Division of Data Processing Technical Bulletin

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Submitted By:
Approved By: Sandra Neal

IBM's ESA (Extended Systems Architecture) operating system is scheduled for implementation in November/December 1989. Prior to the production implementation, customers have been requested to participate in ESA testing, which will take place at the customer's own location.

The installation of the operating system has a potential impact upon all other software products. Many products are receiving an upgraded version; some products are new or have new components. Attached is a summary of changes and enhancements for products most used by state agencies.

Documentation is available from the Division Librarian, Elaine Oaks, at 538-3462.

If you have any questions about these products, or if you haven't signed up to particiapate in the ESA testing, please contact Application Review Services at 538-3851, 538-3511, or 538-3686.

Software Listing Includes ESA Enhancements

Contact Application Review Services for more information on any product.

ABENDAID 5.4.4

ABEND-AID—intercepts all program abends before a full memory dump is triggered and provides a report of vital debugging information.

SNP-AID—facility takes a "snapshot" of the application environment without a program abend, and produces ABEND-AID output. SNAP-AID is invoked by a simple call to SNAP-AID from a COBOL, PL/I, Assembler, or FORTRAN program and can help resolve difficult logic problems. Needs link-edit JCL additions.

ISPF—Abend-AID is available on the ISPF menu to view an output dataset from the abending job, which is captured by //ABNLTERM DD statement in the abending program's JCL.

MISC—System Diagnostics include better reporting for S001, S002, S0C1, S0C4, S806, and SD37. Compatibility with Optimized Code in Abend-AID/COBOL; improved support for PL/I and DB2; support for DFP Release 2.3; improved performance in Abend-AID/COBOL;

enhanced JES2 formatting; Scheduler Work Area Support above the 16 mb line; added features in SMF Analysis Program for DB2 and Laser Printers; reformatted Installation and Reference Manuals.

ACF2 5.1

Security Package—ESA compatibility changes.

ADABAS 5.1.3

Software AG database.

ADAPREP 2.2

ADABAS access language.

ADASQL 1.3.2

ADABAS access language.

ASSEMBLER-H 2.1.0

Symbolic programming language close to machine language.

BDMP 1988

Statistical analysis language.

CICS-COMMAND 2.1.1

Command level application programming interface for interactive systems.

CICS-MACRO 1.7

Macro level application programming interface for interactive systems. When CICS version 3.1 is installed in 1990, MACRO level will no longer exist.

OS/VS COBOL 2.4

English-like programming language for business applications—old version.

VS COBOL 3.0

English-like programming language for business applications—latest version.

Compiler—Additional utility data set (SYSUT7) is requried by VS COBOL II compiler. SYSUT6 utility dataset required only when using XREF option.

New compiler options—AWO; FLAGSTD; LIBEXIT; CMPR2; INEXIT; NAME; DBCS: LANGUAGE; NUMCLS; FLAGMIG; LEVINFO; PRTEXIT; FLAGSAA

Revised compiler options—NUMPROC replaces PFDSGN. Reduces problems in migrating from OS/VS COBOL to VS COBOL II. TRUNC suboptions changed from YES to STD, NO to OPT, and BIN which truncates binary input and output fields at S/370 half/full/double word boundaries.

Run-Time—Added opotions:

LANGUAGE—enables selection of language and character set for output messages.
MIXRES—allows mixture of RES and NORES compiled programs to reside within a single thread.
SIMVRD—provides simulation of variable length relative organized data sets.
WSCLEAR—clears working storage requried by a RENT program.

Report Writer—New product (programmers' maual SC26-4301-1): Precompiler COBOL report writer allows use of OS/VS COBOL report writer in its original form for ease of migration of COBOL II. Precompiler invokes the compiler automatically, and an additional collator phase combines the output from the COBOL program and the report writer to produce a single source listing for the programmers.

COMPLETE 4.4.2

Software AG teelprocessing system.

COMPLETE PANVALET 12.0

Interface between COMPLETE and PANVALET.

DFDSS Version 2.4/DFHSM 2.4

DFDSS: Data Facility Data Set Services is a storage management tool, it is the primary data mover and provides for copying data between like and unlike devices, backup and recovery, and space management functions.

Functional Enhancements—The new SPHERE keyword allows DFDSS to move an entire VSAM sphere (base cluster and all associated alternate index clusters and paths) with one invocation of COPY, DUMP, or RESTORE. COPY and RESTORE allocate multi-volume VSAM target data sets. REBLOCK keyword is supported for logical RESTORE. Multiple arguments for filtering criteria may be specified on the BY keyword. When DFDSS detects an under-allocation of the non-VSAM target data set on an unlike device, it estimates the amount of additional space needed and extends the dat set accordingly. The copy or restore then continues, using the additional space.

DFHSM—Data Facility Hierarchical Storage Manager automates space and availability management through its capability to backup and migrate data within a hierarchy of storage. DFHSM supports data set level management, rather than volume level management.

DFSORT 11.0

DFSORT—Data Facility Sort handles sorting, merging, and copying applications.

Functional Enhancements—PARM options and control statements can now be supplied to DFSORT from a single source data set for JCL and program-invoked DFSORT jobs. INREC and OUTREC statemtnst: Character and hexadecimal string constants are now supported as separators. Column alignment is now supported for separators and input fields. The upper limit for the separation repetition factor is raised from 256 to 4095. The Conventional technique modules can be installed in a system library to eliminate the need for the SORTLIB DD statemtn. Duplicate ddnames are ignored after the first-specified ddname. The ddnames SORTWK0 through SORTWK9 are now accepted and treated as duplicates of SORTWK00 through SORTWK09. The ddnames SORTIN0 through SORTIN9 are now accepted and treated as duplicates of SORTIN00 through SORTIN09. DFSORT no longer requires that the SORTINnn data set with the largest blocksize and record length be specified first for Blockset merge jobs. The maximum length for variable blocked spanned records is increased to 32767. Multivolume SORTWKnn data sets are now allowed, but only the first volume of each data set is used. Ability to handle more complex SUM applications with Blockset and Peerage/Vale.

DISPLAYWRITE 370 2.1

Mainframe word processing.

EASYPROCLIB 2.0.E

Allows user procedure libraries.

EASYTRIEVE 9.0

Information retrieval language. No longer vendor supported.

EPIC 4.1

Graphics package for XEROX laser printer.

EXTRACT-A 1.3

Interfaces SAS with ADABAS files.

EZTRIEVE PLUS 6.00.C

Information retrieval and data management langauge.

FAVER 3.00.0

VSAM utility.

VS FORTRAN 2.3.0

Vector feature enhancements—Ability to vectorize MAX and MIN intrinsic functions, COMPLEX compares, adjustable dimensioned arrays, and DO loops with unknown increments. Ability to specify certain vector directives globally within a source program. Addition of option to generate the vector report in source order. Ability to collect tuning information for vector source programs. Record compile-time statistices on vector length and stride (VECSTAT and LISTVEC commands), and include these statistics in the vector report. Interactive Debug: VECSTAT and LISTVEC commands added. Enhancements to allow timing and sampling of DO loops. Inclusion of vector feature messages in the on-line HELP function. Vectorization is allowed at OPTIMIZE)2) and OPTIMIZE(3).

Language capabilities enhancements— Ability to specify file or data-set name on the INCLUDE statement. Ability to write comments on same line as code to which they refer. Support for DO WHILE programming construct. Support for ENDDO statement as terminal statement of DO

loop. DO statement—label of the terminal statement is optional. Support for statements extending to 99 continuation lines or a maximum of 6600 characters. Implementation of IBM's Syistems Application Architecture (SSA) FORTRAN definition; support for a flagger to indicate source language that does not conform to the language defined by SSA. Support use of double-byute charactes as variable names and as character data in source programs, I/O, and for Interactive Debug input and output. Support for use of a comma to indicate end of data in a formatted input field, thus eliminating the need for insertion of leading or trailing zeros and blanks.

Programming aids enhancements—Intercompilation analysis function now detects conflicting and undefined arguments. Support for Data-In-Virtual facility. Ability to allocate certain commonly used files and data sets dynamically. Mutitasking Facility allows large amounts of data to be passed between parallel subroutines using a dynamic common block. Support for named file I/O in parallel subroutines using the Multitasking Facility. Ability to determine amount of CPU time used by a program or a portion of a program by using the CPUTIME service subroutine. Ability to determine the FORTRAN unit numbers available with UNTANY and UNTNOFD service subroutines. Interactive Debug full screen functions.

FSE-PLUS 4.2

Manage datasets through TSO.

HFDL 2.1.D

Host Forms Design Language for XEROX laser printers.

HOST COMMAND FACILITY 2

Networking on mainframe.

INTERTEST 3.0.0

CICS debug tool.

ISPF 2.3

Option 3.14 search: Fina all occurrences of a character string in all members of a PDS or ISPF Library. Type an asterisk (*) in the Member field to indicate a search of all members or leave blank for selective search list ('S' line command for each member to be searched). When YES in the MULTIPLE STRINGS field is entered, a panel is displayed to permit search for two or more search strings. For a line to qualify as "found", all of the strings must appear on that one line, but

the order in which they appear is irrelevant. The listing you see as a result of your search is put in a dataset and can be printed or browsed. Another search by you will overwrite the listing unless you enter a different name in the LISTING DSNAME field on 3.14 panel.

Option 3.4 remembers last data entered—new feature. Remembers DSNAME LEVEL and VOLUME you entered last time you used ISPF. New line commands "F" and "=Line". DASD space can be conserved by entering an F next to all over-allocated datasets. This will free all unused space on partitioned datasets and sequential datasets. When viewing dataset list, you can swithc between volume, space, and attribute information (using PF10 and PF11). Use Edit to create the first member of an ISPF Library or PDS by typing the E Line Command, cursoring over to the end of the dataset name on the same line, and type the parenthesized name of the member you want to create.

Option 3.7 has been moved to 3.4.

Miscellaneous:

Sequence Numbers—For a member with ISPF statistics but without valid sequence numbers, the RENUM command used to set the number of modifications in the member's statistics (MOD) to the number of lines in the member. RENUMBering is no longer cosidered a modification.

List/Log Dataset—Added fourth choice, KN, which keeps the dataset and allocates a New dataset in the next session.

Problem—Uncataloging a tape or GDG base entry is no longer permitted. Because an invalid Line Command typed on 3.4 will pass to TSO for processing, it is possible to create CLISTS to solve this problem. Contact DDP Application Review Services for more info.

JCL Version 3.1.0

SMS—Storage Management Systems will not be installed until 2nd or 3rd quarter of 1990.

JCL Enhancements—The EXPDT, RETPD, KEYLEN, LRECL, RECFM subparameters of the LABEL and DCB DD parameters are now described as DD parameters. On the LABEL DD parameter, you can specify EXPDT and RETPD subparameters without the need to code DCB=. On the DCB DD parameter, you can specify all DCB keyword subparameters without the need to code DCB=. Change to DCB BLKSIZE. If BLKSIZE is not specified, the system determines an optimum block size for the data using 32760 maximum.

JES2 Version 2.2.3

Job Number range—changes from 0-9999 to 0-32767.

NATURAL-CONNECTION 2.1.4

PC based NATURAL.

NATURAL-CONSTRUCT 2.1.3

NATURAL program development tool.

NATURAL-ELITE 1.3.3

Natural computer-based training.

NATURAL2 2.1.4

Online and batch application development language for access to ADABAS, VSAM, DL/I, or sequential files.

NATURAL2 SECURITY 2.1.4

Security system for NATURAL2.

NATURAL VSAM 2.1.4

VSAM access through NATURAL2 programming language.

NET-PASS 2.2.1

NETwork Parallel Application Sessions System—Enables a computer terminal user to manage several logical terminal sessions from the same physical IBM 3270 terminal.

NETWORK 2.0

Manages remote ADABAS data bases on VAX/VMS or IBM machines.

PANVALET Version 14.0B

Direct PANVALET Member Input to Compilers—Compilers read members directly from PANVALET library (sees them as sequential OS data sets of PDS members) rather than requiring separate execution of PAN#1 (write member to temp tile using ++WRITE).

PANVALET Subsystem—eliminates need for separate PAN#1 execution to extract a member before it can be compiled. Decreased CPU and wall time required for compiles. Decreased use of temporary disk storage formerly required to hold the output from the PAN#1 step. REGION size requried for the compile step may increase by up to 384K. Must be active for the direct compiler input feature to operate. It can support standard PANVALET 10-character member names using a subparameter of the SUBSYS= JCL parameter. Coordination with MVS Systems Programmer is essential to the functioning of the PANVALET SUBSYSTEM.

PANALLOC TSO—Supports use of PANVALET SUBSYSTEM under TSO/ISPF. IBM ALLOCATE command does not permit direct allocation fo PANVALET members. PANDD1 DD statement not required.

Security—Libraries protected by ACCESS/CONTROL codes can be accessed by specifying codes using a PVCNTL DD statement. Additional facilities provided through GEM exits, which interface to RACF, ACF2, and Top Secret.

Multiple Library Member Search—PANVALET will now search for members in several libraries specified in same Job Step. Will search primary library and optionally, up to 9 other libraries defined by Ddnames PANDD11 through PANDD19. Feature applies to both PAN#1 and PANVALET SUBSYSTEM. PAN37 has been modified to provide information for Multiple Library Searches. User-defined GEM exits should be re-examined to ensure compatibility with the PANVALET SUBSYSTEM.

PANVALET ISPF 14.0B

Interface between PANVALET and ISPF.

PAN TSO 12.0.A

Interface between PANVALET and TSO.

PREDICT 2.3.2

ADABAS data dictionary.

PS/CICS 3.1

Host Electronic Mail System

SAS PC 6.03

PC based SAS.

SAS SASGRAPH 5.18

Computer graphics system using SAS programming statements.

SAS BASE 5.18

Applications programming language—statistical analysis.

SDSF 2.2

IBM System Display and Search Facility changes: Retain FIND values across panels. Retain FINDLIM, DEST, SCROLL, and PREFIX values across sessions. Users can limit the set of printers they display with the PR command. Display of current SDSF parameters. Hexadecimal display of SYSLOG and output data sets. Automatic update under ISPF. Spanned record support. PREFIX pattern matching. Viewing page-mode output. Reorganized Help facility with an interactive tutorial.

SUPER NATURAL 2.3.1

End-user oriented ADABAS inquiry and reporting facility.

SUPERBMS 3.2

CICS map programming macros.

SUPEREDIT 3.2

CICS data editor.

TSO/E 1.3.0

TSO editor utility takes advantage of ESA operating system's VSCR (Virtual Storage Constraint Relief).

TSO SUPERSET UTILITIES 4.2

Copy, compare, manipulate datasets from a terminal.

VNAT/VNATB

NATURAL access to VSAM and CICS FCTs.

XICS 5.1

Publishing package for lazer printer.