.96
SYSOBJ	17	0.06	0.02	0.00	0.02	0.04
SYSSRC	145	0.52	0.23	0.04	0.17	0.42
6218-00	4690	17.08	7.62	1.55	5.69	13.66

6219-00 RPGII

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSOBJ	172	0.62	0.27	0.05	0.20	0.50
SYSLOD	1085	3.95	1.76	0.36	1.31	3.16
6219-00	1257	4.57	2.04	0.41	1.52	3.66

6220-00 RPG EDIT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	242	0.88	0.39	0.08	0.29	0.70
6220-00	242	0.88	0.39	0.08	0.29	0.70

6221-00 RPG AUTO REPORT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	369	1.34	0.60	0.12	0.44	1.07
6221-00	369	1.34	0.60	0.12	0.44	1.07

6222-00 COBOL 74

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	1694	6.17	2.75	0.56	2.05	4.93
SYSOBJ	207	0.75	0.33	0.06	0.25	0.60
6222-00	1901	6.92	3.09	0.63	2.30	5.54

6222-01 COBOL EDITOR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	346	1.26	0.56	0.11	0.42	1.00
6222-01	346	1.26	0.56	0.11	0.42	1.00

6223-00 FORTRAN IV

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	2232	8.13	3.63	0.74	2.71	6.50
SYSMAC	368	1.34	0.59	0.12	0.44	1.07
SYSOBJ	529	1.92	0.86	0.17	0.64	1.54
6223-00	3129	11.39	5.09	1.03	3.79	9.11

6224-00 BASIC

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	205	0.74	0.33	0.06	0.24	0.59
6224-00	205	0.74	0.33	0.06	0.24	0.59

6225-00 ESCORT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	1190	4.33	1.93	0.39	1.44	3.46
6225-00	1190	4.33	1.93	0.39	1.44	3.46

6226-00 EDITOR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	291	1.06	0.47	0.09	0.35	0.84
6226-00	291	1.06	0.47	0.09	0.35	0.84

6228-00 UTS400 LOAD/DUMP

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	32	0.11	0.05	0.01	0.03	0.09
SYSLOD	197	0.71	0.32	0.06	0.23	0.57
6228-00	229	0.83	0.37	0.07	0.27	0.66

6229-01 DDP TRANFER FACILITY

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	1057	3.85	1.71	0.35	1.28	3.08
SYSMAC	261	0.95	0.42	0.08	0.31	0.76
6229-01	1318	4.80	2.14	0.43	1.60	3.84

6229-02 DDP FILE ACCESS

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	1004	3.65	1.63	0.33	1.21	2.92
SYSMAC	261	0.95	0.42	0.08	0.31	0.76
6229-02	1265	4.60	2.05	0.42	1.53	3.68

6229-03 DDP IMS TRANS FACIL

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSOBJ	205	0.74	0.33	0.06	0.24	0.59
6229-03	205	0.74	0.33	0.06	0.24	0.59

6230-00 NTR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSRC	17	0.06	0.02	0.00	0.02	0.04
S6SMAC	307	1.11	0.49	0.10	0.37	0.89
S6SOBJ	189	0.68	0.30	0.06	0.22	0.55
6230-00	513	1.86	0.83	0.17	0.62	1.49

6231-00 ICAM - TSF

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG&OBJ	46	0.16	0.07	0.01	0.05	0.13
6231-00	46	0.16	0.07	0.01	0.05	0.13

6232-00 IMS - M/T

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	198	0.72	0.32	0.06	0.24	0.57
SYSLOD	1854	6.75	3.01	0.61	2.25	5.40
SYSMAC	210	0.76	0.34	0.06	0.25	0.61
SYSOBJ	846	3.08	1.37	0.28	1.02	2.46
SYSSRC	24	0.08	0.03	0.00	0.02	0.06
6232-00	3132	11.40	5.09	1.03	3.80	9.12

6233-00 ASSEMBLER

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	555	2.02	0.90	0.18	0.67	1.61
6233-00	555	2.02	0.90	0.18	0.67	1.61

6236-00 COBOL EXTENDED

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	1065	3.87	1.73	0.35	1.29	3.10
SYSOBJ	132	0.48	0.21	0.04	0.16	0.38
6236-00	1197	4.36	1.94	0.39	1.45	3.48

6247-00 3270 RTM

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
S6SOBJ	31	0.11	0.05	0.01	0.03	0.09
6247-00	31	0.11	0.05	0.01	0.03	0.09

6247-01 3270 EMULATOR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
S6SOBJ	92	0.33	0.14	0.03	0.11	0.26
6247-01	92	0.33	0.14	0.03	0.11	0.26

6247-02 RTP (HASP)

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	119	0.43	0.19	0.03	0.14	0.34
SGSMAC	1690	6.15	2.74	0.56	2.05	4.92
SGSOBJ	284	1.03	0.46	0.09	0.34	0.82
6247-02	2093	7.62	3.40	0.69	2.54	6.09

6248-00 DATEX-L PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SGSOBJ	21	0.07	0.03	0.00	0.02	0.06
6248-00	21	0.07	0.03	0.00	0.02	0.06

6248-01 DATEX-P PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SGSOBJ	104	0.37	0.16	0.03	0.12	0.30
6248-01	104	0.37	0.16	0.03	0.12	0.30

6248-02 TRANSPAC PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	104	0.37	0.16	0.03	0.12	0.30
6248-02	104	0.37	0.16	0.03	0.12	0.30

6248-03 DATAPAC PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	104	0.37	0.16	0.03	0.12	0.30
6248-03	104	0.37	0.16	0.03	0.12	0.30

6248-05 DDX-P PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	98	0.35	0.15	0.03	0.11	0.28
6248-05	98	0.35	0.15	0.03	0.11	0.28

6248-06 NORDIC PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	37	0.13	0.06	0.01	0.04	0.10
6248-06	37	0.13	0.06	0.01	0.04	0.10

6248-07 PSS PUB DATA NETWORK

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	104	0.37	0.16	0.03	0.12	0.30
6248-07	104	0.37	0.16	0.03	0.12	0.30

6248-10 IBERPAC PDN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	104	0.37	0.16	0.03	0.12	0.30
6248-10	104	0.37	0.16	0.03	0.12	0.30

6254-00 MENU SERVICES

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSSCLOD	320	1.16	0.52	0.10	0.38	0.93
6254-00	320	1.16	0.52	0.10	0.38	0.93

6255-00 DCA TERMINATION

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG&OBJ	25	0.09	0.04	0.00	0.03	0.07
6255-00	25	0.09	0.04	0.00	0.03	0.07

6752-00 MAPPER 80

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	5	0.01	0.00	0.00	0.00	0.01
SYSLOD	2667	9.71	4.33	0.88	3.23	7.77
SYSOBJ	5	0.01	0.00	0.00	0.00	0.01
SYSSCLOD	195	0.71	0.31	0.06	0.23	0.56
SYSSRC	79	0.28	0.12	0.02	0.09	0.23
6752-00	2951	10.75	4.80	0.97	3.58	8.60

6759-00 FILE PLACE. ANALYZER

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	2	0.00	0.00	0.00	0.00	0.00
SYSLOD	644	2.34	1.04	0.21	0.78	1.87
6759-00	646	2.35	1.65	0.21	0.78	1.88

6933-00 RESOURCE MANAGEMENT

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	12	0.04	0.01	0.00	0.01	0.03
6933-00	12	0.04	0.01	0.00	0.01	0.03

7685-00 PCTRAN

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	29	0.10	0.04	0.00	0.03	0.08
SYSJCS	2	0.00	0.00	0.00	0.00	0.00
7685-00	31	0.11	0.05	0.01	0.03	0.09

8786-00 MAPPER 5 RDH

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SG$OBJ	18	0.06	0.02	0.00	0.02	0.05
8786-00	18	0.06	0.02	0.00	0.02	0.05

8787-00 PC ONLINE

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSLOD	414	1.50	0.67	0.13	0.50	1.20
SYSJCS	4	0.01	0.00	0.00	0.30	0.01
8787-00	418	1.52	0.68	0.13	0.50	1.21

X460-00 DISK CACHE

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSMIC	0	0.00	0.00	0.00	0.00	0.00
X460-00	0	0.00	0.00	0.00	0.00	0.00

X600-20 SYSTEM ACT. MONITOR

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	4	0.01	0.00	0.00	0.00	0.01
SYSLOD	467	1.70	0.75	0.15	0.56	1.36
X600-20	471	1.71	0.76	0.15	0.57	1.37

X600-10 ON-LINE DIAG (OLM)

FILE	NUMBER OF BLOCKS	NUMBER OF CYLINDERS				
		8416 / 8418	8430 / 8433	8470	8417	8419
SYSJCS	35	0.12	0.05	0.01	0.04	0.10
SYSLOD	11987	43.66	19.50	3.98	14.55	34.93
X600-10	12022	43.79	19.55	3.99	14.59	35.03

                                    Appendix E.   System 80 All Models
                                                  Data Management Comparison -
                                                  General Guidelines

Data management operation of System 80 systems may be in these
environments:

o Mixed (DTF and CDI) - Model 8 only

   DTF interfaces are provided for all supported file types except WSAM
   (which is CDI only). Supported file types include SAM, DAM, ISAM, NI,
   IRAM, and MIRAM disk files.

   In addition, CDI interfaces are provided for all file types. Note that
   MIRAM is the only disk processing method that is accessible through CDI.

o CDI-only - all models

   All data management interfaces are through CDI except for SAT-Disk and
   SAT-Tape, which are DTF. MIRAM and SAT are the only disk processing
   methods. Components that do not support the CDI interface cannot run
   in this environment.

As users in the mixed mode convert their processing interfaces to CDI and
their disk files to MIRAM, they become eligible, on a file at a time basis,
for the benefit of media independence, the CDM level of the file sharing,
and distributed data processing. They do not have to convert their
entire installation to achieve these benefits.

As indicated previously, all software components offered on all models
support the CDI interface. CDI interfaces are used for all files
except SAT-Disk or SAT-Tape, which retain DTF interfaces. Components that
support MIRAM operate with CDI interfaces to allow the user to have the
benefits of consolidated data management.

Compilers generate data management interfaces according to the setting of
the mode indicator. The mode in which the compiler is running is defined to
be the mode in which the object code is to run. Also, the type of data
management interface can be selectively controlled by file. (See the
applicable COBOL, FORTRAN, or RPG II user guide for details.)

Data management will be provided only in a shared form; object and procedure
(source) modules will not be provided. Specific inclusion of subset modules
(either shared or not) in line assembly of data management code will not be
supported. Instead, a single shared module that supports all functional
capabilities will be supplied for each access method.

IRAM support is replaced by MIRAM in all components. MIRAM supports the
existing IRAM file format.

In the mixed mode, disk files provided by the user as input to a software
component or expected as output must be able to be specified in their
current form (e.g., SAM, ISAM) to allow continued operation in a hybrid
environment.

The user controls when MIRAM is substituted for the existing disk access
methods on an individual file basis to permit the gradual conversion of
interlocking applications.

The following chart illustrates the component operation for all models (CDM)
and Model 8 only (mixed); numbers in the columns refer to notes following
the chart.

Component	All Models CDM	Model 8 Only Mixed
Data management		
MIRAM	Yes 2	Yes 1, 2
SAT	Yes 1	Yes 1
Unit record	Yes 2	Yes 1, 2
Tape	Yes 2	Yes 1, 2
SAM/DAM/NI	No	Yes 1
ISAM	No	Yes 1
IRAM 3	No	Yes 1
Screen format generator	Yes	Yes
NTR utility	No	Yes
Interactive services		
EDIT (includes RSP)	Yes	Yes
RPG EDIT	Yes	Yes
BASIC	Yes	Yes

Component	All Models CDM	Model 8 Only Mixed
Dialog specification language processor	Yes	Yes
Dialog processor	Yes	Yes
System generation	Yes	Yes
Linker	Yes	Yes
Librarian	Yes	Yes
Library subroutines	Yes	Yes
Disk prep	Yes	Yes
Dump restore	Yes	Yes
Copy utilities	Yes	Yes
SYSDUMP/JOBDUMP	Yes	Yes
Data utility	Yes	Yes
Gang punch	Yes	Yes
Library conversion	Yes	Yes

Component	All Models CDM	Model 3 Only Mixed
Program conversion	Yes	Yes
JCON1 (OS/4 conversion)	No	Yes
COPY94 (OS/4 conversion)	No	Yes
Emulation 360/20	No	Yes
Emulation 92/9300	No	Yes
IMS		
Single-thread	Yes	Yes 5
Multithread	Yes	Yes 6
Single-thread DMS 7	Yes	Yes 4, 5
Multithread DMS	No	No
Configurator	Yes	Yes
Data definition PROC	Yes	Yes
Numeric file utility	Yes	Yes
Edit file generator	Yes	Yes
Tape copy utility	Yes	Yes
DMS	Yes	Yes
Assembler	Yes	Yes
ASMTRAN (OS/4 conversion)	No	Yes

Component	All Models CDM	Model 8 Only Mixed
SCAN (not ASM level conversion)	No	Yes
RPG II 8	Yes	Yes
Sort/Merge	Yes	Yes
SORT3	Yes	Yes
FORT (basic)	No	Yes
FOR 4 (FORTRAN IV)	Yes	Yes
COBOL '68	No	Yes
COBOL '74	Yes	Yes
U400 PLM	No	Yes
U400 MAC80	No	Yes
ICAM	Yes	Yes

NOTES: 1. DTF interface to access method is supported.

2. CDI interface to access method is supported.

3. The IRAM file format is supported under MIRAM.

NOTES: (cont)

4. DTF MIRAM is not supported in any mode of operation.

5. IMS can be configured for either DTF or CDM operation but not both.

6. Notes relate to processing files outside the DMS data base.

7. MIRAM and workstations are not supported on DTF-only systems.

Appendix F.   Release 10.0 Documentation Summary

The Release 10.0 Documentation Summary is a history of current published release documentation items.

Item names are abbreviated as follows:

SRA - System Release Announcement. New designation for the software release announcement to facilitate announcement of both software and hardware availability.

SRD - System Release Description. New designation for software release description. Document accompanying newly available software release describing contents, guidelines, and restrictions on use of a new release.

Release-related documents with Release 10.0 are stock items and are assigned UP numbers for identification and ordering purposes. The base UP number for Release 10.0 is UP-11902.

The following summarizes the Release 10.0 documentation:

Issue/ UP NO.	Level	Item and Description
UP-11902.1	10.0	SRA (Release ordering information for Release 10.0)
UP-11902.2	10.0	SRD (A base release document giving details on installing and using Release 10.0 along with guidelines and restrictions)

Appendix G. IMS Special Guidelines

The IMS single-thread (S/T) and multithread (M/T) program products cannot coexist on the same SYSRES. Users requiring the ability to execute IMS S/T and IMS M/T from the same SYSRES must follow the procedure covered by these guidelines. If you do not utilize both IMS S/T and IMS M/T on the same SYSRES, the information in this appendix should be ignored.

G.1. DEFINITION OF TERMS

o IMS Program Product

   This refers to the set of modules (IMS S/T or IMS M/T) that is delivered to a customer.

o IMS Executable Online Module

   This module is produced as a result of a successful IMS configuration. The user can create as many of these modules as necessary for his applications. IMS S/T and IMS M/T executable modules can coexist on the same SYSRES as in the past.

G.2. OVERVIEW

An IMS program product must be applied to the system by using the standard program product system installation procedure SG@CPYPD. Refer to the System Installation User Guide, UP-8839.

If it is necessary to switch from IMS S/T to IMS M/T (or vice versa), a new delete utility (SG$PDDEL) must be initiated. SG$PDDEL is a console utility that allows selective deletion of program products from a SYSRES disk. SG$PDDEL performs the following functions:

o Deletes program products (by program product number) through console queries

o Deletes all modules associated with the selected program product

o Deletes all SMC log entries related to that program product

G.3. RUNNING THE SG$PDDEL PROGRAM

To initiate the utility, enter:

     RV SG$PDDEL

Respond to queries prompted by the utility SG$PDDEL.

G.4. EXAMPLE OF THE PROCEDURE TO DELETE A PROGRAM PRODUCT

1. Run the SG$PDDEL utility as follows:

```
    RV SG$PDDEL
    1P JC06  USING    DEV=104    VSN=OS3DTA
    09 ARE THE SELECTED PRODUCTS FOR S90 OR S80
    0A?JOB=SG$PDDEL  SYMBOL=SYSTEM    VALUE=S90              *ENTER VALUE
     0A S80  (Note 1)
    0B ENTER PRODUCT NUMBERS OF PRODUCTS TO BE DELETED
    0C ENTER END WHEN LIST IS COMPLETE
    0D?JOB=SG$PDDEL SYMBOL=P1              *VALUE IS NULL *    *ENTER VALUE
     0D  (Note 2)
    0E?JOB=SG$PDDEL SYMBOL=P2              *VALUE IS NULL *    *ENTER VALUE
     0E END
    2F JC01  JOB SG$PDDEL EXECUTING JOB STEP SMPLMU00  #001         13:40:07
    2G SMPM04 000009  RECORDS WERE PROCESSED.
    2H JC01  JOB SG$PDDEL EXECUTING JOB STEP LIBS0000  #002         13:40:27
    2J JC02  JOB SG$PDDEL TERMINATED NORMALLY
```

    NOTES: 1. On line 0A, S80 is a required entry for the System 80.

            2. On line 0D, enter the program product type number of the IMS
                program product to be deleted:

                o For IMS S/T, the response is: 621700
                o For IMS M/T, the response is: 623200

SG$PDDEL deletes all SMC numbers from the SMCLOG file that have been applied
to the program product. Any SMCs applied to the program product (via the
SMCFILE) will still remain in the SMCFILE and will not reapply unless the
program product is reapplied to the system.

    NOTE: Subsequent SMC application runs will produce errors for each of
            these SMCs, but should be ignored.

2. Apply the IMS product (S/T or M/T, as required) via the SG@CPYPD job:

        RV SG@CPYPD

3. Reapply any SMCs to this product that are currently resident in the
    SMCFILE as follows:

        RV SMC (see UP-8839)

    NOTE: Any SMCs requiring input media will not reapply if this media is
            not available. Users should retain this media for future use in
            the event that a switch of IMS products is necessary.

Appendix H.   MAPPER 80 Version 3.0 Installation Instructions

The MAPPER 80 Version 3.0 media consists of the diskettes that are shown in
the following list. These diskettes contain the program product and
associated files.

Media	VSN	Contents
One 8420 diskette	MAPRO1	Program product diskette containing MAPPER 80 Version 3.0 software, program product 6752-00
Two 8420 diskettes	MAPFO1 MAPFO2	Diskettes containing the MAPPER$FMTE file screen formats
One 8420 diskette	MAPTO1	Diskette containing the MAPPER$TRAINING$FILE file
One 8420 diskette	MAPDO1	Diskette containing the MAPPERDDFILE file (data dictionary)
One 8420 diskette	MAPIO1	Diskette containing the MAPPER$FIRST$INSTALL file (MAPPER 80 JCL, DMCL source/load for training data base)

H.1.   INSTALLING MAPPER 80 SOFTWARE

H.1.1.   Guidelines

To ensure that all modules to be changed are present in your system:

o You must do an IPL from a release pack.

o SG$ files must be present.

o If you use more than one software system, each must have MAPPER 80
   software installed.

o If you want to retain backup systems stored on various media types, you
   must restore them, install the MAPPER 80 software, and then back up
   again.

o The MAPPER 80 installation process is designed with certain assumptions
   about file placement. If files installed during a previous installation
   have been moved or installed differently than the recommended method, it
   may be necessary to modify MAPPER 80 job streams used in the installation
   process.

H.1.2. Procedure

Installation of MAPPER 80 software takes about 30 minutes. Proceed as
follows:

1. Be certain that your system is backed up.

2. Do not multiprogram.

3. Do an IPL of the system so that you are running with the SPERRY starter
    supervisor even though you may already be operating under that
    supervisor.

4. Mount MAPR01 and then load the MAPPER 80 program product by entering:

        RV SG@CPYPD

    Respond to the mount request with:

        GO SG@CPYPD

    NOTE: The job control streams supplied with the MAPPER 80 program
            product require the format file, the training file, and the data
            dictionary to be loaded onto the RES pack. Therefore, respond Y
            (yes) in steps 6, 7, 8, and 9 to the question:

                IS MAPPER DATA FILE GOING TO IPL DISK (N,Y)

            If you respond with N to this question, the MAPPER 80 data files
            will go to a volume with a VSN of MAPPER. If you select this
            option, the MAPPER 80 job streams must be changed to reference
            the MAPPER volume for these data files.

5. Read the following before performing this step.

    - If you are installing the MAPPER 80 product for the first time, skip
       step 5.

    - If the MAPPER 80 product was previously installed on your system, you
       must perform step 5 to erase the old MAPPER 80 screen format file
       (MAPPER$FMTE), training file (MAPPER$TRAINING$FILE), and data
       dictionary file (MAPPERDDFILE).

    - Because MAPPER 80 allows user screen formats to be contained in the
       MAPPER 80 screen format file (MAPPER$FMTE), be sure to save any user
       screen formats in a backup file by using the MIRAM Librarian (MLIB)
       before performing step 5. See the System Service Programs (SSP) User
       Guide, UP-8841.

    Erase the old MAPPER 80 screen format file (MAPPER$FMTE), training file
    (MAPPER$TRAINING$FILE), and data dictionary file (MAPPERDDFILE) by
    entering:

        RV CLEANMAP

    NOTE: If these files are not on the RES pack, this run stream must be
            modified.

----

   6. Mount MAPF01 and load the screen format file by entering:

          RV SG@CPYPD

      Respond to the mount request with:

          GO SG@CPYPD

      When the message IS MAPPER DATA FILE GOING TO IPL DISK (N,Y) appears,
      respond with Y (yes).

      When the message MOUNT DEV=nn VSN=MAPF02 appears, mount MAPF02 and
      respond with R.

   7. Mount MAPT01 and load the training file by entering:

          RV SG@CPYPD

      Respond to the mount request with:

          GO SG@CPYPD

      When the message IS MAPPER DATA FILE GOING TO IPL DISK (N,Y) appears,
      respond with Y (yes).

   8. Mount MAPD01 and load the data dictionary by entering:

          RV SG@CPYPD,,F=F

      Respond to the mount request with:

          GO SG@CPYPD

      When the message IS MAPPER DATA FILE GOING TO IPL DISK (N,Y) appears,
      respond with Y (yes).

   9. Mount MAPI01 and load the install first file by entering:

          RV SG@SPYPD

      Respond to the mount request with:

          GO SG@SPYPD

      When the message IS MAPPER DATA FILE GOING TO IPL DISK (N,Y?) appears,
      respond with Y (yes).

10. Read the following before performing this step.

     - If the MAPPER 80 product was previously installed on your system,
        skip step 10 because it will overwrite the current MPDB load module.
        Perform this step only if you are installing the MAPPER 80 product
        for the first time.

     - New users must perform step 10 to put module MPDB in YLOD and
        module MPDBREL in YSRC. These modules are needed to use the
        training data base described in the MAPPER 80 System Operator and
        Coordinator Guide, UP-9737.

     - Previous steps of this installation procedure created a file called
        MAPPER$FIRST$INSTALL on the RES volume. Training data base DMCL
        source module S-MPDBREL and load module L-MPDB were placed in this
        file. This is done so an existing MAPPER 80 user does not lose any
        customized DMCL source and load modules.

     Continue the installation process by entering:

        RV COPYMPDB

11. Read the following before performing this step.

     - If you are installing the MAPPER 80 product for the first time, you
        must perform step 11 to complete the installation process. This step
        copies the released job control streams from the MAPPER$FIRST$INSTALL
        file to YJCS, which, in turn, permits access to the new version
        of MAPPER 80 software.

     - If the MAPPER 80 product was previously installed on your system,
        this step is optional. If you have any customized job control streams
        in YJCS that use the same names as the new released MAPPER 80 job
        control streams, you will probably want to skip step 11. However,
        you may elect to perform this step to install the new job control
        streams. Carefully examine the new JCL in the MAPPER$FIRST$INSTALL
        file to make this decision.

     Place the new MAPPER 80 release job control streams in YJCS by
     entering:

        RV COPMAPJC

12. Read the following before performing this step.

     - If you are installing the MAPPER 80 product for the first time, skip
        step 12.

     - If the MAPPER 80 product was previously installed on your system,
        perform step 12 to convert an existing MAPPER 80 data base for
        use by this new version of the MAPPER 80 product.

Start your DBMS job to access your existing MAPPER 80 data base by
entering:

    RV MAPPERDB

When the message DBMS INITIALIZED is displayed, execute the new version
of MAPGEN by entering:

    RV MAPGEN

Your data base can now be accessed by either version of the MAPPER 80
product.

13. Software installation is complete.

14. Run the IVP procedure described in OS/3 Installation Verification
    Procedures User Guide/Programmer Reference, UP-10003.

15. Refer to Section 4 of the MAPPER 80 System Operator and Coordinator
    User Guide, UP-9737, for additional information on the installation
    and modification of MAPPER 80 software.

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