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NBS Software Tools Database

Edited by:

Raymond C. Houghton, Jr.
Karen A. Oakley

Center for Programming Science and Technology
Institute for Computer Sciences and Technology
National Bureau of Standards
U.S. Department of Commerce
Washington, DC 20234

October 1980



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NBS SOFTWARE TOOLS DATABASE

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NATIONAL BUREAU OF STANDARDS, Ernest Ambler, *Director*

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1. Introduction

For the past year, the Center for Programming Science and Technology has been compiling data on the availability of software development and testing tools. The data that has been compiled has been placed into a relational database using Pascal/R, a language that extends Pascal by a data relation. The database allows for information retrieval on tool features, languages, developers, documentation, hardware and software requirements, availability, publications, and contacts.

A recent GAO report (See GAO, Section 5) concluded that modern software tools can offer the Federal Government the following:

- Better management control of computer software development, operation, maintenance, and conversion.
- Lower costs for computer software development, operation, maintenance, and conversion.
- Feasible means of inspecting both contractor-developed and in-house - developed computer software for such quality indications as conformance to standards and thoroughness of testing.

Therefore, there are several reasons for compiling information on software tools. The first is to aid NBS efforts to develop guidelines and standards that will improve the quality of Federal software through the use of available tools. The second reason is to provide a means by which persons in the Federal Government can determine what tools are available and what their capabilities are. The third reason is to provide a means by which tool researchers can determine what tools are currently under development so that knowledge may be shared and duplication of effort can be avoided.

The purpose of this report is to put forward the information currently contained in the database for review, assimilation, and update. Section 2 contains the Call for Tools. This section includes instructions for providing information on tools for inclusion in the database. Section 3 is a discussion of the records that may be stored in the database. Section 4 is a dump of the information contained in the database in alphabetical order by tool acronym. Section 5 is a list of general references. The appendices include several cross-references to the tools in the database and a list of specific tool references.

NOTE: In no case does identification of commercial products imply recommendation or endorsement by the National Bureau of Standards, nor does it imply that the product identified is necessarily the best available for the purpose.

Please forward any corrections or comments on the data contained within the database to:

Tools Project
National Bureau of Standards
Tech Bldg, A265
Washington, DC 20234

2. Call for Tools

We are requesting that government agencies, universities, commercial vendors, or others who are currently developing, using, maintaining, or marketing tools to contribute information to this effort. Information that is received will be combined, edited, and made available either as an NBS publication or by some other means. Those that participate will automatically receive the combined information, if they wish.

In order to limit the scope of this request, we are asking potential submitters to submit data for automated tools that were developed specifically for the development, analysis, testing, management, and documentation of computer software. However do not submit data for traditional tools (such as interpreters, compilers, operating systems, editors) unless they have non-traditional features or for tools that specifically apply to assembly or machine languages (assemblers, cross-assembler, loaders, etc). Do not submit data that is of a proprietary nature.

Please provide the following data on each tool in the format shown:

1. Title - Title of tool and acronym or other short name.
2. Tool Classification - Choose one that most closely applies: (1) Software Management, Control, and Maintenance; (2) Software Modeling and Simulation; (3) Requirements/Design Specification, Analysis, and Program Generation; (4) Source Program Testing and Analysis; or (5) Software Support System/Programming Environment.
3. Features - Identify the features provided by the tool.
4. Stage of Development - Choose those that apply and indicate dates (if known): Concept, Design, or Implemented.
5. Applicability - Identify the language(s) or type of data which the tool accepts as input.
6. Implementation Language(s) - Identify the language(s) in which the tool is written.

7. Host Environment - Identify computer hardware and software requirements necessary for use of the tool. Include the hardware manufacturer/identification, memory and disc requirements, operating system/release, and comments regarding transportability to other machines. Indicate the number of source statements that the tool has.
8. Availability - Identify whether or not the tool can be made available to other potential users. Indicate whether the tool is in the public domain, or whether there are restrictions such as copyrights, licenses, or other required agreements. Indicate whether the tool is supported and by whom.
9. Summary - Provide a brief, one-paragraph summary of the tool. Describe features that the tool provides or discuss experience with the tool, such as performance characteristics, projects it was developed or used for, or any other pertinent information.
10. Documentation - Identify the types and extent (page count) available.
11. References - Cite articles or publications that discuss the tool and are readily available in the open literature (maximum of 5).
12. Developer/Contact - Name, address, and telephone number (if known).
13. Submitter - Name, address, and telephone number of person submitting data.

Data can be provided to NBS via the ARPANET mail system or by the US Postal Service. ARPANET is preferred since this will provide us with machine-readable data. If you use ARPANET, send the data to TOOLS@NBS-10. If you use the US Postal Service, send it to the following address:

National Bureau of Standards
Tech Building, Room A265
Attn: Tools Project
Washington, DC 20234

We reserve the right to disregard data that we feel is not within the scope of this request or is not complete. In no case will identification of commercial products in any reports that result from this request imply recommendation or endorsement by the National Bureau of Standards, nor will it imply that the products or equipment identified is necessarily the best available for the purpose.

3. Tool Information Format

The following is a list of data elements that can be stored in the database for each tool. Following each title is a brief summary of the information that can be stored and a cross-reference to the Call for Tools. Since the data base is relational, many of the elements can be repeated for a given tool.

ACRONYM: Acronym or other short name (1)

TITLE: Title of tool (1)

CLASSIFICATION:

Software Management, Control, and Maintenance
Software Modeling and Simulation
Requirements/Design Specification, Analysis, and Program
Generation
Source Program Analysis and Testing
Software Support System/Programming Environment (2)

FEATURES: Features provided by the tool (3)

STAGE OF DEVELOPMENT:

Concept
Design
Implemented (4)

DATE OF DEVELOPMENT (YYMMDD): YY - year, MM - month, DD - day
of development (4)

APPLICABILITY: Language(s) and DIALECT(S), or data which the
tool accepts as input (5)

IMPLEMENTATION LANGUAGE: The language(s) and DIALECT(S) that
the tool is written in (6)

TOOL PORTABLE: Whether or not the tool can be transported to
other machines (7)

TOOL SIZE: Number of source statements (7)

COMPUTER: Hardware manufacturer/identification of machine
necessary for use of the tool (7)

OTHER HARDWARE: Other machine hardware necessary for use of the
tool (7)

OS: Operating system/release necessary for use of the tool (7)

OTHER SOFTWARE: Other software necessary for use of the tool
(7)

- TOOL AVAILABLE:** Whether or not the tool can be made available to other potential users (8)
- PUBLIC DOMAIN:** Whether or not the tool is in the public domain (8)
- RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.):** Restrictions on the availability of the tool (8)
- TOOL SUPPORTED:** Whether or not the tool is supported (8)
- TOOL SUPPORT:** Who supports the tool (8)
- TOOL SUMMARY:** Brief, one-paragraph summary of the tool. Clarification of features that the tool provides. Discussion of experience with the tool, such as performance characteristics, projects it was developed or used for, or any other pertinent information. (9)
- DOCUMENTATION:** Types of available documentation (10)
- DOC LENGTH:** Extent of available documentation (page count) (10)
- REFERENCES:** Articles or publications that discuss the tool and are readily available in the open literature, KEY (AUTHYYC), AUTHOR(S), TITLE, PUBLICATION, DATE (11)
- DEVELOPER:** Developer(s) of tool (12)
- CONTACT:** Contact(s) for more information about the tool (12/13)
- INFORMATION SOURCE:** Source(s) of the information contained in the database

4. Tools in Database

The information that follows is the data that is currently contained in the database. If a data element that appears in section 3 is not contained in the information provided for a specific tool, it is because no information was available for that element. If that information is known by any reader of this report please forward it to the address given in Section 1. Also, please forward any other changes that are necessary to make the report more accurate.

ACT/1

ACRONYM: ABS, TITLE: ABSTRACT RETRIEVAL PROGRAM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: CONFIGURATION MANAGEMENT, TEST DATA MANAGEMENT,
 LIBRARY MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA
 IMPLEMENTATION LANGUAGE: FORTRAN, COMPASS
 COMPUTER (OTHER HARDWARE): CDC 6000

TOOL SUMMARY: THE ABSTRACT RETRIEVAL PROGRAM WILL PROVIDE A
 MEANS OF MAINTAINING A FILE OF DOCUMENTS AND/OR ANY
 INFORMATION THAT IS CORRELATED BY SOME IDENTIFICATION CODE
 (KEYWORD). THE PROGRAM WILL ALLOW FOR THE UPDATING OR
 EDITING OF THESE FILES AS WELL AS VARIOUS TYPES OF
 RETRIEVAL LISTINGS. THE ABSTRACT RETRIEVAL PROGRAM IS A
 VERY SIMPLE KEYWORD SYSTEM. ITS POTENTIAL APPLICATIONS
 EXTEND FAR BEYOND STORAGE OF DOCUMENT OR PROGRAM ABSTRACTS.
 FOR EXAMPLE, A KEYWORD SYSTEM CAN BE USED TO CORRELATE TEST
 REQUIREMENTS STATEMENTS WITH TEST CASE NUMBERS, OR TO
 CORRELATE PROPOSAL PARAGRAPH NUMBERS WITH RFP/SOW PARAGRAPH
 NUMBERS FOR REQUIREMENTS TRACEABILITY. ALTHOUGH A GIM-TYPE
 SYSTEM MAY BE REQUIRED FOR MORE COMPLICATED INDEXING AND
 STORAGE REQUIREMENTS THE ABSTRACT RETRIEVAL PROGRAM IS A
 SIMPLE, INEXPENSIVE APPROACH TO SOLVING A CLASS OF
 STRAIGHTFORWARD KEYWORD PROBLEMS. (UNLIKE GIM, THE PROGRAM
 IS NOT AN ON-LINE KEYWORD SYSTEM. THIS MAY BE A
 SIGNIFICANT LIMITATION FOR CERTAIN APPLICATIONS.)

DOCUMENTATION: PROGRAM DESCRIPTION
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
 DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
 CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
 TOOLS SERIES, 790100
 DEVELOPER: TRW, DATA MANAGEMENT SYSTEMS DEPARTMENT
 CONTACT: MILT HAYASHIDA, TRW, DATA MANAGEMENT SYSTEMS
 DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
 213-535-2910

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: ACT/1, TITLE: AN ONLINE APPLICATION FOR DEVELOPING
 ONLINE APPLICATIONS
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: SCREEN LAYOUT DESIGN, ONLINE APPLICATION DESIGN,
 ONLINE APPLICATION DEVELOPMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: TEXT
 TOOL PORTABLE: NO, TOOL SIZE: FEWER THAN 6 CYL ON 3330 DISK
 COMPUTER (OTHER HARDWARE): IBM 360/370 (IBM 3270 DISPLAY
 TERMINALS OR EQUIVALENT)
 OS (OTHER SOFTWARE): MVS (TSO OR CICS, VSAM), OS/VS2 (TSO OR
 CICS, VSAM)

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED PRODUCT
 TOOL SUPPORTED: YES, TOOL SUPPORT: APPLICATION DEVELOPMENT
 METHODOLOGIES (ADM) LTD.

TOOL SUMMARY: ACT/1 IS USED TO DEVELOP AND MANAGE AN ONLINE
 APPLICATION THROUGHOUT ITS ENTIRE LIFE CYCLE. ACT/1
 PROVIDES INTEGRATED DEVELOPMENT AND PRESERVES FUNCTIONAL
 INTEGRITY DURING MAINTENANCE. ACT/1 DOES THE FOLLOWING:
 (1) PERMITS THE INTERACTIVE DESIGN AND CONSTRUCTION OF
 APPLICATION SCREENS BY SIMPLY KEYING THE LAYOUT DIRECTLY ON
 THE DISPLAY TERMINAL, (2) PERMITS THE INTERACTIVE
 SPECIFICATION OF AN APPLICATION DIALOGUE, (3) PERMITS
 DEVELOPERS TO PROVIDE APPLICATION ROUTINES IN STANDARD
 LANGUAGES, (4) PROVIDES FOR THE NAMING OF FIELDS ON
 SCREENS, (5) SUPPORTS APPLICATION SIMULATIONS ("SCENARIOS"
 AND "DEMOS"), (6) PRODUCES PRINTED DOCUMENTATION, (7)
 MAINTAINS SCREENS, FLOW LOGIC, AND APPLICATION ROUTINES -
 INDEPENDENTLY, (8) AND DIRECTS THE EXECUTION OF THE
 APPLICATION.

DOCUMENTATION: USER'S GUIDE, INSTALLATION GUIDE

DEVELOPER: ART BENJAMIN ASSOCIATES LTD.

CONTACT: K. E. WOOTTON, ART BENJAMIN ASSOCIATES LTD., 250
 CONSUMERS RD., 4TH FLOOR, WILLOWDALE, ONTARIO, CANADA,
 416-494-9570

INFORMATION SOURCE: PRODUCT SUMMARY

ACRONYM: ADS, TITLE: ADVANCED DEBUGGING SYSTEM
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: BREAKPOINT CONTROL
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: CICS

TOOL SIZE: CORE: 15K

COMPUTER (OTHER HARDWARE): IBM 360/370

OS (OTHER SOFTWARE): OS, OS/VS, DOS, DOS/VS

TOOL AVAILABLE: YES

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE

TOOL SUMMARY: ADS (ADVANCED DEBUGGING SYSTEM) IS DESIGNED TO
 MONITOR AND DEBUG APPLICATION SYSTEMS WRITTEN FOR IBM CICS.
 SOME OF THE MAJOR ADS FEATURES ARE PROVISION OF A
 KEYWORD/COMMAND LANGUAGE TO ALLOW ACCESS TO CICS RESOURCE
 AND INCORPORATION OF A LANGUAGE STRUCTURE SIMILAR TO COBOL.
 IT ALLOWS A PROGRAMMER TO DYNAMICALLY INSERT SOURCE
 STATEMENTS INTO EXISTING LOAD MODULES WITHOUT HAVING TO
 INTERPRET THE OBJECT INSTRUCTIONS. ADS CAN MONITOR THE
 EXECUTION OF A SELECTED ROUTINE, OR THE ENTIRE PATH OF A
 TRANSACTION TO DETECT AND PREVENT AN ERROR CAUSED BY
 ILLEGAL FREEMAIN EXECUTIONS, BAD FILE OR TERMINAL WRITES,
 ALTERATION OF CONTROL AREAS, OR LOSS OF ADDRESSABILITY, AND
 IT WILL SUSPEND THE OFFENDING TASK BEFORE DAMAGE OCCURS.
 CONTROL OF THE TASK IS GIVEN TO THE PROGRAMMER AT ANY
 DESIGNATED TERMINAL. THE SYSTEM CAN IDENTIFY STORAGE
 ADDRESSES WITHIN CICS AND GIVES DESCRIPTIVE HEADINGS THAT
 RELATE TO THE FIELDS BEING DISPLAYED.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT
 SPECIFICATION, TEST PLAN

DEVELOPER: GARY BERGMAN ASSOCIATES, INC.

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: ADS/CERL, TITLE: AUTOMATED DOCUMENTATION SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CODE AUDITING, CROSS REFERENCE, DOCUMENTATION
GENERATION

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 790200
APPLICABILITY: FORTRAN CDC
IMPLEMENTATION LANGUAGE: FORTRAN CDC
TOOL PORTABLE: NO
COMPUTER (OTHER HARDWARE): CDC 6000
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABLE FROM
NTIS

TOOL SUPPORTED: YES, TOOL SUPPORT: CERL
TOOL SUMMARY: THE ADS SYSTEM PROVIDES "PROGRAM REFERENCE
MANUAL" TYPE REPORTS RELYING ON COMMENTS IN THE FORTRAN
SOURCE CODE. IT IS INTENDED TO BE INCLUDED FROM THE
BEGINNING OF DEVELOPMENT THROUGH IMPLEMENTATION OF THE
SYSTEM. THE ADS DOCUMENTATION AND RESULTANT REPORTS
PROVIDE BOTH THE MANAGER AND OTHER PROGRAMMERS ON THE
PROJECT WITH INFORMATION ON THE DEVELOPMENT STATUS. IT HAS
BEEN USED IN SEVERAL SYSTEM DEVELOPED AT CERL.

DOCUMENTATION: USERS MANUAL (84)
DEVELOPER: CONSTRUCTION ENGINEERING RESEARCH LABORATORY
(CERL)

CONTACT: LINDA LAWRIE, DEPT OF ARMY, CERL, PO BOX 4005,
CHAMPAIGN, IL, 61820, USA, 217-352-6511
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: AFS, TITLE: AUTOMATIC FLOWCHARTING SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: DESIGN
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 63000
COMPUTER (OTHER HARDWARE): CDC CYBER 172
OS (OTHER SOFTWARE): NOS/BE 1
TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO
TOOL SUMMARY: A COMMENT-DRIVEN SYSTEM WHICH ALLOWS THE USER
TO DEFINE FLOWCHARTS VIA COMMENTS. THIS ALLOWS THE USER TO
EFFECTIVELY FLOWCHART "PSEUDO-CODE", EMBEDDED IN COMMENTS,
AT WHATEVER LEVEL OF ABSTRACTION THE USER DESIRES.
CONTAINS DIFFERENT BOX SHAPES FOR DIFFERENT PROGRAM CONTROL
FEATURES (E.G., BRANCH, TEST, SUBROUTINE CALL), AND ALLOWS
THE USER TO SPECIFY THE FORMAT OF THE GENERATED FLOWCHART.
THE USER MAY DEFINE HIS/HER OWN FLOWCHART COMMENT
CHARACTERS, AND MAY SELECTIVELY SPECIFY WHICH ROUTINES ARE
TO BE FLOWCHARTED BY THE AFS.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [SABE77], SABETKA, D., AND W.R. FRANZ, "AUTOMATIC
FLOWCHARTING SYSTEM", GENERAL DYNAMICS POMONA DIVISION
TECH. MEMO. 577-0-90A, 770907

AFS

DEVELOPER: GENERAL DYNAMICS
CONTACT: RICHARD W. MC HARD, GENERAL DYNAMICS, P.O. BOX
2507, POMONA, CA, 91766, USA, 714-629-5111
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: ALIAS, TITLE: ALIAS
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: THIS PROGRAM RENAMES VARIABLES (ACCORDING TO
INPUT REQUESTS) IN FORTRAN SOURCE CODE.

DOCUMENTATION: PROGRAM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: AMPIC, TITLE: AMPIC
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: FLOW CHART GENERATION, SYMBOLIC EXECUTION, PATH
CONSTRAINT GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN, ASSEMBLY
IMPLEMENTATION LANGUAGE: SNOBAL
COMPUTER (OTHER HARDWARE): IBM 360/370

TOOL SUMMARY: AMPIC IS A PROGRAM THAT STRUCTURES, TRANSLATES
AND SYMBOLICALLY EXECUTES OTHER PROGRAMS, WRITTEN IN HIGHER
ORDER LANGUAGE (CURRENTLY IMPLEMENTED FOR WSC FORTRAN) OR
ASSEMBLY LANGUAGE (WSC, LITTON L4516D, SKC-2070, ETC.). A
COMPLETE AMPIC RUN ON A GIVEN INPUT MODULE CONSISTS OF FOUR
AMPIC PHASES: FIRST, THE MODULE IS SEGMENTED INTO CODE
GROUPS THAT CAN BE TREATED AS INDIVIDUAL ELEMENTS (NODES)
OF A FLOWCHART; SECOND, A "STRUCTURED" FLOWCHART IS
CREATED; THIRD, THE INPUT MODULE IS TRANSLATED INTO
MATHEMATICAL-TYPE STATEMENTS; FOURTH, THE INPUT/OUTPUT
FUNCTIONAL EXPRESSIONS FOR THE ENTIRE PATHS THROUGH THE
INPUT MODULE ARE PROVIDED AND SYMBOLICALLY EXECUTED.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: LOGICON, INC.
CONTACT: MIKE IREZAWA, LOGICON, INC., 255 WEST 5TH, SAN
PEDRO, CA, USA, 213-831-0611
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ASEQ

ACRONYM: ASA-PMS, TITLE: ASA PROJECT MANAGEMENT SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN IV
TOOL PORTABLE: YES, TOOL SIZE: CORE: 30K-CDC, DEC, 200K-IBM
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE

TOOL SUMMARY: THE ASA PROJECT MANAGEMENT SYSTEM IS A SET OF COMPUTER PROGRAMS DEVELOPED TO AID PROJECT MANAGEMENT IN PLANNING AND CONTROLLING PROJECT SCHEDULES. IT IS UTILIZED IN CRITICAL PATH METHOD AND PRECEDENCE JOBS. IT IS DESIGNED AS A COMPLETE MANAGEMENT INFORMATION SYSTEM THAT INCLUDES PROJECT SCHEDULE COMPUTATION, COST CONTROL, RESOURCE ALLOCATION, AND DIGITAL GRAPHICS. THE SCHEDULING PROGRAM IS USED TO MAINTAIN THE PROJECT DATA BASE, TO PERFORM NETWORK DIAGNOSTICS CHECKS, TO COMPUTE THE PROJECT SCHEDULE, AND TO PRINT A VARIETY OF REPORTS. FIVE PROGRAMS ARE INTERFACED WITH THE SCHEDULING PROGRAM: 1) THE COST PROGRAM IS DESIGNED TO COMPARE THE BUDGET ESTIMATES WITH THE ACTUAL COSTS AND TO EVALUATE THE COST AND PERFORMANCE OF THE PROJECT; 2) THE RESOURCE PROGRAM PRINTS RESOURCE LOADING PROGRAMS AND COMPUTES A FEASIBLE SCHEDULE BASED ON THE LIMITATIONS OF AVAILABLE RESOURCES; 3) THE MULTI-PROJECT PROGRAM COMBINES THE FILES OF SEVERAL PROJECTS AND PRINTS COMPANY-WIDE REPORTS.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: ANDREW SIPES ASSOCIATES
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: ASEQ, TITLE: ASEQ
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: LABEL RESEQUENCING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000
TOOL SUMMARY: ASEQ CAN BE USED DURING THE DEVELOPMENT OF FORTRAN CODE TO RESEQUENCE STATEMENT LABELS IN ASCENDING ORDER. NEW LABELS BEGIN AT 100 AND ARE INCREMENTED BY 10. LABELS ARE RIGHT-JUSTIFIED IN COLUMNS 2 THROUGH 5. ASEQ WILL PUNCH AND/OR LIST A NEW DECK.
DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: ASRP, TITLE: AVIONICS SOFTWARE RELIABILITY PREDICTION

CLASSIFICATION: SOFTWARE MODELING AND SIMULATION
FEATURES: SOFTWARE QUALITY EVALUATION
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 790000
APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): HONEYWELL H6180
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: A COMPUTER PROGRAM AND SUPPORTIVE DOCUMENTATION FOR IMPLEMENTING A MATHEMATICAL MODEL THAT PREDICTS THE RELIABILITY AND MEAN TIME TO FAILURE OF AN AVIONIC SOFTWARE DEVELOPMENT PROJECT IS AVAILABLE. THE MODEL IS BASED UPON ASSUMING DISCRETE VERSIONS OF THE SOFTWARE PROJECT BEING DEVELOPED, AN AVERAGE RATE OF ERROR OCCURRENCE PROPORTIONAL TO THE NUMBER OF ERRORS PRESENT AT ANY GIVEN TIME, AND ERRORS MAY BE DETECTED, CORRECTED AND GENERATED BETWEEN VERSIONS, ALTHOUGH ALL DETECTED ERRORS MAY NOT BE CORRECTED BETWEEN VERSIONS. THE COMPUTER PROGRAM USES A MODIFIED MARQUARDT NON-LINEAR SEARCH METHOD FOR PROVIDING LEAST SQUARES ESTIMATES OF THE PRINCIPAL MODEL PARAMETERS - THE NUMBER OF ERRORS INITIALLY PRESENT, THE PROPORTIONALITY CONSTANT RELATING THE ERROR DETECTION RATE TO THE NUMBER OF ERRORS PRESENT AT TIME T, AND THE PROPORTIONALITY CONSTANTS RELATING THE ERROR CORRECTION RATE TO THE ERROR DETECTION RATE AND THE NUMBER OF ERRORS AWAITING CORRECTION, RESPECTIVELY.

DOCUMENTATION: TECHNICAL REPORT (78)
REFERENCES: [RUSH00], C.K. RUSHFORTH, "SOFTWARE RELIABILITY ESTIMATION UNDER CONDITIONS OF INCOMPLETE INFORMATI", UNIV. OF UTAH, RADC FINAL TECHNICAL REPORT TO BE PUBLISHED, 0
DEVELOPER: UNIVERSITY OF UTAH
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: ASSET, TITLE: AUTOMATED SYSTEMS AND SOFTWARE ENGINEERING TECHNOLOGY
CLASSIFICATION: SOFTWARE SUPPORT SYSTEM/PROGRAMMING ENVIRONMENT
FEATURES: CONFIGURATION MANAGEMENT, VERSION CONTROL, TEST DATA MANAGEMENT, REQUIREMENTS TRACING, CONSISTENCY CHECKING, LIBRARY MANAGEMENT
STAGE OF DEVELOPMENT: DESIGN
APPLICABILITY: SOURCE CODE
TOOL SUPPORTED: YES, TOOL SUPPORT: BOEING COMPUTER SERVICES COMPANY

TOOL SUMMARY: ASSET IS AN INTEGRATED SYSTEM OF TOOLS AND TECHNIQUES WHICH IS DESIGNED TO FACILITATE THE TRANSITION FROM ONE DEVELOPMENT PHASE TO THE NEXT AND TO DETERMINE THAT THE TRANSITIONS HAVE BEEN MADE CORRECTLY. UPGRADING THE SYSTEM IN THE MAINTENANCE PHASE IS CONSIDERED TO BE A REITERATION OF THE DEVELOPMENT PHASE CODE). TESTING AND

ASSIST-I

VERIFICATION ARE CONSIDERED TO BE A CONTINUING ACTIVITY THROUGHOUT THE DEVELOPMENT (OR MAINTENANCE) PROCESS RATHER THAN A SEPARATE PHASE. THE PRINCIPAL COMPONENT OF ASSET IS A CENTRAL DATA BASE CONTAINING ALL OF THE INFORMATION NEEDED FOR MAKING AND IMPLEMENTING MANAGEMENT DECISIONS ABOUT A PROGRAM. INCOMING SOURCE REPRESENTATIONS (CODE, DESIGN SPECIFICATIONS OR REQUIREMENT SPECIFICATIONS ARE FIRST SCANNED BY A STATIC ANALYZER USING GRAPH ANALYSIS TECHNIQUES. SYMBOLIC EXECUTION IS APPLIED TO THE DESIGN AND REQUIREMENTS SPECIFICATION DYNAMIC ANALYSIS IS CONSIDERED TO BE THE MORE SUCCESSFUL VERIFICATION TECHNIQUE FOR SOURCE CODE. WHICH

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200

[OSTE78], L. J. OSTERWEIL, "ASSET: A LIFECYCLE VERIFICATION AND VISIBILITY SYSTEM", PROCEEDINGS COMPSAC, CHICAGO, IL, PP 30-35, 781100

DEVELOPER: BOEING COMPUTER SERVICES COMPANY

INFORMATION SOURCE: RADC-TR-80-13

ACRONYM: ASSIST-I, TITLE: ASSIST-I

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: SYMBOLIC EVALUATION

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: ASSEMBLY

IMPLEMENTATION LANGUAGE: ASSEMBLY

COMPUTER (OTHER HARDWARE): XDS SIGMA 5

TOOL SUMMARY: ASSIST-I IS A COMPUTER PROGRAM WHICH PERFORMS AUTOMATIC TESTS ON THE CORRECTNESS OF ARITHMETIC COMPUTATIONS, STORAGE REFERENCES, AND EXECUTION SEQUENCING WITHIN EVERY POSSIBLE LOGIC PATH OF THE COMPUTER PROGRAM UNDERGOING TEST. IT IS DESIGNED TO OPERATE ON ASSEMBLY LANGUAGE OBTAINED AS OUTPUT FROM A COMPILER OR CODED DIRECTLY IN ASSEMBLY LANGUAGE. THE BASIC CONCEPT OF ASSIST-I IS THAT EVERY COMPUTER PROGRAM CAN BE SECTIONED INTO LOGICAL TEST UNITS (LTU) WHICH CONSIST OF SERIALLY-EXECUTED STATEMENTS. ASSIST-I PROCESSES THE SUBJECT PROGRAM IN A SEQUENTIAL MANNER, RECORDING ALL BRANCHES OR POTENTIAL BRANCHES. AT THE END OF EACH LTU, ASSIST-I COMPARES THE COMPUTED RESULTS WITH THE PREDICTED RESULTS AND OUTPUTS AN ERROR MESSAGE INDICATING DISCREPANCIES, IF ANY. AT THE END OF THE SUBJECT PROGRAM, ASSIST-I LISTS EVERY POSSIBLE LOGIC PATH THROUGH THE PROGRAM BY LTU NAME.

DOCUMENTATION: PROGRAM DESCRIPTION

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: ATA, TITLE: AUTOMATIC TESTING ANALYSIS TOOL

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, TRACE, ASSERTION CHECKING

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780600

APPLICABILITY: FORTRAN IV

IMPLEMENTATION LANGUAGE: FORTRAN IV

COMPUTER (OTHER HARDWARE): DECSYSTEM-10/20

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES

TOOL SUMMARY: THE ATA IS AN AUTOMATED TOOL FOR THE DYNAMIC VERIFICATION OF FORTRAN AND ASSEMBLY LANGUAGE PROGRAMS. ATA ALLOWS THE USER TO GATHER STATISTICS ON THE CORRECTNESS OF ASSERTIONS DURING EXECUTION AND THE USAGE OF DECISION-TO-DECISION PATHS (DD PATHS). AN ASSERTION IS A STATEMENT THAT SPECIFIES A CONDITION OR RELATION ABOUT CERTAIN PROGRAM VARIABLES AND IS PLACED IN A PROGRAM IN THE FORM OF A COMMENT. A DD PATH IS A GROUP OF STATEMENTS THAT BEGINS WITH AN ENTRY POINT OR DECISION AND INCLUDES ALL STATEMENTS EXECUTED UNTIL THE NEXT DECISION OR EXIT POINT. OUTPUT OPTIONS PROVIDED BY ATA INCLUDE REPORTING TRUE OR FALSE ASSERTIONS, CUMULATIVE ASSERTION CHECKING, TRACING ASSERTION CHECKING, CUMULATIVE DD PATH USAGE, TRACING DD PATH USAGE, MODULE TRACING, AND SELECTIVE REPORTING.

DOCUMENTATION: TECHNICAL DESCRIPTION, TEST PLAN

DEVELOPER: SAI

CONTACT: DAVE LEWIS, DEPT OF DEFENSE, S863, OPS BLDG 3, FT MEADE, MD, 20755, USA, 301-688-6015

ROBERT DOWNS, SCIENCE APPLICATIONS, INC., 1257 TASMAN DRIVE, SUNNYVALE, CA, 94086, USA,

INFORMATION SOURCE: DOD TECHNICAL REPORT

ACRONYM: ATDG, TITLE: AUTOMATED TEST DATA GENERATOR

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: TEST DATA GENERATION, ERROR ANALYSIS

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN

COMPUTER (OTHER HARDWARE): UNIVAC 1110

TOOL SUMMARY: THE ATDG IS AN EXPERIMENTAL INTERACTIVE TOOL WITH TWO DIFFERENT FUNCTIONS: THE TEST DATA GENERATION (TDG) FUNCTION PROVIDES AUTOMATED SUPPORT TO PROGRAM TESTING AT THE UNIT LEVEL (I.E., A SINGLE SUB-ROUTINE, FUNCTION, OR MAIN PROGRAM) BY IDENTIFICATION OF EFFECTIVE TEST CASE PATHS AND THE DATA CONSTRAINTS WHICH MUST BE SATISFIED TO EXECUTE THESE PATHS; THE STATIC ERROR ANALYSIS (SEA) FUNCTION PROVIDES A DIAGNOSTIC CAPABILITY TO SUPPLEMENT THE ERROR DETECTION FUNCTIONS OF CONVENTIONAL FORTRAN COMPILERS BY IDENTIFICATION OF PATH-DEPENDENT ERRORS (E.G., UNINITIALIZED VARIABLES, INFINITE LOOPS, UNREACHABLE CODE). THESE TWO FUNCTIONS ARE PERFORMED BY ANALYZING A LOGIC NETWORK OF THE SOFTWARE ELEMENT USING THE PRINCIPLES OF DIRECTED GRAPH THEORY AND DYNAMIC PROGRAMMING. A NETWORK IS CONSTRUCTED BY DEFINING A

ATTEST

SOFTWARE ELEMENT IN TERMS OF SEGMENTS (LOGIC BLOCKS OF FORTRAN STATEMENTS THAT CAN BE ADDRESSED), AND BY IDENTIFYING THE TRANSFERS AND CONNECTIVE PROPERTIES BETWEEN THESE SEGMENTS.

DOCUMENTATION: USER INFORMATION NOTE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RAD-TR-80-13, INTERIM REPORT, 800200

DEVELOPER: TRW
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RAD-TR-80-13

ACRONYM: ATTEST, TITLE: AUTOMATIC TEST ENHANCEMENT SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DOCUMENTATION GENERATION, COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, SYMBOLIC EVALUATION, PATH CONSTRAINT GENERATION, PATH CONSTRAINT SOLUTION, EXPRESSION ANALYSIS, EXPRESSION TESTING

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN 66
IMPLEMENTATION LANGUAGE: FORTRAN 66
COMPUTER (OTHER HARDWARE): DEC VAX

OS (OTHER SOFTWARE): VMS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: ATTEST IS A SYMBOLIC EXECUTION SYSTEM THAT DOES TEST DATA GENERATION AND ERROR ANALYSIS. IT IS COMPOSED OF 3 MAJOR COMPONENTS. THE PATH SELECTION COMPONENT MONITORS THE BRANCHES AND STATEMENTS THAT HAVE BEEN EXECUTED PREVIOUSLY AND DYNAMICALLY SELECTS PATHS TO EXERCISE UNTESTED PORTIONS OF THE CODE. THE SYMBOLIC EXECUTION COMPONENT CREATES SYMBOLIC REPRESENTATIONS OF THE PROGRAM'S COMPUTATIONS AND DOMAIN, AS WELL AS CREATES SYMBOLIC REPRESENTATIONS OF ERROR CONDITIONS AND USER ENTERED ASSERTIONS. THE THIRD COMPONENT SIMPLIFIES THE SYMBOLIC REPRESENTATIONS AND TESTS FOR CONSISTENCY OF THE DOMAIN, FEASIBILITY OF THE ERROR CONDITIONS, AND VALIDITY OF THE ASSERTIONS. AFTER SUCCESSFUL ANALYSIS OF A PATH IS COMPLETED, TEST DATA TO CAUSE EXECUTION OF THE PATH IS GENERATED

DOCUMENTATION: TECHNICAL REPORTS
REFERENCES: [CLAR76], L. A. CLARKE, "A SYSTEM TO GENERATE TEST DATA AND SYMBOLICALLY EXECUTE PROGRAMS", IEEE TRANSACTIONS OF SOFTWARE ENGINEERING, SE-2, PP.215-222, 760900

[CLAR78], L. A. CLARKE, "AUTOMATIC TEST DATA SELECTION TECHNIQUES", INFOTECH STATE OF THE ART REPORT, SOFTWARE TESTING, VOL. 2, 780900
[CLAR78B], L. A. CLARKE, "TESTING: ACHIEVEMENTS AND FRUSTRATIONS", IEEE SECOND INTER. COMPUTER SOFTWARE AND APPLI. CONF., PP., 781100

[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RAD-TR-80-13, INTERIM REPORT, 800200

DEVELOPER: DEPART. OF COMPUTER AND INFOR. SCIENCE CONTACT: L. A. CLARKE, DEPART. OF COMPUTER AND INFOR. SCIENCE, UNIVERSITY OF MASSACHUSETTS, AMHERST, MA, 01003, USA, 413-545-1328
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS, RAD-TR-80-13

ACRONYM: AUDIT, TITLE: AUDIT
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS, CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 740000
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN CDC
COMPUTER (OTHER HARDWARE): CDC 6000

PUBLIC DOMAIN: YES
TOOL SUMMARY: AUDIT IS PART OF A PROCUREMENT SYSTEM DEVELOPED BY THE NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER (NSRDC) TO EXAMINE CONTRACTOR PRODUCED COMPUTER PROGRAMS. AUDIT ANALYZES A FORTRAN PROGRAM TO INSURE THAT IT CONFORMS TO A SET OF PROGRAMMING STANDARDS AND ISSUES A REPORT DETAILING THE DEVIATIONS FROM THESE STANDARDS. THE AUDIT STANDARDS PRIMARILY INSURE PROGRAM UNIVERSALITY AMONG A CLASS OF COMPILERS AND ARE SIMILAR TO THE AMERICAN NATIONAL STANDARD FOR FORTRAN. AUDIT ALSO DETERMINES IF THE INPUT PROGRAM CONTAINS PATHS ALONG WHICH A VARIABLE MAY BE NEEDED BEFORE IT HAS BEEN DEFINED. TO DO THIS, AUDIT CONSTRUCTS A DIRECTED GRAPH OF THE FORTRAN PROGRAM AND TRACES EACH PATH TRACED FOR EACH MODULE IS ALSO PROVIDED.

DOCUMENTATION: TECHNICAL DESCRIPTION
REFERENCES: [CULP75], L. M. CULPEPPER, "A SYSTEM FOR RELIABLE SOFTWARE ENGINEERING", IEEE TRANS ON SOF ENG, 750600
DEVELOPER: NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER, BETHESDA, MD.

CONTACT: L. M. CULPEPPER, NAVAL SHIP RESEARCH AND DEVELOPMENT CTR, BETHESDA, MD, 20034, USA, 301-227-1887
INFORMATION SOURCE: DOD TECHNICAL REPORT

ACRONYM: AUTDOC, TITLE: AUTOMATIC DOCUMENTER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: GLOBAL DATA ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: AUTDOC AUTOMATICALLY EXTRACTS AND PRINTS COMMON VARIABLE ALLOCATION AND IDENTIFICATION INFORMATION (SYMBOL, USE, DIMENSION, COMMON ARRAY, AND DEFINITION) AND LOCAL VARIABLE IDENTIFICATION INFORMATION (SYMBOL AND DEFINITION). USED IN CONJUNCTION WITH TEXT-ASSEMBLY

PROGRAMS (E.G. DOCCEN), CROSS-REFERENCE DOCUMENTING PROGRAMS (E.G. FORREF, DEPCHT, CCREP, DPNDY), AND FLOW-CHARTING PROGRAMS (E.G. FLOWGEN), IT RESULTS IN AUTOMATION OF MORE THAN HALF OF THE OVERALL DOCUMENTATION PROCESS.

DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW SYS ENG AND ANAL DEP

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: AUTOCOM, TITLE: AUTOMATIC COMMON BLOCK INSERTION PROGRAM

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

FEATURES: GLOBAL DATA MANAGEMENT

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN IV

IMPLEMENTATION LANGUAGE: FORTRAN

COMPUTER (OTHER HARDWARE): CDC 6000

TOOL SUMMARY: THE AUTOMATIC COMMON BLOCK INSERTION PROGRAM IS A TOOL FOR THE INSERTION OF COMMON BLOCKS IN FORTRAN SOFTWARE. THE AUTOCOM SYSTEM ALLOWS THE USER TO KEEP GLOBAL VARIABLES AND PROGRAM CODE IN SEPARATE FILES FOR UPDATE AND LISTING PURPOSES, AND AUTOMATICALLY INSERTS INTO PROGRAM CODE THOSE COMMON BLOCKS WHICH ARE NECESSARY, BASED UPON THE USE OF THE GLOBAL VARIABLES IN THE CODE. WITHOUT

A MANAGING SYSTEM, COMMON BLOCKS ARE INSERTED MANUALLY BY THE USER, BASED UPON A VISUAL CHECK OF A ROUTINE'S GLOBAL VARIABLE USAGE. SUCH INSERTIONS ARE OFTEN IN ERROR; OMITTING NEEDED BLOCKS OR INSERTING ALL POSSIBLE BLOCKS TO INSURE GLOBAL VARIABLE COVERAGE. THE USE OF MOST AUTOMATED SYSTEMS REQUIRES THE INSERTION OF FLAGS WITHIN THE SOURCE CODE TO NOTE WHICH COMMON BLOCKS ARE DESIRED, AND REQUIRES THAT THE USER MONITOR THE STATUS OF THESE FLAGS DURING PROGRAM DEVELOPMENT. AUTOCOM RESOLVES THE ENTIRE QUESTION OF COMMON BLOCK MANAGEMENT TO AN AUTOMATED PROCESS.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPT.

CONTACT: P. W. BOGLE, TRW, SOFTWARE TECHNOLOGY DEPT., ONE

SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: AUTOFLOW, TITLE: AUTOFLOW

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

FEATURES: FLOW CHART GENERATION

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN

AUTOFLOW

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370

TOOL SUMMARY: AUTOFLOW GENERATES PROGRAM FLOWCHARTS FROM FORTRAN SOURCE CARDS. COMMENTS WHICH OCCUR IN THE SOURCE CODE ARE TRANSFERRED TO THE FLOWCHART. THE FLOWCHARTS PRODUCED USING THE CALCOMP PLOT FEATURE ARE SIZED FOR 8-1/2 X 11 INCH PAPER, WITH CONNECTORS, CONTINUATION REMARKS, AND PAGE NUMBERS AUTOMATICALLY INSERTED.

DOCUMENTATION: USER'S MANUAL

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SYSTEMS SOFTWARE DEPARTMENT

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: AUTOFLOW-ADR, TITLE: AUTOFLOW

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN, COBOL, ASSEMBLY, PL/1, AUTOCODER

COMPUTER (OTHER HARDWARE): IBM 360/370

TOOL SUMMARY: AUTOFLOW-ADR GENERATES PROGRAM FLOW CHARTS. COMMENTS WHICH OCCUR IN THE SOURCE CODE ARE TRANSFERRED TO THE FLOW CHART. THE FLOW CHARTS PRODUCED USING THE CALCOMP PLOT FEATURE ARE SIZED FOR 8-1/2 X 11 INCH PAPER, WITH CONNECTORS, CONTINUATION REMARKS, AND PAGE NUMBERS AUTOMATICALLY INSERTED.

DOCUMENTATION: USER'S MANUAL

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: APPLIED DATA RESEARCH

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: AUTOIDEF0, TITLE: AUTOMATED ICAM DEFINITION LANGUAGE

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: DOCUMENTATION GENERATION, REQUIREMENTS SPECIFICATION, CONFIGURATION CONTROL, GRAPHICAL REPRESENTATION, DESIGN SPECIFICATION

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 800100

APPLICABILITY: DESIGN, REQUIREMENTS

IMPLEMENTATION LANGUAGE: FORTRAN

TOOL PORTABLE: NO, TOOL SIZE: 140,000 OCTAL WORDS OF MEMORY

COMPUTER (OTHER HARDWARE): CDC 6600 (TEKTRONIX 4014 AND 4016

GRAPHICS TERMINALS), CYBER 175 (TEKTRONIX 4014 AND 4016

GRAPHICS TERMINALS)

OS (OTHER SOFTWARE): NOS/BE (AIDS-STAGING GRAPHICS PACKAGE, IDBMS DATABASE SYSTEM), NOS (PSR LEVELS 433,460,485;

AIDS-STAGING GRAPHICS, IDBMS DATABASE SYSTEM)

AUTORETEST

TOOL SUPPORTED: YES, TOOL SUPPORT: AIR FORCE MATERIALS LAB,
AFSC, WRIGHT-PATTERSON AFB, OHIO
TOOL SUMMARY: AUTOIDEF0 IS DESIGNED TO PROVIDE A
DATABASE-SUPPORTED METHOD OF GRAPHICALLY MODELING SYSTEMS
DEVELOPMENT. THE MAJOR PURPOSE OF THE TOOL IS TO MAINTAIN
THE CONSTRUCTION AND EDITING OF DIAGRAMS WITHIN THE ICAM
DEFINITION LANGUAGE (IDEF0) ACCORDING TO A USER'S SET OF
SPECIFICATIONS, WHILE INCLUDING THE CAPABILITY OF VIEWING
ANY IDEF0 DIAGRAM FOLLOWING ITS CONSTRUCTION. FUTURE
ENHANCEMENTS WILL ALLOW A USER TO COLLECT DIAGRAMS INTO A
MODEL WHICH DESCRIBES A CERTAIN PORTION OR AN ENTIRE
SYSTEMS DEVELOPMENT. ONCE A MODEL HAS BEEN CONSTRUCTED,
AUTOIDEF0 WILL VALIDATE IDEF0 DIAGRAMS SEPARATELY AND AS A
COLLECTION ACCORDING TO THE RESTRICTIONS IMPOSED BY THE
ICAM DEFINITION LANGUAGE.
DOCUMENTATION: USER'S MANUAL (50), MAINTENANCE MANUAL (100),
SYSTEM USER'S MANUAL (50)
REFERENCES: [BORA79], FRANK BORASZ, "AUTOIDEF: AN AUTOMATIC
TOOL FOR SYSTEMS REQUIREMENTS DEFINITION", PROCEEDINGS OF
COMPSAC 79, 791100
DEVELOPER: BOEING COMPUTER SERVICES COMPANY, SOFTECH, INC.,
WALTHAM, MASS.
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: AUTOMATIC DOCUM, TITLE: AUTOMATIC DOCUMENTATION
SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROGRAM FORMATTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: TEXT
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 52000
COMPUTER (OTHER HARDWARE): CDC CYBER 172
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
TOOL SUMMARY: ALLOWS FOR SOFTWARE DOCUMENTATION TO BE
EMBEDDED IN THE CODE AS COMMENTS. INCLUDES PARAGRAPHING,
LINE SKIPPING, PAGE EJECT, AND DOCUMENT FORMATTING
CAPABILITY. THE USER MAY DEFINE HIS/HER OWN DOCUMENTATION
LINE DESIGNATION CHARACTERS, AND MAY SELECTIVELY SPECIFY
WHICH ROUTINES ARE TO BE PROCESSED FOR DOCUMENTATION BY THE
ADS.
DOCUMENTATION: USER'S MANUAL
REFERENCES: [FRAN78], FRANZ, W.R., "AUTOMATIC DOCUMENTATION
SYSTEM (ADS)", GENERAL DYNAMICS POMONA DIVISION MEMORANDUM
577-0-0161A, 781013
DEVELOPER: GENERAL DYNAMICS
CONTACT: RICHARD W. MC HARD, GENERAL DYNAMICS, P.O. BOX
2507, POMONA, CA, 91766, USA, 714-629-5111
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS
ACRONYM: AUTORETEST, TITLE: AUTORETEST

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: TEST DATA MANAGEMENT, TEST HARNESS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN IV, ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: THE PRINCIPAL APPLICATION OF THE AUTORETEST
PROGRAM IS THE AUTOMATION OF USER SOFTWARE TEST RESULTS
REVALIDATION. THE SYSTEM PROVIDES AN AUTOMATED COMPARISON
BETWEEN SELECTED OLD AND NEW TEST PARAMETERS, THEREBY
ALLOWING INVALUABLE DOCUMENTATION OF THE TEST CASES. THIS
SYSTEM ALSO PROVIDES A FLEXIBILITY IN THAT A TOLERANCE
CRITERION MAY BE ASSIGNED TO EACH COMPARISON AND THEREBY
SUPPRESS INSIGNIFICANT DIFFERENCES. THIS IS SIMILAR TO THE
DRIVER TOOL AVAILABLE FOR THE CDC COMPUTERS.

DOCUMENTATION: PROGRAMMER'S GUIDE, DEVELOPMENT SPECIFICATION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
CONTACT: CLARK LUCAS, TRW, DEFENSE SYSTEMS SOFTWARE
DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-535-0426

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: BLKGEN-BDD, TITLE: BLKGEN
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM READS VARIABLE NAMES AND THEIR
DIMENSIONS AND USES THIS INFORMATION TO PUNCH A DIRECTORY
FOR THE DIRCOM PROGRAM AND ALSO FOR THOSE PROGRAMS WHICH
USE THE SDF TYPE OF INPUT.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: BRUNSWICK DEFENSE DIV.
CONTACT: JAMES N. CHURCHYARD, BRUNSWICK DEFENSE DIV., 3333
HARBOR BLVD., COSTA MESA, CA, 92626, USA, 714-546-8030

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS
ACRONYM: BLKGEN/SPECPN, TITLE: COMMON DATA BASE MANAGEMENT
SUBSYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: GLOBAL DATA MANAGEMENT, CONFIGURATION CONTROL,
VERSION CONTROL
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN

BSC

COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: BLKGEN AND SPECPN DEFINE AND MAINTAIN SUBROUTINE COMMON DATA STRUCTURES DURING DEVELOPMENT AND MAINTENANCE PHASES OF LARGE FORTRAN-ORIENTED PROGRAMS. THE TWO PRIMARY FUNCTIONS OF THESE PROGRAMS ARE: GENERATION AND MAINTENANCE OF A PROGRAM COMMON DATA BASE, AND AUTOMATIC UPDATING OF THE SOURCE CODE TAPE FROM SUCH A DATA BASE. UTILIZING THE AUTOMATIC COMMON UPDATE FEATURE OF THE PROGRAM, A LARGE AMOUNT OF ADDITIONAL CODE MODIFICATIONS AND ASSOCIATED COMMON DATA CAN BE COORDINATED BY COMBINING ALL COMMON VARIABLES INTO THE MASTER COMMON, THEN EXECUTING CDBM SOFTWARE (INCLUDING BLKGEN AND SPECPN), THUS GENERATING AN UPDATED VERSION OF THE PROGRAM THAT IS FREE OF COMMON INCONSISTENCIES.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: BSC, TITLE: BASIC STATISTICS COLLECTOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING FEATURES:
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 760000
APPLICABILITY: BASIC
IMPLEMENTATION LANGUAGE: PL/1

TOOL PORTABLE: NO
COMPUTER (OTHER HARDWARE): HIS 6180
OS (OTHER SOFTWARE): MULTICS
TOOL AVAILABLE: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.

TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: THE BASIC STATISTICS COLLECTOR IS A GROUP OF PROGRAMS WRITTEN IN THE PL PROGRAMMING LANGUAGE AND RESIDING ON THE HIS 6180 MULTICS SYSTEM AT RADC. THIS TOOL FOR THE BASIC PROGRAMMING LANGUAGE IS AN INITIAL ATTEMPT TO DEVELOP A METHOD FOR COLLECTING AND ANALYZING DATA ON THE GENERAL USAGE OF THE BASIC LANGUAGE. THE TOOL PROCESSES PROGRAMS WRITTEN IN BASIC AND STORES THE GENERAL LANGUAGE USE DATA, COLLECTED FROM PROGRAMS, IN A CENTRAL DATA FILE WHICH CONTAINS CUMULATIVE DATA FROM ALL PROCESSED PROGRAMS.
DOCUMENTATION: TECHNICAL PAPER (54), RADC TR-76-9, NTIS ACCESSION NO. A023-49(54), RADC TR-76-9, NTIS ACCESS. NO. A023-494 (54)

REFERENCES: [RADC76], RADC, "BASIC STATISTICS COLLECTOR", RADC-TR-76-9, NTIS ACCESS. NO. A023-494, 760000
DEVELOPER: ROME AIR DEVELOPMENT CENTER (ISIE)
CONTACT: DOUGLAS A. WHITE, ROME AIR DEVELOPMENT CENTER (ISIE), GRIFFISS AIR FORCE BASE, NY, 13441, USA, 315-330-2748

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: BTPK, TITLE: BIT MANIPULATION
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE FEATURES: BIT MANIPULATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: COMPASS
COMPUTER (OTHER HARDWARE): CDC

TOOL SUMMARY: BTPK IS A BIT MANIPULATION FUNCTION. IT PROVIDES THE FORTRAN PROGRAMMER WITH THE FOLLOWING LOGICAL AND BIT MANIPULATIVE FUNCTIONS: RIGHT / LEFT SHIFT; COMBINED RIGHT / LEFT SHIFT; ROTATE LEFT; EXCLUSIVE OR; UNPACK BITS. BTPK SERVES AS A USEFUL EXTENSION OF FORTRAN BY ADDING VARIOUS BIT-LEVEL CAPABILITIES AVAILABLE IN OTHER LANGUAGES SUCH AS JOVIAL. ANOTHER ROUTINE, BITPIK, WHICH PERFORMS SIMILAR FUNCTIONS, IS AVAILABLE FOR THE IBM SYSTEM.

DOCUMENTATION: TRW/TSS SUBROUTINE LIBRARY MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, COMPUTER SYSTEMS DEPARTMENT

CONTACT: ISABELLE JOLLY, TRW, COMPUTER SYSTEMS DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-1613
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: BUDGET VS ACTUA, TITLE: BUDGET VS. ACTUALS PLOT PROGRAM

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000

TOOL SUMMARY: THIS PROGRAM PLOTS ACTUAL WEEKLY EXPENDITURES VS. BUDGET WITH VARIANCES NOTED. A SPECIAL FEATURE OF THE PROGRAM IS THAT IT IS BUILT ACCORDING TO THE WORK BREAKDOWN STRUCTURE (WBS). OUTPUT IS AT ANY WBS LEVEL DESIRED. THE ORIGINAL INPUT MUST INCLUDE THE CONTRACT START AND END DATE, THE WORK UNIT OR WBS ELEMENT, BUDGET START AND END DATE, AND THE WEEKLY BUDGET AMOUNT. WEEKLY INPUTS OF ACTUALS FROM THIS POINT ON IS ALL THAT IS REQUIRED.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW

CONTACT: TOM KAMPE, TRW, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0580

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

CADA

ACRONYM: CA, TITLE: FORTRAN CODE AUDITOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN, PCL
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000

TOOL SUMMARY: THE FORTRAN CODE AUDITOR PROGRAM EXAMINES FORTRAN SOURCE CODE FOR ADHERENCE TO A PREDEFINED SET OF 34 SOFTWARE STANDARDS. IT WAS DEVELOPED FOR USE ON THE SYSTEMS TECHNOLOGY PROGRAM, BUT MOST STANDARDS CAN BE APPLIED TO ANY FORTRAN PROGRAM. CODE AUDITOR IS HEAVILY USED BY BOTH PROGRAMMERS AND QUALITY ASSURANCE ENGINEERS. IT HAS BEEN A VALUABLE TOOL BECAUSE IT PERMITS THE ENFORCEMENT OF A COMPREHENSIVE SET OF CODING STANDARDS WHICH REDUCES THE NUMBER OF SOFTWARE ERRORS, IMPROVES EXECUTION EFFICIENCY, AND IMPROVES READABILITY AND MAINTAINABILITY. THE FORTRAN CODE AUDITOR ACCEPTS EITHER FORTRAN OR PROCESS CONSTRUCTION LANGUAGE (PCL) CODE. IT CAN HANDLE UP TO 300 ROUTINES PER RUN PROCESSING ONE AT A TIME. THE STANDARD OUTPUT INCLUDES: A LISTING OF ALL CODE AUDITOR STANDARDS; A LIST OF THE USER'S SOURCE CODE ANNOTATED WITH ANY STANDARD VIOLATIONS; A SUMMARY PAGE FOR EACH ROUTINE LISTING ANY VIOLATIONS AND IDENTIFYING THEIR ASSOCIATED CARD NUMBERS.

DOCUMENTATION: USER'S MANUAL, TEST ANALYSIS REPORT, DESIGN SPECIFICATION, REQUIREMENTS SPECIFICATION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CADA, TITLE: COBOL AUDIT AND DEBUG AID
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TIMING ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL
IMPLEMENTATION LANGUAGE: COBOL
TOOL SIZE: CORE: 75000
COMPUTER (OTHER HARDWARE): CDC CYBER-73
OS (OTHER SOFTWARE): SCOPE 3.4
TOOL AVAILABLE: YES

TOOL SUMMARY: A COBOL PRE-COMPILER THAT PROVIDES THE PROGRAMMER WITH A TOOL TO IDENTIFY HIGH ACTIVITY PATHS BY OBTAINING THE NUMBER OF EXECUTIONS TO EACH COBOL PARAGRAPH. IT WILL ALSO IDENTIFY THE SOURCE CODE THAT WAS NOT EXECUTED.

DOCUMENTATION: TECHNICAL PAPER
DEVELOPER: USAF/ALC
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: CADMUS, TITLE: COMPREHENSIVE AUTOMATED DOCUMENT MAINTENANCE AND UPDATE SYS
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION, DOCUMENTATION GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA, HIGHER LEVEL LANGUAGE
IMPLEMENTATION LANGUAGE: FORTRAN, SLEUTH
COMPUTER (OTHER HARDWARE): CDC 6000

TOOL SUMMARY: CADMUS PROCESSES SOURCE DECKS TO EXTRACT PROGRAM DOCUMENTATION. COMMENT CARDS, IDENTIFIED BY KEYWORDS, ARE EXTRACTED FROM THE SOURCE FILE AND REFORMATTED FOR PRINTING. A TABLE OF CONTENTS IS ALSO PREPARED. IN ADDITION, CROSS INDICES OF PROGRAM LIBRARIES AND N-SQUARED CHARTS ARE PREPARED. ESTIMATED SAVINGS OF A PERSON HALF-TIME. ADDITIONAL OUTPUT IS PROVIDED THAT WOULD NEVER HAVE BEEN ATTEMPTED, OTHERWISE.

DOCUMENTATION: PROGRAM SPECIFICATION, USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CALLREF, TITLE: CALLREF
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: OBJECT CODE
IMPLEMENTATION LANGUAGE: FORTRAN, BAL

COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: CALLREF PROGRAM PROCESSES THE OBJECT DECKS FOR ALL THE ROUTINES OF AN IBM 360/370 PROGRAM AND CREATES A READABLE AND USEFUL PRINTOUT CROSS-REFERENCE AND CALLING TREE OF THE COMMON BLOCKS AND SUBROUTINE USES. CALLREF USES THE OBJECT DECKS OF THE 360/370 PROGRAM, SO IT CAN CROSS REFERENCE ALL OF THE PROGRAM ROUTINES AND COMMON, INDEPENDENT OF THEIR SOURCE LANGUAGE.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPT.
CONTACT: TOM HEIM, TRW, DEFENSE SYSTEMS SOFTWARE DEPT., ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-2884

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CARA, TITLE: COMPUTER AIDED REQUIREMENTS ANALYSIS
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: REQUIREMENTS LANGUAGE PROCESSING, REQUIREMENTS
ANALYSIS, REQUIREMENTS TRACING, CONSISTENCY CHECKING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: URL

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): HONEYWELL 6000
TOOL SUMMARY: CARA IS A SOFTWARE TOOL WHICH FACILITATES THE
TASK OF TRANSLATING THE SOFTWARE REQUIREMENTS INTO THE
SOFTWARE DESIGN. THE TOOL USES THE USER REQUIREMENTS
LANGUAGE (URL) AS THE MEANS OF PRESENTING THE SOFTWARE
DESIGN PROPERTIES AND CHARACTERISTICS. THE DATA EXPRESSED
IN URL IS ENTERED INTO A COMPUTERIZED DATA BASE
INCREMENTALLY AS IT IS OBTAINED, OR IN BATCHES AS DESIRED.
AS IT IS ENTERED, THE USER REQUIREMENT ANALYZER (URA)
CHECKS FOR CORRECTNESS AND CONSISTENCY WITH THAT ALREADY IN
THE DATA BASE. UPON REQUEST, URA WILL PRODUCE REPORTS ON
ALL OR ANY SELECTED PART OF THE DATA IN THE DATA BASE. THE
DATA MAY HAVE BEEN ENTERED BY DIFFERENT ANALYSTS AT
DIFFERENT TIMES. DURING THE PRODUCTION OF A REPORT, URA
CARRIES OUT NUMEROUS CHECKS AND ANALYSES AND PRODUCES
WARNINGS AND DIAGNOSTICS AS APPROPRIATE. WHEN PROJECT IS
COMPLETE, COPIES OF THE VARIOUS REPORTS CAN BE PRODUCED AND
ASSEMBLED TO MEET THE FORMAT OF THE FINAL SPECIFICATION
DOCUMENT REQUIRED BY THE ORGANIZATION.

DOCUMENTATION: USER'S MANUAL, PROGRAM MAINTENANCE MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, SYSTEM DEVELOPMENT DEPARTMENT
CONTACT: KATHLEEN MAPES, TRW, SYSTEM DEVELOPMENT DEPARTMENT,
ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3620
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CASEGEN, TITLE: CASEGEN
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: SYMBOLIC EXECUTION, PATH CONSTRAINT GENERATION,
PATH CONSTRAINT SOLUTION, TEST DATA GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SUMMARY: CASEGEN IS DESIGNED TO GENERATE TEST DATA
AUTOMATICALLY FOR TESTING FORT PROGRAMS. IT CONSISTS OF
FOUR MAJOR SUBSYSTEMS: FORTRAN SOURCE CODE PROCESSOR.
PATH GENERATOR. PATH CONSTRAINT GENERATOR. TEST DATA
GENERATOR FSCP GENERATES A DATA BASE CONSISTING OF THE
PROGRAM GRAPH, THE SYMBOL TABLE AND THE INTERNAL
REPRESENTATION OF THE SOURCE CODE. THE PATH GENERATOR, BY
PARTITIONING THE PROGRAM GRAPH, GENERATES A MINIMAL SET OF

PATHS TO COVER ALL EDGES. THE PATH CONSTRAINT GENERATOR
USES SYMBOLIC EXECUTION TO PRODUCE A SET OF EQUALITY AND
INEQUALITY CONSTRAINTS ON THE INPUT VARIABLES. THE TEST
DATA GENERATOR CREATES A SET OF INPUTS WHICH SATISFY THE
CONSTRAINTS AND CAN BE USED TO EXECUTE THE PROGRAM PATH.
THE CONSTRAINTS ARE SOLVED BY MEANS OF RANDOM NUMBER
GENERATION AND SYSTEMATIC TRIAL AND ERROR PROCEDURES, WITH
VALUES BEING ASSIGNED TO PROGRAM VARIABLES UNTIL ALL
CONSTRAINTS ARE SATISFIED.

REFERENCES: [RAMA75], C. V. RAMAMOORTHY, "TECHNIQUES FOR
AUTOMATED TEST DATA GENERATION", PROCEEDINGS NINTH ASILOMAR
CONF. ON CIRCUITS, SYS. AND COMP., 751100
[RAMA76], C. V. RAMAMOORTHY, "ON THE AUTOMATED GENERATION
OF PROGRAM TEST DATA", IEEE TRANSACTIONS ON SOFTWARE ENG.,
VOL. 2E-2, PP 293-300, 761200
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: CAVS, TITLE: COBOL AUTOMATED VERIFICATION SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS, CROSS REFERENCE, DOCUMENTATION
GENERATION, DATA BASE ANALYSIS, PROFILE GENERATION,
COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT,
ASSERTION CHECKING, CODE RESTRUCTURING, PROGRAM FORMATTING,
EXECUTION MONITORING, PROGRAM STRUCTURE CHECKING

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL
IMPLEMENTATION LANGUAGE: COBOL
TOOL PORTABLE: YES
TOOL AVAILABLE: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY
ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.

TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: CAVS, A SOFTWARE TOOL, IS BEING DEVELOPED TO
ASSURE THAT SOFTWARE SYSTEMS WRITTEN IN COBOL CAN BE
STRUCTURALLY ANALYZED, DOCUMENTED, AND COMPREHENSIVELY
TESTED. CAVS WILL PROVIDE: (1) SELECTIVE GENERATION OF
AUTOMATED REPORTS RESULTING FROM SOURCE CODE STATIC
ANALYSIS; (2) THE ABILITY TO SELECTIVELY INSTRUMENT COBOL
SOURCE CODE AND ACCOMODATE COVERAGE AND PROCESSING TIME
DATA IN THE DYNAMIC ANALYSIS MODE; (3) THE CAPABILITY OF
INTRODUCING USER-DEFINED ASSERTIONS (INPUT/OUTPUT, UNITS
AND LOGICAL ASSERTIONS) TO VERIFY PROGRAM
CONSISTENCY/ACCURACY; (4) POST- EXECUTION ANALYSIS AND
TEST CASE ASSISTANCE ON AN INDIVIDUAL (AS WELL AS
CUMULATIVE) TEST CASE BASIS.

DOCUMENTATION: TECHNICAL PAPER, USER MANUAL, MAINTENANCE
MANUAL, SPECIFICATION, TEST/PLAN PROCEDURE
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: CCA, TITLE: COMPASS CODE AUDITOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING

CCREF

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COMPASS
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 7600
TOOL SUMMARY: THE COMPASS CODE AUDITOR AUDITS CDC COMPASS CODE FOR ADHERENCE TO 12 SOFTWARE STANDARDS. THE STANDARDS REFER PRIMARILY TO PREFACE COMMENTARY BLOCKS, IN-LINE COMMENTS, COLUMNAR RESTRICTIONS, AND INSTRUCTION TYPES. THE COMPASS CODE AUDITOR CAN HANDLE UP TO 300 ROUTINES PER RUN, AND ANY SUBSET OF CODING STANDARDS MAY BE SELECTIVELY SUPPRESSED AT THE USER'S OPTION. THE STANDARD OUTPUT INCLUDES: A LIST OF ALL COMPASS CODE AUDITOR STANDARDS; A LIST OF THE USER'S COMPASS CODE ANNOTATED WITH ANY STANDARD VIOLATIONS; A SUMMARY PAGE FOR EACH ROUTINE LISTING ANY VIOLATIONS AND IDENTIFYING THEIR ASSOCIATED CARD NUMBERS; A MANAGEMENT SUMMARY LISTING EACH ROUTINE NAME, THE NUMBER OF EXECUTABLE STATEMENTS, THE NUMBER OF TOTAL CARD IMAGES, THE NUMBER OF STANDARD VIOLATIONS, AND A PERFORMANCE INDEX.
DOCUMENTATION: USER'S MANUAL, TEST ANALYSIS REPORT, REQUIREMENTS MANUAL, DESIGN MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CCREF, TITLE: CCREF
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CROSS REFERENCE, DATA BASE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: CCREF AIDS IN THE TASK OF VERIFYING THE ACCURACY OF THE COMMON DATA BASE AS IT EXISTS ON A GIVEN SOURCE CODE TAPE. SEVERAL DISPLAYS ARE PRODUCED WHICH ENABLE THE PROGRAMMER TO QUICKLY IDENTIFY INCONSISTENCIES FOUND IN THE STORAGE AND ALLOCATION OF ALL COMMON VARIABLES IN THE PROGRAM. CCREF PROCESSES ALL FORTRAN ELEMENTS CONTAINING COMMON VARIABLES AND OPTIONALLY PRODUCES ANY OF THE FOLLOWING DISPLAYS: ALPHABETICAL CROSS-REFERENCE OF COMMON BLOCKS VS. SYMBOLIC ELEMENTS IN WHICH THEY APPEAR, AND VICE VERSA; CROSS-REFERENCE OF INDIVIDUAL CELLS OF EACH COMMON ARRAY VS. THE SYMBOLIC ELEMENTS IN WHICH THEY OCCUR; A COMPLETE ALPHABETICAL CROSS-REFERENCE OF ALL COMMON VARIABLES VS. THE SYMBOLIC ELEMENTS AND COMMON BLOCKS IN WHICH THEY APPEAR. CCREF OUTPUT IS VERY HELPFUL IN THE MAINTENANCE AND DEVELOPMENT OF LARGE COMPUTER PROGRAMS WHOSE COMMON STRUCTURE IS FREQUENTLY CHANGED.

DOCUMENTATION: COMGEN USER'S GUIDE, 72-FMT-892, COMGEN PROGRAMMER'S GUIDE, 72-FMT-902
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW SYS ENG AND ANAL DEP
CONTACT: J. PARNELL, TRW SYS ENG AND ANAL DEP, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-1116
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CCS, TITLE: CHANGE CONTROL SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CONFIGURATION MANAGEMENT, COMPARISON, MODIFICATION VALIDATION
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 770100
APPLICABILITY: SOURCE CODE
COMPUTER (OTHER HARDWARE): NO. 1 ESS
TOOL AVAILABLE: YES
TOOL SUPPORTED: YES, TOOL SUPPORT: BELL LABORATORIES
TOOL SUMMARY: THE MAJOR FUNCTIONS OF CCS ARE: CONTROLS APPLICATION AND APPROVAL STATUS FOR PROGRAM SOURCE CHANGES. GENERATES AND MAINTAINS OBJECT CODE CHANGES. PERMITS EARLY SOURCE CODE CHANGES. DETERMINES CHANGE DEPENDENCIES AND ENFORCES CONCURRENT PROCESSING. SUPPORTS CONTINUOUS INTEGRATION OF RELEASES IN SEQUENCES. PERMITS IDENTIFICATION OF ALTERNATIVE SYSTEM VERSIONS. PROVIDES LANGUAGE/COMPILER INDEPENDENT PROCESSES. MAINTAINS CENTRAL, ADMINISTRATIVE DATA BASE. PROVIDES STANDARD ADMINISTRATIVE SYNTAX. THROUGH THE USE OF CCS PROGRAMMERS HAVE ACCESS TO A STANDARD SET OF SUPPORT PROGRAMS INCLUDING COMPILERS, EDITORS, AND LOADERS FOR IMPLEMENTING MODIFICATIONS AND UPDATES TO NO. 1 ESS. CCS IS A PROGRAMMING SUPPORT SYSTEM PROVIDING AN INTERFACE BETWEEN PRODUCTION AND MAINTENANCE PROGRAMMERS AND THE NO. 1 ELECTRONIC SWITCHING SYSTEM (ESS) SOFTWARE. NO. 1 ESS IS AN EXTREMELY LARGE, COMPLEX SYSTEM OPERATING IN A VERY DYNAMIC ENVIRONMENT.
REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[BAUE78], H. A. BAUER, "MANAGING LARGE-SCALE SOFTWARE DEVELOPMENT WITH AN AUTO CHANGE CONTROL", PROCEEDINGS COMPSAC 1978, CHICAGO, IL, PP 13-17., 781100
DEVELOPER: BELL LABORATORIES
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT
ACRONYM: CENSUS, TITLE: CENSUS
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROFILE GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN

CHECKSUM

IMPLEMENTATION LANGUAGE: FORTRAN
 TOOL SIZE: CORE: 25K
 COMPUTER (OTHER HARDWARE): UNIVAC 1108
 OS (OTHER SOFTWARE): EXEC-8
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
 TOOL SUMMARY: TO READ FORTRAN SOURCE TEXT AND PRODUCE A REPORT GIVING THE NUMBER OF OCCURRENCES OF ALL OPERANDS, OPERATORS, LANGUAGE PRIMITIVES, AND STRUCTURES ENCOUNTERED IN THE TEXT. THE PURPOSE OF THIS DATA IS ANALYSIS OF PROGRAMS FROM A SOFTWARE SCIENCE POINT-OF-VIEW, TO LEARN HOW TO MEASURE PROGRAM COMPLEXITY AND LOCATE PROGRAM INVARIANTS.
 DOCUMENTATION: USER'S MANUAL
 DEVELOPER: JET PROPULSION LABORATORY
 CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: CGJA, TITLE: JOVIAL J3 COARSE GRAIN ANALYZER
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: TEST EFFECTIVENESS MEASUREMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: JOVIAL J3
 IMPLEMENTATION LANGUAGE: JOVIAL J3
 TOOL SIZE: CORE: 70K
 COMPUTER (OTHER HARDWARE): IBM 360/370
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
 TOOL SUMMARY: THE TEST COVERAGE ANALYZER MEASURES THE EFFECTIVENESS OF A SET OF TEST CASES APPLIED TO SOFTWARE. TO DO THIS, IT BREAKS THE SOFTWARE INTO ITS CONSTITUENT LOGIC SEGMENTS AND AUGMENTS THEM SO THAT WHEN THE SOFTWARE EXECUTES IT COUNTS THE NUMBER OF TIMES EACH SEGMENT WAS EXECUTED. A POSTPROCESSOR PRINTS THESE COUNTS. USERS MAY USE THESE COUNTS TO IDENTIFY UNTESTED SEGMENTS (IN ORDER TO IMPROVE THE TESTS OR AT LEAST BETTER UNDERSTAND WHY SEGMENTS ARE NOT TESTED) AND TO IDENTIFY HEAVILY EXECUTED SEGMENTS AS POSSIBLE CANDIDATES FOR OPTIMIZATION.
 DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
 DEVELOPER: BOEING AEROSPACE CO.
 CONTACT: ROBERT L. GLASS, BOEING AEROSPACE CO., PO BOX 3999, SEATTLE, WA, 98124, USA, 206-773-0664
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: CHECKSUM, TITLE: CHECKSUM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: CONFIGURATION MANAGEMENT, VERSION CONTROL
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370
 TOOL SUMMARY: CHECKSUM CAN BE APPLIED TO A PROGRAM LIBRARY FOLLOWING ACCEPTANCE TESTING TO ESTABLISH A BASELINE OF INDIVIDUAL PROGRAM CHECKSUMS. CHECKSUM WILL IDENTIFY ADDITIONS TO THE LIBRARY, DELETIONS FROM THE LIBRARY, AND

CHANGES TO OLD MEMBERS OF THE LIBRARY. IT IDENTIFIES INTENTIONAL AND SURREPTITIOUS MODIFICATIONS TO A CONTROLLED SYSTEM AND PROVIDES A CONCISE MEANS OF DESCRIBING A SOFTWARE CONFIGURATION. CHECKSUM PROVIDES AN AUTOMATED ACCURATE AND EFFICIENT WAY OF MAINTAINING COGNIZANCE OF A SOFTWARE CONFIGURATION AT ALL LEVELS (SUBROUTINE, MODULE, PROGRAM, AND IN ALL AREAS (DATA, CODE, DOCUMENTATION, ETC.)).
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
 CONTACT: A. J. DESALVIO, TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3083
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CICS DUMP ANALY, TITLE: CICS DUMP ANALYZER
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: ABORT DIAGNOSIS
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: CICS
 TOOL SIZE: CORE: 50K
 COMPUTER (OTHER HARDWARE): IBM 360/370
 OS (OTHER SOFTWARE): OS, VSI, SVS, MVS, DOS
 TOOL AVAILABLE: YES
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
 TOOL SUMMARY: THE CICS DUMP ANALYZER WAS DESIGNED TO REDUCE THE TIME SPENT IN GOING THROUGH CICS DUMPS IN ORDER TO LOCATE THE REASONS FOR SYSTEM ABEND'S THE DUMP ANALYZER AUTOMATICALLY PERFORMS THE HEXADEcimal CALCULATIONS, ADDRESS CHAIN SEARCHES, BIT MASK INTERPRETATIONS, AND OTHER TASKS NORMALLY PERFORMED BY THE PROGRAMMER. FOLLOWING A CICS ABEND, THE DUMP ANALYZER WILL PERFORM A COMPUTER-SPEED INSPECTION AND ANALYSIS OF THE ENTIRE CICS ENVIRONMENT. THE RESULTS ARE THEN PRESENTED IN AN EASILY ADDRESS POINTERS; 2) VALIDATE ALL SYSTEM QUEUES AND CHAINS; 3) REPORT ALL SYSTEM-MAINTAINED STATISTICS; 4) INTERPRET CONTROL BLOCKS AND REPORT THEM, USING FAMILIAR CICS SYMBOLICS AS WELL AS THEIR ENGLISH DESCRIPTIONS; 5) INTERPRET ALL SYSTEM BIT VALUES IN ENGLISH; 6) IDENTIFY THE CONTROL PROGRAM IN WHICH THE ABEND HAS OCCURRED; 7) COLLECT AND PRINT TOGETHER ALL CONTROL STRUCTURES RELATED TO A GIVEN TASK, EVEN THROUGH DATA IS DISPERSED THROUGHOUT MEMORY; 8) PROVIDE A CICS TRACE TABLE SORTED BY TASK; AND 9) PROVIDE INTERPRETED TRACE TABLE
 DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
 DEVELOPER: COMMERCIAL SOFTWARE, INC.
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: COBOL/CP, TITLE: COBOL/CP FOR COBOL-TO-COBOL CONVERSION

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: TRANSLATION, CONVERSION
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: COBOL IBM SYSTEM/3 ANSI
 TOOL PORTABLE: YES
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): COMMERCIAL
 PRODUCT
 TOOL SUPPORTED: YES, TOOL SUPPORT: APPLIED DATA RESEARCH
 TOOL SUMMARY: COBOL/CP FEATURES: LINE-BY-LINE SYNTAX
 TRANSLATION, FLAGGING OF AREAS REQUIRING MANUAL
 INTERVENTION, SUMMARIZATION OF CRITICAL REVIEW
 REQUIREMENTS, GENERATION OF ADVISORY JCL. CONVERSIONS ARE
 SUPPORTED TO: IBM DOS ANSI COBOL (1968), IBM OS ANSI COBOL
 (1968), AND IBM OS/VS ANSI COBOL (1974), PLUS: CONVERSION
 OF INDEXED, DIRECT AND RELATIVE FILE ACCESS METHODS TO
 VSAM. COBOL/CP MINIMIZES COBOL-TO-COBOL CONVERSION COSTS,
 ENCOURAGES UPGRADING TO THE NEW OPERATING ENVIRONMENT, AND
 CAN BE ADAPTED TO HANDLE UNIQUE CONVERSION REQUIREMENTS.
 DEVELOPER: APPLIED DATA RESEARCH
 CONTACT: APPLIED DATA RESEARCH, ROUTE 206 CENTER, CN-8,
 PRINCETON, NJ, 08540, USA, 609-924-9100
 INFORMATION SOURCE: PRODUCT DESCRIPTION

ACRONYM: COBOL/SPP, TITLE: COBOL STRUCTURED PROGRAMMING
 PRECOMPILER
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
 AND PROGRAM GENERATION
 FEATURES: PROGRAM FORMATTING, STRUCTURED LANGUAGE
 PROCESSING, LANGUAGE PROCESSING
 STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 740000
 APPLICABILITY: COBOL ANS 68
 IMPLEMENTATION LANGUAGE: COBOL
 COMPUTER (OTHER HARDWARE): IBM 360/370, H 6000
 OS (OTHER SOFTWARE): GCOS
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY
 ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.
 TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
 TOOL SUMMARY: THE COBOL STRUCTURED PROGRAMMING PRECOMPILER
 WAS DEVELOPED TO PROCESS AN AUGMENTED ANS COBOL,
 X.3.23-1968. THE ADDITIONS TO THIS LANGUAGE ARE IN THE
 FORM OF STRUCTURING VERBS WHICH PERMIT THE PROGRAMMER TO
 WRITE THE BASIC CONTROL LOGIC FIGURES REQUIRED TO IMPLEMENT
 STRUCTURED PROGRAMMING FORMS. THE PRECOMPILER IS WRITTEN
 IN ANS COBOL SUCH THAT CONVERSION TO OTHER COMPUTER SYSTEMS
 CAN BE ACCOMPLISHED WITH A MINIMUM OF EFFORT.
 DOCUMENTATION: USER MANUAL
 DEVELOPER: INTERNATIONAL BUSINESS MACHINES CORP.
 INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: COGENT, TITLE: COGENT II COMPILER GENERATOR
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
 AND PROGRAM GENERATION

COGENT

FEATURES: COMPILER GENERATION
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: SOURCE CODE
 TOOL PORTABLE: YES
 TOOL AVAILABLE: YES
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
 TOOL SUMMARY: COGENT IS A PROGRAMMING SYSTEM THAT ACCEPTS A
 METALANGUAGE DESCRIPTION OF A COMPUTER LANGUAGE, INCLUDING
 BOTH SYNTAX AND SEMANTICS, AND AUTOMATICALLY PRODUCES A
 COMPILER FOR THAT LANGUAGE. COGENT IS DESIGNED FOR THE
 DEVELOPMENT OF COMPILERS FOR INDUSTRY - STANDARD LANGUAGES
 SUCH AS ALGOL, COBOL AND FORTRAN AS WELL AS SPECIAL-PURPOSE
 LANGUAGES FOR PROCESS CONTROL, SYSTEM PROGRAMMING,
 INFORMATION UPDATE AND RETRIEVAL LOGIC TESTING, AND OTHER
 SPECIAL APPLICATIONS. COGENT IS ALSO USEFUL AS A MEANS OF
 IMPLEMENTING PREPROCESSORS TO STANDARD LANGUAGE COMPILERS
 AND DEVELOPING PROGRAM CONVERSION AIDS TO TRANSLATE
 PROGRAMS FROM ONE OPERATING ENVIRONMENT TO ANOTHER. THE
 SYSTEM IS IMPLEMENTED WITH A TECHNIQUE THAT IS SAID TO BE
 HIGHLY MACHINE-INDEPENDENT. COGENT AND THE COMPILERS THAT
 IT GENERATES CAN BE INSTALLED ON A VARIETY OF COMPUTING
 EQUIPMENT, INCLUDING MINICOMPUTERS. COMPILERS PRODUCED CAN
 GENERATE CODE FOR MACHINES OTHER THAN THE HOST AS A MEANS
 OF IMPLEMENTING CROSS COMPILERS.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT
 SPECIFICATION, TEST PLAN
 DEVELOPER: MUTUAL SYSTEMS, INC.
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: COMDIM, TITLE: COMMON DIMENSION PROGRAM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: GLOBAL DATA MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
 TOOL SUMMARY: THIS PROGRAM AUTOMATICALLY UPDATES ARRAY
 LENGTHS, BASED ON INPUT, IN THE SOURCE CODE OF INPUT
 FORTRAN ROUTINES.
 DOCUMENTATION: USER'S GUIDE
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
 DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
 CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
 TOOLS SERIES, 790100
 DEVELOPER: TRW SYS ENG AND ANAL DEP
 CONTACT: J. PARNELL, TRW SYS ENG AND ANAL DEP, ONE SPACE
 PARK, REDONDO BEACH, CA, 90278, USA, 213-536-1116
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMGEN, TITLE: COMMON SPECIFICATIONS STATEMENT
 GENERATOR
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

COMGEN/TRW

FEATURES: CROSS REFERENCE, GLOBAL DATA MANAGEMENT, CONFIGURATION CONTROL
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370, UNIVAC 1108
 TOOL SUMMARY: COMGEN IS DESIGNED TO PROVIDE THE FORTRAN PROGRAMMER WITH AUTOMATED SOFTWARE FOR THE DEVELOPMENT AND MAINTENANCE OF COMPUTER PROGRAMS. THE PRIME CAPABILITIES OF THE SYSTEM ARE AS FOLLOWS: GENERATION AND AUTOMATIC INSERTION OF COMMON SPECIFICATION STATEMENTS INTO FORTRAN PROGRAMS; DETERMINATION AND DISPLAY OF ALL PROGRAM COMMON VARIABLES AND COMMON VARIABLES PER SUBROUTINE; AUTOMATED OPERATIONS FOR CONVERTING EXISTING PROGRAMS OVER TO A COMGEN COMPATIBLE DATA BASE FOR FUTURE UPDATES AND MAINTENANCE; OUTPUT OF VARIABLE AND SUBROUTINE CROSS-REFERENCES; DEFINITION AND DISPLAY OF SUBROUTINE INTERFACES; PROVISION OF NUMEROUS AUTOMATIC PROGRAMMER AIDS. COMGEN IS THE COLLECTION OF THE CAPABILITIES CONTAINED IN THE PROGRAMS BLKGEN, SPECN, DPNDY, FORREF, CCREF, AUTODOC, DEPCT, DOCCN, DOCEPT.
 DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW, SYS ENG AND ANAL DEP
 CONTACT: J. PARNELL, TRW, SYS ENG AND ANAL DEP, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-2576
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMGEN/TRW, TITLE: COMMON BLOCK GENERATION PROGRAM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: GLOBAL DATA MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): CDC 6000
 TOOL SUMMARY: THE PURPOSE OF THE COMGEN PROGRAM IS TO EMULATE THE COMDECK CAPABILITY OF THE CDC UPDATE SYSTEM. WORKING ON FORTRAN CODE USING THE TIMESHARE SYSTEM, IT SPECIALIZES ON JUST THIS ONE ASPECT OF THE UPDATE SYSTEM. THIS ALLOWS COMGEN TO PROVIDE A FASTER MORE EFFICIENT TOOL FOR THE MULTIPLE RUNS DURING PROGRAM DEVELOPMENT. THE USER'S FILES ARE IN A FORMAT FOR CONVERSION TO UPDATE AFTER DEVELOPMENT IS COMPLETED, IF THAT IS DESIRED. THE FILE INPUT TO COMGEN CONSISTS OF TWO RECORDS. A MASTER COMDECK, CONTAINING ALL OF THE COMMON VARIABLES, IS IN THE FIRST RECORD. THE SECOND RECORD CONTAINS THE USER'S SOURCE ROUTINES. DURING PROCESSING, COMMON BLOCKS IDENTIFIED IN THE COMDECK RECORD WHICH ARE REQUESTED BY SOURCE ROUTINES ARE INSERTED, CREATING AN OUTPUT COMPILE FILE. THIS ALLOWS CHANGES TO COMMON BLOCKS TO BE MADE IN ONLY ONE PLACE THUS ELIMINATING ERRORS DUE TO CHANGES MADE IN SOME ROUTINES BUT

NOT IN OTHERS. A FILE LISTING IS ALSO GENERATED WHICH IS DATED, PAGE NUMBERED AND WHICH BEGINS EACH ROUTINE ON A NEW PAGE.
 DOCUMENTATION: TRW IOC 6413.30-096
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
 CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMLIST, TITLE: COMLIST
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: CROSS REFERENCE, GLOBAL DATA MANAGEMENT, MODIFICATION VALIDATION, DATA BASE ANALYSIS
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370
 TOOL SUMMARY: COMLIST IS A FORTRAN COMPUTER PROGRAM WHICH PROVIDES A LIST, BY SUBROUTINE, OF ALL COMMON VARIABLES USED BY A GIVEN PROGRAM. THE OUTPUT FROM COMLIST CAN BE PRESENTED TO THE REFER UTILITY PROGRAM TO OBTAIN A CROSS-REFERENCE LISTING IDENTIFYING ALL SUBROUTINES WHICH USE A PARTICULAR COMMON VARIABLE. SUCH A CROSS-REFERENCE LISTING IS INVALUABLE IN ANALYZING THE EFFECT OF A PROPOSED SOFTWARE MODIFICATION AND IN DEBUGGING AN ERRONEOUS COMPUTER RUN.

DOCUMENTATION: USER'S GUIDE
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
 CONTACT: A. J. DESALVIO, TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3083
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMLIST/TRW, TITLE: COMLIST
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: CROSS REFERENCE
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370
 TOOL SUMMARY: COMLIST IS A FORTRAN COMPUTER PROGRAM WHICH PROVIDES A LIST, BY SUBROUTINE, OF ALL COMMON VARIABLES USED BY A GIVEN PROGRAM. THE OUTPUT FROM COMLIST CAN BE PRESENTED TO THE REFER UTILITY PROGRAM TO OBTAIN A CROSS-REFERENCE LISTING IDENTIFYING ALL SUBROUTINES WHICH

USE A PARTICULAR COMMON VARIABLE. SUCH A CROSS-REFERENCE LISTING IS INVALUABLE IN ANALYZE THE EFFECT OF A PROPOSED SOFTWARE MODIFICATION AND IN DEBUGGING AN ERRONEOUS COMPUTER RUN.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
CONTACT: A. J. DESALVIO, TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3083
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMPARATOR, TITLE: COMPARATOR
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: COMPARISON
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 771100
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN IV
TOOL PORTABLE: YES
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: COMPARATOR IS A PROGRAM WHICH IDENTIFIES CHANGES MADE IN A PROGRAM FROM ONE VERSION TO ANOTHER. CHANGES THAT ARE IDENTIFIED INCLUDE A LINE OR LINES THAT EXIST IN ONE VERSION THAT DO NOT EXIST IN THE OTHER AND CHANGES THAT HAVE OCCURRED WITHIN SINGLE LINES FROM ONE VERSION TO THE OTHER. SYNCHRONIZATION IS GUARANTEED BY MAXIMIZING A MATRIX OF MATCHES.
DOCUMENTATION: TECHNICAL DESCRIPTION, TEST PLAN
DEVELOPER: BOEING COMPUTER SERVICES, SEATTLE, WASHINGTON
CONTACT: DAVE LEWIS, DEPT OF DEFENSE, S863, OPS BLDG 3, FT MEADE, MD, 20755, USA, 301-688-6015
INFORMATION SOURCE: DOD TECHNICAL REPORT

ACRONYM: COMPARE, TITLE: COMPARE
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: COMPARISON
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: ALLOWS COMPARISON OF ANY TWO FILES AGAINST ONE ANOTHER IN ORDER TO DETECT SLIGHT DIFFERENCES. USED EXTENSIVELY IN NAVIGATION SOFTWARE CERTIFICATION WHEN VERSIONS OF ABSOLUTES ARE SUPPOSED TO PROVIDE IDENTICAL OUTPUT FILES. IT HAS THE CAPABILITY TO RESYNCHRONIZE UPON USER INPUT (INTERACTIVE) TO CONTINUE AFTER DIFFERENCES ARE DETECTED.
DOCUMENTATION: USER'S MANUAL

COMPARE

DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: COMSCAN, TITLE: COMMON SCANNER ROUTINE
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN, COBOL, BAL
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: THE COMSCAN PROGRAM ANALYZES THE FORTRAN COMMON DATA BASE PARAMETERS IN EACH ROUTINE OF A FORTRAN PROGRAM FOR UNIFORMITY.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPT.
CONTACT: TOM HEIM, TRW, DEFENSE SYSTEMS SOFTWARE DEPT., ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-2884
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMSORT, TITLE: COMMON SORT ROUTINE
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, DOCUMENTATION GENERATION, GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6X00
TOOL SUMMARY: COMSORT READS A FORTRAN SOURCE PROGRAM AND PROCESSES ALL COMMON, DIMENSION, TYPE AND EQUIVALENCE STATEMENTS. IT SORTS AND PRINTS OUT COMMON VARIABLES ACCORDING TO COMMON BLOCK AND INCREASING LOCATION WITHIN THE BLOCK. THUS, DIFFERENT NAMES FOR SAME LOCATION WILL APPEAR TOGETHER. PRINTS DIMENSIONS AND TYPE ALONG WITH LOCATION AND VARIABLE NAME AND LISTS ALL ROUTINES WHERE THIS INFORMATION IS FOUND. PRINTS ALPHABETIZED LISTING OF ALL COMMON VARIABLES. IF THE SAME VARIABLE NAME IS USED IN MORE THAN ONE BLOCK, OR APPEARS AT DIFFERENT LOCATIONS WITHIN THE SAME BLOCK, MULTIPLE REFERENCES WILL BE GIVEN.

COMSORT WILL REPORT, BY NAME, PARAMETERS WHICH ARE: MULTIPLY DEFINED IN COMMON, DEFINED BOTH IN COMMON AND AS FORMAL PARAMETERS, USED AS VARIABLE DIMENSIONS, BUT ARE NOT DEFINED AS FORMAL PARAMETERS, EXPLICITLY TYPED MORE THAN ONCE, DIMENSIONED MORE THAN ONCE, EQUIVALENCED TO COMMON MORE THAN ONCE.
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

CONFIG

DEVELOPER: TRW, SIMULATION SOFTWARE DEPT
CONTACT: DAVID RICHMOND, TRW, SIMULATION SOFTWARE DEPT, ONE
SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-4190
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: COMSTAR, TITLE: COMPUTATIONAL STORAGE AND RETRIEVAL
PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: LIBRARY MANAGEMENT, FILE MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA

IMPLEMENTATION LANGUAGE: FORTRAN, COMPASS
COMPUTER (OTHER HARDWARE): CDC 6000
TOOL SUMMARY: COMSTAR IS A MAJOR DATA STORAGE AND RETRIEVAL
SYSTEM. IT IS RELATED TO OTHER MAJOR SYSTEMS SUCH AS GIM,
BUT POSSESSES UNIQUE CAPABILITIES WHICH MAKE IT
PARTICULARLY WELL SUITED TO HANDLE LARGE VOLUME BATCH MODE
DATA STORAGE AND RETRIEVAL PROBLEMS. COMSTAR ALLOWS THE
USER TO DEFINE HIS DATA STORAGE FILE STRUCTURE, INPUT
COMPUTATIONAL FUNCTIONS TO BE PERFORMED, AND OUTPUT DATA
FORMATS VIA DATA CARD SPECIFICATIONS. AS WITH ALL DATA
STORAGE AND RETRIEVAL SYSTEMS, COMSTAR'S PRINCIPAL
IMPORTANCE LIES IN ITS ABILITY TO STRUCTURE AND STORE LARGE
VOLUMES OF DATA AND THEN ON REQUEST SORT OR COMBINE THE RAW
DATA, COMPILE OR COMPUTE SUPPORTIVE (OR SUMMARY)
INFORMATION, AND PRESENT THE REQUESTED OUTPUT IN THE USER'S
PREFERRED FORMAT. COMSTAR PROVIDES THE CAPABILITY TO INPUT
COMPUTATIONAL REQUESTS AND OUTPUT REQUESTS USING
FORTRAN-LIKE STATEMENTS.

DOCUMENTATION: FUNCTIONAL SPECIFICATION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, DATA MANAGEMENT SYSTEMS DEPARTMENT
CONTACT: MILT HAYASHIDA, TRW, DATA MANAGEMENT SYSTEMS
DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-535-2910
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CONFIG, TITLE: CONFIG
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CONFIGURATION MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN IV, ASSEMBLY
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: GIVEN A MASTER SOURCE TAPE OF FORTRAN AND
ASSEMBLY LANGUAGE SOURCE CARD IMAGES, CONFIG GENERATES A
LIST IDENTIFYING EACH ROUTINE BY NAME, MODULE NUMBER,
SEQUENCE CODE, DOCUMENT NUMBER, NUMBER OF CARDS, AND THE ID
OF THE NEXT ROUTINE ON TAPE. TWO LISTS ARE GENERATED, ONE
IDENTIFYING THE ROUTINES IN THE ORDER THEY APPEAR ON TAPE
(SEQUENCE CODE ORDER) AND A SECOND IN ALPHABETICAL ORDER BY

ROUTINE NAME.
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100

DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
CONTACT: A. J. DESALVIO, TRW, DEFENSE SYSTEMS SOFTWARE
DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-536-3083
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CONFIGURATION C, TITLE: CONFIGURATION CONTROL
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROGRAM MAINTENANCE, CONFIGURATION CONTROL
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: HIGHER LEVEL LANGUAGE
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED
COMMERCIALY

TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION
TOOL SUMMARY: HOW TO USE TOOL: SIMPLY INTERACT WITH
CONFIGURATION CONTROL SYSTEM THROUGH A CONTROL LANGUAGE
SUPPORTED BY THE TOOL. BENEFITS OBTAINED WITH TOOL:
FACILITATES THE ORDERLY UPDATE OF SOFTWARE; SUPPORTS
AUTOMATIC BACKUP AND ARCHIVING; IMPROVES SOFTWARE QUALITY;
PROVIDES MANAGEMENT CONTROL AND VISIBILITY; AND IMPROVES
PRODUCTIVITY. PURPOSE OF TOOL: TO ASSIST IN THE ORDERLY
AND CONSISTENT MANAGEMENT OF SOFTWARE RELEASES.

DEVELOPER: SOFTOOL CORPORATION
CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH
KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560
INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: CORE, TITLE: CORE
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: ABORT DIAGNOSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: CICS
IMPLEMENTATION LANGUAGE: ASSEMBLY
TOOL SIZE: CORE: 2K

COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, OS/VS, DOS, DOS/VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: USING CORE, THE SYSTEM PROGRAMMER CAN SEE WHAT
IS HAPPENING IN THE CICS SYSTEM. HE CAN SEE ON THE
TERMINAL SCREEN EXACTLY WHAT HE WOULD SEE IN A DUMP
PRINTOUT WITHOUT CANCELING THE ON-LINE SYSTEM. CORE ALSO
ALLOWS THE PROGRAMMER OR PROGRAMMING TEAM TO SET THE
MACHINE ENVIRONMENT, MAKE TEMPORARY MODIFICATIONS TO THE
ENVIRONMENT, AND TEST A PROGRAM, A GROUP OF PROGRAMS, OR AN
ENTIRE SYSTEM.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: ON-LINE SOFTWARE INTERNATIONAL
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: COTUNE II, TITLE: COTUNE II
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TIMING ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL F
IMPLEMENTATION LANGUAGE: COBOL, ALC
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: COTUNE PROVIDES CRITICAL INFORMATION NECESSARY
IN COBOL PROGRAM DEVELOPMENT, OPTIMIZATION, DEBUGGING,
TESTING AND VALIDATION, MAINTENANCE AND RUN DOCUMENTATION
BY MEANS OF AN EXECUTION-TIME DATA GATHERING PROCESS. ITS
OUTPUT IS THE COMPILER SOURCE LISTING WITH ADDED COUNTS
SHOWING HOW MANY TIMES EACH STATEMENT WAS EXECUTED, A
NORMALIZED HISTOGRAM SHOWING PERCENTAGE OF CPU TIME SPENT
IN EACH SOURCE STATEMENT AND AN INDICATION OF ANY SOURCE
STATEMENT AT WHICH AN ABEND OCCURRED. ADDITIONALLY,
SUMMARY REPORTS SHOW ALL UNEXECUTED PARAGRAPHS AND WHICH
PARAGRAPHS CONSUMED THE MOST CPU TIME.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: CAPEX CORPORATION
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CPA, TITLE: COBOL PROGRAM ARCHIVE
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: LIBRARY MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL
IMPLEMENTATION LANGUAGE: COBOL
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): DOS/VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
TOOL SUMMARY: STORES COBOL PROGRAMS ON TAPE AND ALLOWS THE
RETRIEVAL OF ANY PROGRAM BY A GIVEN SERIAL NUMBER OR DATE
IT ENTERED THE HISTORY FILE.
DEVELOPER: USAF/ALC
CONTACT: TOM EMERSON, USAF/ALC, SM-ALC/ACDAB, BLDG 269B,
MCLELLAN AFB, CA, 95652, USA, 916-643-3642
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: CPAL, TITLE: COMPUTER PROGRAM ASSEMBLY LIST
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CONFIGURATION MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 7600/6000
TOOL SUMMARY: CPAL IS A CONFIGURATION MANAGEMENT TOOL WHICH
IDENTIFIES FOR EACH PROGRAM ROUTINE THE FOLLOWING: CURRENT
MODIFICATION IDENTIFICATION, THE NUMBER OF EXECUTABLE
STATEMENTS, TOTAL NUMBER OF STATEMENTS, AND THE NUMBER OF
MACHINE LANGUAGE INSTRUCTIONS. CPAL ACCESSES THE "FORTRAN
CODE AUDITOR" AND "MACHINKO".

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT
ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-536-3140

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CRISPFLOW, TITLE: CRISPFLOW
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION

FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: BASIC MINIMAL, FORTRAN
TOOL SIZE: CORE: 40K WORDS
COMPUTER (OTHER HARDWARE): UNIVAC 1108
OS (OTHER SOFTWARE): EXEC 8

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: CONVERTS PDL-LIKE TEXTFILE INTO FLOWCHARTS
DRAWN ON CDM PLOTTER OF UNIVAC 1108.

DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER, DEVELOPMENT
SPECIFICATION
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK
GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: CROREF, TITLE: CROSS REFERENCE OF PROGRAM VARIABLES
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, DOCUMENTATION GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V

IMPLEMENTATION LANGUAGE: FORTRAN, SLEUTH
COMPUTER (OTHER HARDWARE): UNIVAC 1108

TOOL SUMMARY: CROREF IDENTIFIES CROSS-REFERENCES OF PROGRAM
VARIABLES (COMMON AND LOCAL) VS. SYMBOLIC ELEMENTS
(SUBROUTINES, MAIN PROGRAM, ETC.). THIS OUTPUT IS NOT ONLY
USEFUL IN DEVELOPMENT AND MAINTENANCE OF SOFTWARE SYSTEMS,
BUT ADDITIONALLY IS REQUIRED BY DOCUMENTATION STANDARDS.
DOCUMENTATION: PROGRAM DESCRIPTION, USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE

TOOLS SERIES, 790100
DEVELOPER: TRW, COMMAND, CONTROL COMMUNICATIONS D
CONTACT: W. A. HORNE, TRW, COMMAND, CONTROL COMMUNICATIONS
D, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-536-2307
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: CSPP, TITLE: COBOL STRUCTURAL PROGRAMMING
PRECOMPILER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL ANS
IMPLEMENTATION LANGUAGE: COBOL ANS
TOOL PORTABLE: YES
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC

TOOL SUMMARY: THE CSPP IS A TOOL TO FACILITATE STRUCTURED
PROGRAMMING IN ANS COBOL, X.3.23 - 1968. THE ADDITIONS TO
COBOL ARE IN THE FORM OF STRUCTURING VERBS, AS DEFINED IN
THE RADC STRUCTURED PROGRAMMING SERIES. THE CSPP ACCEPTS
THE AUGMENTED ANS COBOL AS INPUT AND PRODUCES A SOURCE
PROGRAM IN ANS COBOL.

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY
SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY",
RADC-TR-80-13, INTERIM REPORT, 800200
[AFDA77], AIR FORCE DATA AUTOMATION AGENCY, "COMPENDIUM OF
ADS PROJECT MANAGEMENT TOOLS AND TECHNIQUES", 770500
DEVELOPER: ROME AIR DEVELOPMENT CENTER, ROME, NY
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: CUE, TITLE: CONFIGURATION UTILIZATION EVALUATOR
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PERFORMANCE MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: COBOL, ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, MVS, OS/VS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR
SALE

TOOL SUMMARY: CUE (CONFIGURATION UTILIZATION EVALUATOR)
MEASURES COMPUTER HARDWARE/ SOFTWARE PERFORMANCE TO ALLOW
AN INSTALLATION TO GAIN MAXIMUM EFFICIENCY FROM ITS CURRENT
SYSTEM. HARDWARE MEASURE REPORTED BY CUE INCLUDE CPU,
CHANNEL, AND DEVICE ACTIVITY. CUE ALSO MEASURES SOFTWARE
RESOURCES, SVC LOADING, AND LOGICAL CHANNEL USAGE. THESE
MEASUREMENTS ALLOW AN INSTALLATION TO PINPOINT CURRENT
SYSTEM BOTTLENECKS AND TO DETERMINE POSSIBLE
RECONFIGURATION REQUIREMENTS. THE CUE PACKAGE CONSISTS OF
TWO PROGRAMS: AN EXTRACTOR AND AN ANALYZER, WHICH ARE RUN
AS SEPARATE JOBS OR JOB STEPS. THE EXTRACTOR SAMPLES
SYSTEM ACTIVITY OVER A USER-SPECIFIED TIME PERIOD, AND
OUTPUTS ITS SAMPLED INFORMATION TO AN EXTRACTOR DATA SET.

THE CUE ANALYZER THEN PROCESSES THE DATA IN THE EXTRACTOR
DATA SET TO PRODUCE REPORTS DESCRIBING IN DETAIL THE
ACTIVITY THAT WAS SAMPLED BY THE EXTRACTOR. THE EXTRACTOR
MUST RUN AS THE HIGHEST PRIORITY JOB IN THE SYSTEM.
DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
DEVELOPER: BOOLE AND BABBAGE
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: DA, TITLE: DATA ANALYZER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION, CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: BAL
TOOL SIZE: CORE: 82-108K-DOS, 120-140K-OS
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, OS/VS, DOS, DOS/VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR
SALE

TOOL SUMMARY: THE DATA ANALYZER IS A MULTI-PURPOSE
INFORMATION RETRIEVAL, ANALYSIS, AND PRESENTATION SYSTEM
WITH MANY LEVELS OF LANGUAGE, SO THAT APPLICATION SYSTEM
EXECUTIVES AND PROGRAMMERS CAN PRODUCE REPORTS FROM ONE OR
MORE FILES OR DATA BASES. THE BASIC LANGUAGE LEVEL IS
COMPLETELY FREE-FORM. WITH IT, USERS CAN REQUEST RECORD
SELECTION, SORTING, UNLIMITED COMPUTATIONS, AND FORMATTED
REPORTS. USERS CAN ALSO REQUEST BAR GRAPHS,
CROSS-TABLATIONS, ADDRESS LABELS, PREPRINTED FORMS, AND
COMPLEX STATISTICAL FUNCTIONS. MORE TECHNICAL LEVELS ALLOW
PROGRAMMERS DIRECT CONTROL OVER PROCESSING, INCLUDING IF/GO
TO LOGIC. A MACRO PROCESSOR IS INCLUDED TO PERMIT USER
EXPANSION OF THE SYSTEM'S FEATURES. THE SYSTEM'S OPTIONS
ALLOW FOR PROCESSING MULTIPLE FILES SIMULTANEOUSLY AND FOR
MATCHING STANDARD FILE STRUCTURES WITH DATA BASE FILES.
OPTIONAL GRAPHIC CAPABILITIES INCLUDE POINT PLOTS,
DEVIATION GRAPHS, MAPS, ORGANIZATION CHARTS, AND
MULTI-FUNCTION BAR GRAPHS.

DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER
DEVELOPER: PROGRAM PRODUCT, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: DAS, TITLE: DESIGN ANALYSIS SYSTEM
CLASSIFICATION: SOFTWARE MODELING AND SIMULATION
FEATURES: REPORT GENERATION, MODIFICATION
VALIDATION,
REQUIREMENTS ANALYSIS, REQUIREMENTS TRACING, CONSISTENCY
CHECKING, DATA AUDITING, DESIGN ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780800
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN, SIMSCRIPT II.5
TOOL SIZE: CORE: 400K
COMPUTER (OTHER HARDWARE): CYBERNET (DISK: 2MB)

OS (OTHER SOFTWARE): TSO, OS/MVS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): RESTRICTED TO HUGHES SUBCONTRACTORS OR UPON APPROVAL OF ICAM PROJECT
TOOL SUPPORTED: YES, TOOL SUPPORT: HUGHES
TOOL SUMMARY: DAS IS A GENERAL SYSTEM MODELLING TOOL WITH INTERACTIVE GRAPHICS AND AUTOMATIC MODEL GENERATION AS ITS KEY FEATURES. IT USES ADMBS, A GENERALIZED DATA BASE MANAGER FROM PSL/PSA, AS ITS MEANS TO MAINTAIN THE MODEL OR REQUIREMENTS SPECIFICATION - AND HAS AUTOMATIC DOCUMENTATION SUPPORT TOOLS. ITS PRIMARY PURPOSE IS TO ESTABLISH THE FEASIBILITY OF REQUIREMENTS AND, IN PARTICULAR, THE DYNAMIC NATURE OF THE SYSTEM UNDER STUDY. IT HAS BEEN USED FOR MANUFACTURING, OPERATIONS ANALYSIS, COMPUTER SYSTEM DESIGN ANALYSIS, AND FOR SOFTWARE DESIGN ANALYSIS. OTHER IMPORTANT FEATURES ARE: EASY TO LEARN AND USE, INTERACTIVE ANALYSIS VIA ON-LINE PLOTTED GRAPHICS, REDUCES ANALYSIS TIME BY AS MUCH AS A FACTOR OF 10.
DOCUMENTATION: USERS (100)
REFERENCES: [WILL78], R. WILLIS, "DAS - AN AUTOMATED SYSTEM TO SUPPORT DESIGN ANALYSIS", PROC. 12TH ASILOWAR CONFERENCE, 781106
[WILL78B], R. WILLIS, "DAS - AN AUTOMATED SYSTEM TO SUPPORT DESIGN ANALYSIS", PROC. 15TH DESIGN AUTOMATION CONFERENCE, LAS VEGAS, 780521
[WILL78C], R. WILLIS, "DAS - AN AUTOMATED SYSTEM TO SUPPORT DESIGN ANALYSIS", PROC. 3RD INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING, 780509
DEVELOPER: HUGHES AIRCRAFT CO.
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: DATA STRUCTURES, TITLE: DATA STRUCTURES LIBRARY
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: DATA STRUCTURING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY
TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTTOOL CORPORATION
TOOL SUMMARY: HOW TO USE TOOL: SIMPLY WRITE YOUR PROGRAM IN TERMS OF THE HIGH-LEVEL DATA STRUCTURES PRESENT IN THE DATA STRUCTURES LIBRARY AND INCORPORATE APPROPRIATE LIBRARY SECTIONS INTO YOUR PROGRAM. BENEFITS OBTAINED WITH TOOL: SUPPORTS HIGH-LEVEL DATA STRUCTURES; LEADS TO PROGRAMS THAT ARE EASY TO DEBUG AND MAINTAIN; IMPROVES SOFTWARE QUALITY; PROVIDES MANAGEMENT CONTROL AND VISIBILITY; AND IMPROVES PRODUCTIVITY.
DEVELOPER: SOFTTOOL CORPORATION
CONTACT: CAROL BADDORF, SOFTTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560

DATA STRUCTURES

INFORMATION SOURCE: SOFTTOOL PRODUCT SUMMARY
ACRONYM: DATAMACS, TITLE: DATAMACS
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: TEST DATA GENERATION, FILE STRUCTURE TESTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN, COBOL, PL/1, APL
IMPLEMENTATION LANGUAGE: BAL
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: DATAMACS IS A DATA FILE GENERATOR FOR TESTING COBOL PROGRAMS ACCORDING TO SPECIFICATIONS SET UP BY PROGRAMMER. THE PROGRAM IS WRITTEN FOR "LOAD-AND-GO" COBOL OPERATIONS UNDER DOS, OS, OR THEIR VIRTUAL- STORAGE COUNTERPARTS. FREE STANDING FILES AND TEST FILES FOR NON-COBOL PROGRAMS CAN ALSO BE GENERATED. NORMALLY, THE DATAMACS PROGRAM READS A COBOL SOURCE PROGRAM THAT INCLUDES SPECIAL CONTROL CARDS INTERSPERSED IN THE ENVIRONMENT AND DATA DIVISIONS, SEGREGATES THE CONTROL CARDS AND THE COBOL SOURCE CODE, GENERATES DATA FILES BASED ON THE SPECIFICATIONS CONTAINED IN THE CONTROL CARDS AND THEN TRANSFERS CONTROL TO THE COBOL COMPILER FOR COMPILATION AND EXECUTION. ANY TYPE OF FILE CAN BE CREATED BECAUSE DATAMACS USES THE IBM ACCESS METHODS TO WRITE THE FILES. THE PROCESS CAN BE HALTED FOLLOWING TEST FILE GENERATION TO CREATE FREE-STANDING FILES. DATAMACS CAN ALSO BE USED TO CREATE TEST FILES FOR PROGRAMS NOT WRITTEN IN COBOL.
DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: MANAGEMENT AND COMPUTER SERVICES, INC.
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DAVE, TITLE: DAVE
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN 66
IMPLEMENTATION LANGUAGE: FORTRAN 66
TOOL PORTABLE: YES
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): COPYRIGHT, UNIV OF COLORADO
TOOL SUPPORTED: YES, TOOL SUPPORT: DEPT OF COMPUTER SCIENCE, UNIV OF COLORADO, BOULDER, CO
TOOL SUMMARY: DAVE PERFORMS DATA FLOW ANALYSIS OF FORTRAN PROGRAMS IN ORDER TO DETECT VARIABLE USAGE ANOMALIES. THE SYSTEM PROVIDES GOOD DOCUMENTATION, RELIABILITY, AND EASE OF USE AND FAIR COST EFFECTIVENESS AND USER SUPPORT. DAVE DETECTS DATA USAGE ANOMALIES SUCH AS: REFERENCES TO UNDEFINED VARIABLES, UNREFERENCED VARIABLE DEFINITIONS, UNINITIALIZED VARIABLES (LOCAL OR COMMON), AND UNUSED VARIABLES.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
REFERENCES: [OSTE76], L. J. OSTERWEIL AND L. D. FOSDICK,
"DAVE: A VALIDATION, ERROR DETECTION, AND DOCUMENTATION
SYS FOR FTN PROG", SOFTWARE - PRACTICE AND EXPERIENCE,
760000
[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A
REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13,
INTERIM REPORT, 800200
[OSTE76A], L. J. OSTERWEIL AND L. D. FOSDICK, "SOME
EXPERIENCE WITH DAVE - A FORTRAN PROGRAM ANALYZER", PROC OF
THE 1976 NATIONAL COMPUTER CONFERENCE, 760000
[FOSD76], L. D. FOSDICK AND L. J. OSTERWEIL, "DATA FLOW
ANALYSIS IN SOFTWARE RELIABILITY", ACM COMPUTING SURVEYS,
760900
DEVELOPER: UNIV OF COLORADO AT BOULDER
CONTACT: LEON OSTERWEIL, UNIVERSITY OF COLORADO, DEPT OF
COMPUTER SCIENCE, BOULDER, CO, 80309, USA, 303-492-7514
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS, AIAA SURVEY
OF SOFT DEV TOOLS, RADC-TR-80-13

ACRONYM: DCD, TITLE: DATA CORRELATION AND DOCUMENTATION
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, DOCUMENTATION GENERATION, FLOW
CHART GENERATION, FILE LAYOUT GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL
IMPLEMENTATION LANGUAGE: COBOL
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: THE DCD (DATA CORRELATION AND DOCUMENTATION)
SYSTEM READS COBOL SOURCE PROGRAMS AND PRODUCES, BESIDES
THE SOURCE LISTING, A FLOW ANALYSIS OF THE DATA DIVISION
AND THE PROCEDURE DIVISION. IT ELIMINATES ALL SEARCHING BY
THE PROGRAMMER AND PROVIDES A COMPLETE WORKING DOCUMENT SO
THE PROGRAMMER CAN DEVELOP AND MAINTAIN PROGRAMS EASIER.
THE PACKAGE CREATES THREE LEVELS OF DOCUMENTATION: THE
FLOW ANALYSIS ALREADY REFERRED TO; LAYOUTS OF ALL FILES,
RECORDS, AND WORKING STORAGE DATA; AND THE DATA
CORRELATION ALPHABETIC CROSS-REFERENCE.
DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: BOOLE AND BABBAGE
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DDPM, TITLE: DISTRIBUTED DATA PROCESSING MODEL
CLASSIFICATION: SOFTWARE MODELING AND SIMULATION
FEATURES: DATA FLOW ANALYSIS, MODIFICATION VALIDATION,
COMPLEXITY MEASUREMENT, TIMING ANALYSIS, REQUIREMENTS
ANALYSIS, DESIGN ANALYSIS, RESOURCE MONITORING, SIMULATION,
REFERENCE ANALYSIS

DDPM

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 760900
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: PLS
TOOL SIZE: CORE: 300KB
COMPUTER (OTHER HARDWARE): AMDAHL 470/V5 (DISK: 2MB)
OS (OTHER SOFTWARE): TSO, OS/MVS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): PROPRIETARY
PRODUCT: CONTRACTS FOR SERVICE ONLY
TOOL SUPPORTED: YES, TOOL SUPPORT: HUGHES AIRCRAFT CO.
TOOL SUMMARY: THE DDPM IS A GENERALIZED DISCRETE EVENT
SIMULATION MODEL THAT CAN BE USED FOR EVALUATION OF A LARGE
CLASS OF COMPUTER SYSTEM DESIGNS. THE KEY FEATURES ARE (1)
TABULAR INPUTS OF CRITICAL SYSTEM SPECIFICATIONS, (2)
PREPROGRAMMED MODELS OF COMMON DISTRIBUTED SYSTEM
FUNCTIONS, AND (3) AN ARCHITECTURE SUBMODEL WHICH PERMITS
EASILY RECONFIGURED SYSTEM STRUCTURES AND AUTOMATIC MESSAGE
ROUTING THROUGH THE STRUCTURE. IT IS ESPECIALLY USEFUL FOR
DISTRIBUTED DESIGN EVALUATION OF SOFTWARE AND SOFTWARE
ALLOCATION, HARDWARE SELECTION, PROTOCOL METHODOLOGY,
OPERATING SYSTEM FEATURES, AND DATA BASE DESIGNS.
DOCUMENTATION: USER MANUAL (250)
REFERENCES: [WILL78D], R. WILLIS, "DAS - AN AUTOMATED SYSTEM
TO SUPPORT DESIGN ANALYSIS", PROC. 15TH DESIGN AUTOMATION
CONFERENCE, 780621
[WILL79], R. WILLIS, "DESIGN EVAL. OF DISTRI. DATA BASES
AND DATA MNGMT. DESIGN USING HUGHES D", PERFORMANCE
EVALUATION REVIEW (SIGMETRICS), VOL 8, NO. 3, 790000
DEVELOPER: HUGHES AIRCRAFT CO.
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: DDT, TITLE: DYNAMIC DEBUGGING TECHNIQUE ON 1108
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: BREAKPOINT CONTROL
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: ASSEMBLY
IMPLEMENTATION LANGUAGE: ASSEMBLY
TOOL SIZE: CORE: 4K WORDS
COMPUTER (OTHER HARDWARE): UNIVAC 1108
OS (OTHER SOFTWARE): EXEC 8
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: A PARTIAL IMPLEMENTATION OF DDT ON THE UNIVAC
1108. INCLUDES BREAKPOINTS, SINGLE STEP, SUBROUTINE STEP,
ASSEMBLE/DISASSEMBLE, EXAMINE/ALTER, DISPLAY IN OCTAL,
FIELDATA, ASCII, OR ASSEMBLY INSTRUCTION FORMAT. GLOBAL
SYMBOLS ARE DISPLAYED AND ACCEPTED ON INPUT. DOES NOT YET
HANDLE FLOATING POINT DISPLAY/ENTRY NOR ARE EXEC REQUESTS
PROTECTIVELY INTERPRETED (THEY ARE MERELY EXECUTED).
(E.G., LCORES WILL WIPE OUT DAT)
DOCUMENTATION: USER'S MANUAL
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK
GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560

DICTANL/LOCATE

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: DECA, TITLE: DESIGN EXPRESSION AND CONFIGURATION
AND PROGRAM GENERATION
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: DOCUMENTATION GENERATION, TOP-DOWN DESIGN
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: DECA (DESIGN EXPRESSION AND CONFIGURATION AID)
IS A TOOL MADE AVAILABLE TO THE SOFTWARE DESIGNER, WHICH
PROVIDES HIM WITH A CONSISTENT METHOD OF EXPRESSING
DOCUMENTATION AND VERIFYING HIS DESIGN. THE PROGRAM
REQUIRES THE USE OF TOP-DOWN DESIGN REPRESENTATION AS
INPUT, AND RETURNS COMPLETE AND EASILY READABLE
DOCUMENTATION. SOME OF THE BENEFITS TO BE DERIVED FROM THE
USE OF DECA ARE: ESTABLISHED COMMUNICATIONS BETWEEN THE
DESIGNER AND THE USER DURING THE DESIGN PROCESS, SYSTEM
RELIABILITY (THROUGH ANALYSIS OF THE DESIGN CORRECTNESS),
AND THE RETAINING OF CURRENT DOCUMENTATION ALONG WITH THE
DEVELOPED PROGRAMS (THIS FACILITATES PROGRAM MAINTENANCE).
DOCUMENTATION: USER'S MANUAL, INSTALLATION INSTRUCTIONS
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: BCS, INC.
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DEPCHT, TITLE: DEPCHT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, DOCUMENTATION GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN, SLEUTH
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: DEPCHT WILL PRODUCE QUICK AND ACCURATE
SUBROUTINE CROSS-REFERENCE INFORMATION. THREE TYPES OF
PRINTED OUTPUT ARE: AN ALPHABETICAL CROSS-REFERENCE OF
EACH SUBROUTINE AND THOSE IT REFERENCES; AN ALPHABETICAL
CROSS-REFERENCE OF EACH SUBROUTINE AND THOSE THAT REFERENCE
IT; A PICTORIAL DESCRIPTION OF PROGRAM LINKAGE.
DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW SYS ENG AND ANAL DEP
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DICTANL/LOCATE, TITLE: DICTIONARY ANALYSIS PROGRAM
AND LOCATE PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: DOCUMENTATION GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC
TOOL SUMMARY: AS AN AID TO IMPROVING THE QUALITY OF
DOCUMENTS PRODUCED USING THE TRW/TSS MANUSCRIPT PREPARATION
SYSTEM, TWO SOFTWARE PROGRAMS HAVE BEEN DEVELOPED. THE
DICTIONARY ANALYSIS PROGRAM WILL ASSIST IN IDENTIFICATION
OF TYPOGRAPHICAL AND SPELLING ERRORS. THE LOCATE PROGRAM
WILL GIVE THE LOCATION, BY SECTION AND LINE NUMBER, OF
SPECIFIED WORDS WITHIN A DOCUMENT. THE DICTIONARY ANALYSIS
PROGRAM WILL COMPILE AND PRINT A COMPLETE ALPHABETIZED LIST
OF ALL THE UNIQUE WORDS IN A DOCUMENT. EACH UNIQUE WORD IS
ALSO COMPARED AGAINST AN EXISTING DICTIONARY OF CORRECTLY
SPELLED WORDS. EACH WORD THAT IS NOT IN THE DICTIONARY
WILL BE PRECEDED BY AN ASTERISK ON THE LISTING OF WORDS
WHICH IS AUTOMATICALLY ROUTED TO THE HIGH-SPEED PRINTER.
THE LOCATE PROGRAM WILL ACCEPT ANY NUMBER OF WORDS AND THEN
GIVE THE SECTION AND LINE NUMBER FOR EVERY OCCURRENCE OF
EACH SELECTED WORD IN A DOCUMENT.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY
DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DIRCOM, TITLE: DIRCOM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM READS VARIABLE NAMES AND BY USING
THE DIRECTORY GENERATED BY BLKGEN - PUNCHES OUT FORTRAN
COMMON STATEMENTS FOR THE DESIRED VARIABLES. THIS IS USED
FOR THE MAINTENANCE OF LARGE COMMON AREAS.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: BRUNSWICK DEFENSE DIV.
CONTACT: JAMES N. CHURCHYARD, BRUNSWICK DEFENSE DIV., 3333
HARBOR BLVD., COSTA MESA, CA, 92626, USA, 714-546-8030
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

DOCU/TEXT

ACRONYM: DOCGEN, TITLE: DOCUMENTATION GENERATOR
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION, DOCUMENTATION GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: THE DOCGEN PROGRAM SELECTIVELY EXTRACTS
INTERNAL PROGRAM DOCUMENTATION FROM A USER SOURCE CODE
TAPE. THE USER INDICATES THOSE COMMENTS TO BE LISTED BY
INPUTTING A MASK(S) OF "N" NON-BLANK CHARACTERS AND DOCGEN
WILL EXTRACT AND LIST ALL COMMENT CARDS WHICH CONTAIN THESE
CHARACTERS IN CARD COLUMNS 1 TO 7 (N LESS THEN 7).
DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW SYS ENG AND ANAL DEP
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DOCU/TEXT, TITLE: DOCU/TEXT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: COBOL, RPG
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, OS/VS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR
SALE

TOOL SUMMARY: THE FUNCTION OF THIS SYSTEM, FORMERLY CALLED
DOCU/MENTOR, IS TO USE DATA FROM PRODUCTION JCL, PROCLIBS,
SYSTEM CATALOG, VTACS AND SORT PDS'S ALONG WITH OPTIONAL
USER DESCRIPTIVE DATA TO DOCUMENT PRODUCTION RUN STREAMS.
FOR OPERATIONS, DOCU/TEXT: 1) DISPLAYS EACH DATA SET WITH
KEY ATTRIBUTES, IN ORDER OF OCCURRENCE, THROUGHOUT A
SYSTEM; 2) LISTS SYMBOLICS AND THEIR VALUES; 3) PROVIDES
RUN SEQUENCE OF JOBS WITHIN SYSTEM, PROCS WITHIN JOB, AND
STEPS WITHIN PROC; AND 4) INCLUDES IN ONE LOCATION A
LISTING OF REPORTS ISSUED BY A SYSTEM IN OPERATIONAL
SEQUENCE. IT ALSO PROVIDES A SIMILAR LISTING FOR INPUT
CARD SETS AND CARD SETS PUNCHED. FOR APPLICATION SYSTEMS
PROGRAMMING. DOCU/TEXT: 1) PROVIDES THE CAPABILITY TO
KEEP SYSTEMS- LEVEL FLOWCHARTS CURRENT AND ACCURATE; 2)
LISTS DATA SETS IN ORDER OF FIRST OCCURRENCE AND USAGE
THROUGHOUT A SYSTEM, THEREBY PROVIDING INSIGHT INTO
CONSEQUENCES OF A PROPOSED FILE CHANGE; 3) LISTS CONTROL
STATEMENTS BY STEP; AND 4) ANNOTATES FLOW CHARTS WITH VTAC
AND CATALOG DATA.

DOCUMENTATION: MAINTENANCE MANUAL
DEVELOPER: GENASYS COMPUTER PROCESSING
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS
ACRONYM: DOCUMENT, TITLE: DOCUMENT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN 3
COMPUTER (OTHER HARDWARE): UNIVAC 1108
OS (OTHER SOFTWARE): EXEC 8
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM READS A SEQUENCE OF SYMBOLIC
ELEMENTS AND WRITES OUT SPECIFIC LINES (INDENTED) FROM
THESE ELEMENTS PROVIDING SUBROUTINE (HIGH
LEVEL)
DOCUMENTATION USING ONLY THE COMMENTS INTERNAL TO THE
SYMBOLIC ELEMENTS.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK
GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: DOCUMENTER A, TITLE: DOCUMENTER A
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: DOCUMENTATION GENERATION, PROGRAM MAINTENANCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: HIGHER LEVEL LANGUAGE
COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED
COMMERCIALY

TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION
TOOL SUMMARY: HOW TO USE TOOL: SIMPLY SELECT A
DOCUMENTATION TEMPLATE AND INPUT SOURCE PROGRAMS TO THE
TOOL FOR DOCUMENTATION. BENEFITS OBTAINED WITH TOOL:
ALLOWS MANAGEMENT TO ESTABLISH, FACILITATE, AND ENFORCE A
STANDARD FOR DOCUMENTATION; REDUCES KEYPUNCHING AND/OR
TERMINAL ENTRY COSTS; REDUCES DEBUGGING AND MAINTENANCE
COSTS; PROVIDES MANAGEMENT CONTROL AND VISIBILITY; AND
IMPROVES PRODUCTIVITY.
DEVELOPER: SOFTOOL CORPORATION
CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH
KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560
INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: DOCUMENTOR, TITLE: DOCUMENTOR
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION, DOCUMENTATION GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN

DPAD

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6030
TOOL SUMMARY: THIS PROGRAM SELECTIVELY EXTRACTS AND PRINTS
FORTRAN PROGRAM DOCUMENTATION FROM INFORMATION CONTAINED IN
THE SOURCE CODE AND SOURCE CODE COMMENTS. IT HAS THE
CAPABILITY TO TEXT EDIT THE INFORMATION TO BE LISTED.
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY
DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DOSSIER, TITLE: DOSSIER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: LIBRARY MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: BAL
TOOL PORTABLE: NO
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): DOS, DOS/VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR
SALE

TOOL SUMMARY: DOSSIER IS AN AUTOMATIC PROGRAM LIBRARY
MANAGEMENT INFORMATION SYSTEM THAT GENERATES 16 UNIQUE
REPORTS TO ENABLE MANAGEMENT TO ESTABLISH OPERATIONAL
STANDARDS AND RUN-TIME DOCUMENTATION. IT IS A DOS OR
DOS/VS MANAGEMENT TOOL THAT HELPS TO MAKE IT PRACTICAL FOR
USERS TO MAINTAIN THEIR CURRENT OPERATIONAL ENVIRONMENTS,
AND IT CAN ALSO BE USED FOR DISK CONVERSIONS AND/OR
CONVERSIONS TO OS. INFORMATION RELATING TO PROGRAMS AND
FILES IS DERIVED FROM THE DOS OR DOS/VS CORE IMAGE AND
RELOCATABLE LIBRARIES. THE PROGRAM AND FILE ANALYSIS (PFA)
COMPONENT OF DOSSIER PRODUCES A SERIES OF REPORTS SHOWING
THE CHARACTERISTICS OF PHASES AND MODULES AND A DESCRIPTION
OF EACH OF THEIR STANDARD I/O FILE DEFINITIONS.
CORRESPONDING RECORDS ARE OUTPUT TO EITHER A DISK OR TAPE
DATA SET AND SORTED BY THE REPORT WRITER PROGRAM TO PRODUCE
ADDITIONAL PFA REPORTS. A LIBRARY AUDIT PROGRAM READS
SUCCESSIVE GENERATIONS OF THIS FILE IN ORDER TO PREPARE
LIBRARY ACTIVITY REPORTS.
DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT
SPECIFICATION, TEST PLAN
DEVELOPER: COMPUTER CONCEPTS, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS
ACRONYM: DPAD, TITLE: DATA PROCESSING ALGORITHM DEVELOPMENT
PROGRAM

CLASSIFICATION: SOFTWARE MODELING AND SIMULATION
FEATURES: SIMULATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN, SALSIM
COMPUTER (OTHER HARDWARE): CDC 6500
TOOL SUMMARY: THE PROGRAM PROVIDES THE MEANS OF ANALYZING A
DP SOFTWARE/HARDWARE SYSTEM BEFORE IT IS DEVELOPED, IN
ORDER TO VERIFY THE SYSTEM COMPONENT PERFORMANCE, SYSTEM
LOGIC, SUBSYSTEMS INTERACTIONS AND DATA STRUCTURES. THE
SOFTWARE PACKAGE MODELED UNDER THE DPAD CONTRACT WAS
COMPOSED OF THE SOFTWARE TASKS WHICH CONSTITUTE THE
TACTICAL PROCESS, A MODIFICATION OF THE OPERATING SYSTEM
AND CONTROL ROUTINE FOR INPUT AND OUTPUT. THE TACTICAL
SOFTWARE MODEL SIMULATES THE COMPUTATIONAL AND LOGICAL
FUNCTIONS PERFORMED TO PROCESS AND ANALYZE THE STREAM OF
DATA RECEIVED DURING AN ENGAGEMENT.
DOCUMENTATION: PROGRAM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW SIMULATION SOFTWARE DEPT.
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DPNDY, TITLE: DPNDY
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: DOCUMENTATION GENERATION, GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: THE PRIMARY FUNCTION OF DPNDY IS TO PROVIDE
ANALYSIS AND COMPATIBILITY CHECKS OF THE COMMON DATA BASE
ASSEMBLED BY BLKGEN AND SPECN. VARIOUS OUTPUTS ARE
PROVIDED TO DISPLAY ERRORS IN EITHER OF THE DATA TYPES.
TWO OF THE OUTPUTS ARE SUITABLE FOR FORMAL DOCUMENTATION:
A COMMON VARIABLE VS. SUBROUTINE CROSS-REFERENCE, AND A
SUBROUTINE NAME VS. COMMON VARIABLE CROSS-REFERENCE.
DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW SYS ENG AND ANAL DEP
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG
ACRONYM: DRIVER, TITLE: AUTOMATED TEST, COMPARE AND MONITOR
PROGRAM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: TEST DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN EXTENDED V4
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): CDC 7700
 TOOL SUMMARY: DESIGNED FOR USE IN A CONTROLLED I/O ENVIRONMENT SUCH AS ACCESS TO A GLOBAL DATA BASE. IT MAY BE USED FOR DEVELOPMENT TESTING AND FINAL CHECKOUT OF UNIT SOURCE CODE. A UNIT OF CODE MAY CONSIST OF A CONTROL ROUTINE AND A NUMBER OF SUBROUTINES COMPRISING A FUNCTIONAL MODULE. ANY NUMBER OF CONSECUTIVE TEST CASES MAY BE EXECUTED IN A SINGLE RUN. TEST CASES MAY BE ISOLATED BY THE PRE-ZERO OPTION OR INFORMATION MAY BE TRANSMITTED TO SUCCESSIVE CASES IF DESIRED. THE RESULTS OF EACH TEST CASE IS COMPARED TO EXPECTED VALUES AND DISCREPANCIES ARE FLAGGED. INITIAL, FINAL AND EXPECTED VALUES ARE DISPLAYED FOR EACH DISCREPANCY. THE STATEMENT LABEL EXECUTION PATH IS DISPLAYED FOR EACH TEST CASE. AT RUNS END, A SUMMARY IS DISPLAYED INDICATING THE NUMBER OF EXECUTIONS OF EACH STATEMENT LABEL FLAGGING OUT UNEXPECTED LABELS. ALSO, A SUMMARY OF THE TEST CASES INDICATING WHICH, IF ANY, CONTAINED ERRORS. THIS IS SIMILAR TO THE AUTORETEST TOOL AVAILABLE FOR THE IBM 360 COMPUTERS.

DOCUMENTATION: USER'S BRIEF
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW GUIDANCE SOFTWARE DEV DEPT
 CONTACT: WALT BARRON, TRW GUIDANCE SOFTWARE DEV DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3676
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: DYNA, TITLE: DYNAMIC ANALYZER
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT
 STAGE OF DEVELOPMENT: DESIGN
 APPLICABILITY: FORTRAN 66
 IMPLEMENTATION LANGUAGE: FORTRAN 77
 TOOL PORTABLE: YES
 TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO FOR INTERNAL BOEING USE
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.):

TOOL SUMMARY: AUGMENTS ORIGINAL SOURCE CODE WITH COUNTERS IN ORDER TO PROVIDE STATEMENT EXECUTION FREQUENCY COUNTS FOR PROGRAM UNITS. CONTAINS USER CAPABILITY TO SELECTIVELY MONITOR SECTIONS OF CODE. PROVIDES SUMMARY REPORTS BASED ON THE COLLECTED STATISTICS. DYNA IS CURRENTLY IN THE DEVELOPMENT PHASE.
 DOCUMENTATION: USER'S MANUAL, DESIGN SPECIFICATION
 REFERENCES: [STUC73], L. G. STUCKI, "AUTOMATIC GENERATION OF SELF METRIC SOFTWARE", PROC OF 1973 SYMP ON COMP SOFT RELIABILITY, 730000
 DEVELOPER: BOEING COMPUTER SERVICES COMPANY

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: EASYTROL, TITLE: EASYTROL
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: PROJECT MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA
 IMPLEMENTATION LANGUAGE: COBOL
 TOOL SIZE: CORE: 85K
 COMPUTER (OTHER HARDWARE): IBM 350/370, HONEYWELL OS (OTHER SOFTWARE): OS, DOS
 TOOL AVAILABLE: YES
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE

TOOL SUMMARY: EASYTROL IS A PROJECT MANAGEMENT SYSTEM WHICH PROVIDES EARLY WARNINGS AND HIGHLIGHTS POTENTIAL TROUBLE SPOTS. EASYTROL ALLOWS A PHASE AND TASK APPROACH TO PROJECT PLANNING AND CONTROL. IT OFFERS THE USER THE OPTION OF OVERALL BROAD PLANNING AT THE BEGINNING OF THE PROJECT AND THE DETAIL PLANNING OF EACH PHASE JUST PRIOR TO BEGINNING THE PHASE. IT ALSO ASSISTS IN THE DETAILED PLANNING STAGE. ALL PERSONNEL AND EQUIPMENT UTILIZATION SCHEDULES MUST BE SUBMITTED AT THE TASK LEVEL. THE SYSTEM DESIGN IS BASED ON FREE FORMATTED INPUT. THE USER IS REQUIRED TO ENTER THE HOURS WORKED ON A SPECIFIC TASK FOR THE PERIOD. THERE ARE TEN STANDARD REPORTS, NINE OF WHICH ARE EXCEPTION REPORTS. THE KEY REPORT, PROJECT STATUS REPORT, PRESENTS THE PROJECT AT PHASE AND TASK LEVELS, AND IN RELATION TO PLAN IN THE AREAS OF MAN HOURS, EQUIPMENT UTILIZATION, CALENDAR DAYS, AND BUDGET. OTHER REPORTS PRESENT DETAIL BUDGET INFORMATION, INDIVIDUAL AND PROJECT LEVEL PERSONNEL INFORMATION.

DOCUMENTATION: USER'S MANUAL
 DEVELOPER: KEITH AND ASSOCIATES, INC
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: EAVS, TITLE: EXTENSIBLE AUTOMATED VERIFICATION SYSTEM
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: TEST EFFECTIVENESS MEASUREMENT, PROGRAM FLOW ANALYSIS

STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN IV, JOVIAL J3B-2
 IMPLEMENTATION LANGUAGE: IFTRAN
 COMPUTER (OTHER HARDWARE): IBM 350/65
 TOOL SUMMARY: EAVS IS A SYSTEM OF COMPATIBLE TOOLS FOR ANALYZING SOURCE PROGRAMS WRITTEN IN EITHER THE J3B-2 DIALECT OF THE JOVIAL LANGUAGE OR IBM FORTRAN IV. EAVS IS INTENDED TO BE APPLIED DURING PROGRAM TESTING TO AID IN IDENTIFYING UNTESTED PATHS AND SPECIFYING TEST CASES THAT WILL IMPROVE TESTING COVERAGE. ALL OF THIS IS PROVIDED BY ANALYSIS OF PROGRAM STRUCTURE, INSTRUMENTATION OF THE SYSTEM WITH SOFTWARE PROBES THAT MEASURE TESTING COVERAGE, AND GENERATION OF COMPREHENSIVE REPORTS WHICH PINPOINT

EVP

PATHS IN THE PROGRAM STRUCTURE THAT REMAIN TO BE EXERCISED. IN ADDITION, GUIDANCE IS PROVIDED FOR THE GENERATION OF TEST CASES THAT WILL ASSURE COVERAGE OF THE UNTESTED PORTIONS.

DOCUMENTATION: USER'S GUIDE REFERENCE MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: GENERAL RESEARCH CORPORATION
CONTACT: CAROLYN GANNON, GENERAL RESEARCH CORPORATION, SANTA BARBARA, CA, USA, 805-964-7724
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: ESAP, TITLE: EVENT SEQUENCE ANALYSIS PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: DOCUMENTATION GENERATION, FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE, DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC

TOOL SUMMARY: ESAP IS A GENERAL PURPOSE GRAPHICS PROGRAM WHICH AUTOMATICALLY GENERATES PLOTS ACCORDING TO USER SPECIFICATIONS. A WIDE VARIETY OF FIGURES IS AVAILABLE TO THE USER, INCLUDING BASIC FLOWCHARTING SYMBOLS. THESE FIGURES CAN BE ARRANGED IN ANY PATTERN TO REPRESENT SEQUENCE FLOW OR OTHER GRAPHIC IDEAS. THEIR POSITION, SIZE AND CONNECTIONS TO OTHER FIGURES MAY BE SPECIFIED BY THE USER AND ANNOTATIONS MAY BE PLACED WITHIN OR NEAR ANY OF THE FIGURES. DASHED AND DOTTED LINE CAPABILITIES EXIST, AND IN ADDITION TO THE REGULAR PRINT FORMAT, FIVE SPECIAL CHARACTER FONTS ARE AVAILABLE TO ENHANCE PROPOSALS AND PRESENTATIONS. CALCOMP AND VERSATEC PLOTS ARE AVAILABLE. A LARGE SAVINGS CAN BE REALIZED WHEN COMPLETED CHARTS MUST BE CHANGED OR DUPLICATED. FILE CHANGES ARE EASY TO IMPLEMENT AND THE NEW CHARTS ARE GENERATED RAPIDLY FROM THE STORED ESAP FILES.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: EVP, TITLE: EQUIVALENCE VERIFICATION PROGRAM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN IV
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 350/370
TOOL SUMMARY: OUTPUT FROM THE EQUIVALENCE VERIFICATION PROGRAM IS USED TO VERIFY THE CONSISTENCY OF THOSE GLOBAL SYMBOLS THAT ARE DEFINED BETWEEN SUBROUTINES WITH THE USE OF EQUIVALENCE STATEMENTS. THIS OUTPUT IS USEFUL IN THE DEVELOPMENT OR MAINTENANCE OF SOFTWARE SYSTEMS.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: EXPEDITER, TITLE: EXPEDITER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: TRACE, AUTOMATED MODULE DRIVER, AUTOMATED MODULE SIMULATOR, COMPONENT TESTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: BAL
TOOL PORTABLE: YES, TOOL SIZE: CORE: 10K-40K
TOOL AVAILABLE: YES

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: EXPEDITER PROVIDES FACILITIES FOR UNIT TESTING OF MODULES AND PROGRAM COMPONENT TESTING IN THE DEVELOPMENT ENVIRONMENT. IT ALSO INCLUDES FEATURES FOR PROBLEM ISOLATION AND VERIFICATION OF FIXES IN THE MAINTENANCE CONTEXT. NO CHANGES TO SOURCE PROGRAMS ARE REQUIRED. IT IS RESPONSIBLE FOR IMPROVING PRODUCTIVITY IN A COBOL ENVIRONMENT FROM 10 LINES OF PROCEDURE DIVISION CODE PR PROGRAMMER PR DAY TO 45 LINES.

DOCUMENTATION: USER'S GUIDE (125), REFERENCE CARD (4), SPF TUTORIAL, TSO HELP, PROGRAMMED INSTRUCTION COURSE (200)
DEVELOPER: APPLICATION DEVELOPMENT SYSTEMS, INC.
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: FACES, TITLE: FORTRAN AUTOMATED CODE EVALUATION SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS, CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/65
TOOL SUMMARY: THE FORTRAN AUTOMATED CODE EVALUATION SYSTEM (FACES) WAS DEVELOPED TO DETECT CODING ERRORS AND UNSOUND CODING PRACTICES IN ANSI FORTRAN SOURCE CODE. THE SYSTEM

IS COMPRISED OF A PREPROCESSOR, A PROCESSOR, AND A REPORT GENERATOR. EITHER UNIT MODULES OR INTERRELATED MODULES CAN BE RUN AS A DATA SET FOR FACES. FACES IS ORGANIZED INTO A DRIVER SECTION WITH THREE SUBSYSTEM COMPONENTS. THE MAIN DRIVER IS RESPONSIBLE FOR FILE MANIPULATIONS AND INTERPRETING USER COMMANDS. ONE OF THE COMPONENTS IS CALLED THE AUTOMATIC INTERROGATION ROUTINE. ITS PURPOSE IS TO EXAMINE TABLES GENERATED BY A FRONT-END PORTION OF FACES, AND LOOK FOR TYPES OF CODING CONSTRUCTIONS SELECTED BY THE USER. IF THE SPECIFIED CONSTRUCTIONS ARE FOUND, DIAGNOSTIC MESSAGES ARE RECORDED ON THE FLAG FILE. A REPORT GENERATOR GENERATES USER REPORTS. AREAS OF CODING THAT CANNOT BE EFFECTIVELY EVALUATED ARE ALSO REPORTED TO THE USER.

DOCUMENTATION: SYSTEM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
[DONA80], JOHN D. DONAHO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200

DEVELOPER: COSMIC, UNIVERSITY OF GEORGIA
CONTACT: REX WALKER, COSMIC, UNIVERSITY OF GEORGIA, SUITE 112, BARROW HALL, ATHENS, GEORGIA, 30602, USA, 404-542-3265
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RADC-TR-80-13

ACRONYM: FADEBUG-I, TITLE: FACOM AUTOMATIC DEBUG
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COMPARISON, PATH STRUCTURE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: ASSEMBLY
COMPUTER (OTHER HARDWARE): FACOM 230-60
TOOL AVAILABLE: YES
TOOL SUPPORTED: YES, TOOL SUPPORT: FUJITSU LTD.
TOOL SUMMARY: FADEBUG-I HAS TWO PRIMARY FUNCTIONS AS A DEBUG AID. COMPARING THE SET OF OUTPUT DATA PRODUCED BY A PROGRAM WITH USER-SPECIFIED OUTPUT DATA IS IDENTIFIED AS ITS MOST IMPORTANT FUNCTION. THE OTHER FUNCTION INVOLVES AUTOMATIC ISOLATION AND DEFINITION OF ALL POSSIBLE EXECUTION PATHS FROM ENTRY TO EXIT IN A PROGRAM MODULE. THESE CAPABILITIES AID IN DETECTING AND REMOVING PROGRAM BUGS. IN THE MODULE TEST STAGE OF PROGRAM DEVELOPMENT THE FOLLOWING AREAS OF DIFFICULTY ARE IDENTIFIED: (1) EXAMINATION AND VERIFICATION OF OUTPUT DATA FROM MODULE TEST EXECUTION. (2) EXAMINATION OF MODULE PROCESSING PATHS FOR LOGICAL ERRORS. (3) EVALUATION OF MODULE LOGIC PATHS FOR OMISSIONS. FADEBUG-I IS DESIGNED TO REDUCE OR ELIMINATE THESE DIFFICULTIES THROUGH ITS TEST FUNCTION OR ROUTE DEFINITION FUNCTION.

FADEBUG-I

REFERENCES: [DONA80], JOHN D. DONAHO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[ITOH77], ITOH, "FADEBUG-I, A NEW TOOL FOR PROGRAM DEBUGGING", PROCEEDINGS IEEE SYMPOSIUM COMPUTER SOFTWARE REL., PP 38-43, 770000
DEVELOPER: FUJITSU LTD.
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: FAST, TITLE: FORTRAN ANALYSIS SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS, CONSISTENCY CHECKING, ERROR ANALYSIS, INTERFACE CHECKING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN

TOOL SUMMARY: THE FAST SYSTEM CREATES A DATA BASE OF THE ATTRIBUTES OF MODULES, STATEMENTS AND NAMES IN A FORTRAN PROGRAM AND INTERACTIVELY PROCESSES A WIDE RANGE OF QUERIES CONCERNING THESE ATTRIBUTES. THE FAST DATA BASE IS GENERATED FROM THE FORTRAN SOURCE PROGRAM BY USING: (1) THE FACES PARSER (2) A PROGRAM TO MAP THE OUTPUT OF THE PARSER ONTO SYSTEM 2000 LOAD STRING (3) THE SYSTEM 2000 DATA MANAGEMENT SYSTEM. THE FAST COMMAND/QUERY LANGUAGE, WHICH IS USED TO QUERY THE DATA BASE, DEFINES APPROXIMATELY 10 ATTRIBUTES OF FORTRAN NAMES AND STATEMENTS. THESE 10 ATTRIBUTES CAN BE COMBINED IN LOGICAL EXPRESSIONS TO QUALIFY OR ISOLATE VERY BROAD OR VERY NARROW PROGRAM CONTEXTS. THE COMMAND LANGUAGE INTERPRETER WAS IMPLEMENTED THROUGH THE USE OF THE BOBSW PARSER GENERATOR.

REFERENCES: [DONA80], JOHN D. DONAHO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[BROW78], J. C. BROWNE, "FAST: A SECOND GENERATION PROGRAM ANALYSIS SYSTEM", PROCEEDINGS THIRD INTER. CONF. ON SOFT. ENG., PP 142-148, 780500
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: FAVS, TITLE: FORTRAN AUTOMATED VERIFICATION SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS, CROSS REFERENCE, DOCUMENTATION GENERATION, DATA BASE ANALYSIS, COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, CODE RESTRUCTURING, PROGRAM FORMATTING, RUN TIME ANALYSIS, LANGUAGE PROCESSING, TUNING, PROGRAM STRUCTURE CHECKING, TYPE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780000

APPLICABILITY: FORTRAN, DMATRAN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN
TOOL PORTABLE: NO, TOOL SIZE: CORE: 52K
COMPUTER (OTHER HARDWARE): H6000 (DISK: 250K)
OS (OTHER SOFTWARE): GCOS
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.

FCA

TOOL SUMMARY: FAVS, AN INTEGRATED COLLECTION OF COMPUTER PROGRAMS, WAS DEVELOPED FOR THE PURPOSE OF ASSURING THAT SOFTWARE SYSTEMS WRITTEN IN FORTRAN ARE COMPREHENSIVELY TESTED. FAVS PROVIDES (1) STATIC DETECTION OF UNREACHABLE STATEMENTS, SET/USE ERRORS, MODE-CONVERSION ERRORS, AND EXTERNAL REFERENCE ERRORS, (2) A MEANS OF MEASURING THE EFFECTIVENESS OF TEST CASES BY SOURCE CODE INSTRUMENTATION, (3) ASSISTANCE IN THE CONSTRUCTION OF TEST DATA THAT WILL THOROUGHLY EXERCISE THE SOFTWARE, AND (4) AUTOMATED DOCUMENTATION. IN ORDER TO AID IN THE PRODUCTION OF APPLICATION SOFTWARE THAT ADHERES TO MODERN PROGRAMMING TECHNIQUES, FAVS ALSO PROVIDES FOR THE TRANSLATION FROM DMATRAN (A STRUCTURED EXTENSION OF FORTRAN) TO FORTRAN AND FROM FORTRAN TO DMATRAN.
DOCUMENTATION: VOL. 1, FINAL REPORT (49), VOL. 2, FAVS USER'S MANUAL (138), VOL. 3, DMATRAN USER'S GUIDE (46)
REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
DEVELOPER: GENERAL RESEARCH CORPORATION
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS, RADC-TR-80-13

ACRONYM: FCA, TITLE: FORTRAN CODE AUDITOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, PROGRAM STRUCTURE CHECKING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): HONEYWELL 6000, HONEYWELL 600/6, HONEYWELL 600

TOOL SUMMARY: THE FORTRAN CODE AUDITOR, AN AUTOMATED TEST TOOL, IS USED FOR THE COST EFFECTIVE ENFORCEMENT OF FORTRAN PROGRAMMING STANDARDS AND CONVENTIONS APPROPRIATE TO THE AIR FORCE SOFTWARE ENVIRONMENT. IT DOES NOT MODIFY CODE. USING PREDEFINED CODING STANDARDS AND CONVENTIONS, IT SIMPLY ADVISES THE USER WHERE THESE STANDARDS, IT CONVENTIONS HAVE NOT BEEN ADHERED TO. THE MAJOR ADVANTAGE OF FAVORING AN AUTOMATED AUDITOR OVER MANUAL METHODS, BESIDES COST EFFECTIVENESS, IS COMPLETE OBJECTIVITY AND UNAMBIGUITY. THE STANDARDS CAN BE VIEWED AS BEING CODING ENFORCEMENTS IN FOUR AREAS: STANDARDS DEFINING QUANTITY AND PLACEMENT OF COMMENTARY, STANDARDS IDENTIFYING PHYSICAL PLACEMENT AND GROUPING OF CODE ELEMENTS ON THE SOURCE CODE LISTING, STANDARDS LIMITING MODULE SIZE AND PLACING RESTRICTIONS ON THE USE OF CERTAIN INSTRUCTIONS WITH THE END RESULT OF PROVIDING THE OPTIMIZATION OF CODE RELATIVE TO EXECUTION TIME, AND STANDARDS REQUIRING THE USE OF STRICT RULES FOR THE TOP-DOWN DESIGN AND IMPLEMENTATION OF A SYSTEM OF PROGRAMS.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE

TOOLS SERIES, 790100
DEVELOPER: TRW DATA MGMT SYS DEPT
CONTACT: PAUL SMITH, TRW DATA MGMT SYS DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-2380
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FLOBO, TITLE: COBOL FLOWCHARTER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL ANSI
IMPLEMENTATION LANGUAGE: COBOL
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 7000, UNIVAC 1100, HONEYWELL 6000, HONEYWELL 600

TOOL SUMMARY: FLOBO IS AN AUTOMATIC FLOWCHARTER FOR COBOL SOURCE PROGRAMS; IN ADDITION FLOBO OPTIONALLY PRODUCES A COMPREHENSIVE CROSS-REFERENCE LISTING. THE FLOWCHART PRODUCED PROVIDES A COMPLETE FLOWLINE THROUGHOUT THE PROGRAM. AND FROM CONNECTORS ARE PROVIDED WHERE NEEDED TO REFLECT ENTRIES AND EXITS TO CLOSED SUBPROGRAMS. ALL GO TO, PERFORM AND SWITCH CONNECTORS INDICATE LINE NUMBERS OF THE STATEMENT REFERENCED. THE SYSTEM IS COMPOSED OF THREE COBOL PROGRAMS WITH IMBEDDED COBOL PARTS. INPUT TO FLOBO IS THE SOURCE FOR THE COBOL PROGRAM TO BE FLOWCHARTED, WHICH MAY BE ON ANY INPUT DEVICE (DISK, DRUM, CARD READER, MAG TAPE, PAPER TAPE, ETC.). ALSO, PROGRAMS TO FLOWCHARTED MAY BE BATCHED. OUTPUT FROM FLOBO CONSISTS OF THREE PRINTED DESTINED FILES: 1) A SOURCE LISTING OF EACH OF THE PROGRAMS TO BE FLOW-CHARTED WITH REFERENCE NUMBERS ASSIGNED BY THE FIRST PROGRAM IN THE FLOBO SYSTEM; 2) A CROSS-REFERENCE LISTING, IF SELECTED, PRODUCED BY THE SECOND FLOBO PROGRAM, CONTAINING ALL DATA NAMES AND PROCEDURE NAMES IN ALPHABETICAL

DOCUMENTATION: PROGRAM DESCRIPTION, USER'S GUIDE, MAINTENANCE MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: COSMIC, UNIVERSITY OF GEORGIA
CONTACT: REX WALKER, COSMIC, UNIVERSITY OF GEORGIA, SUITE 112, BARROW HALL, ATHENS, GEORGIA, 30602, USA, 404-542-3265
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FLODIA, TITLE: FLODIA
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN IV
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000
TOOL SUMMARY: FLODIA IS A GENERAL PURPOSE FUNCTIONAL FLOWCHARTING PROGRAM WHICH AUTOMATICALLY GENERATES FLOW DIAGRAMS ACCORDING TO USER SPECIFICATIONS. THE CHARTS ARE

PRODUCED BY EITHER THE 12 OR 30 INCH CALCOMP PLOTTERS WITH PAGE NUMBERS OPTIONALLY INSERTED. THE USER IS OFFERED A VARIETY OF BASIC FEATURES WHOSE PLACEMENT AND CONNECTION HE SPECIFIES BY INPUT. ADDITIONAL FIGURES MAY BE DEFINED BY THE USER THROUGH INPUT SPECIFICATION. SUPPLIED TEXT MAY BE ENCLOSED BY A FIGURE OR POSITIONED ELSEWHERE ON THE DIAGRAM. AN EDITING FEATURE IS AVAILABLE WHICH ALLOWS FOR AUTOMATIC INSERTION OR DELETION OF CHART SEGMENTS.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW SIMULATION SOFTWARE DEPT.
CONTACT: J. D. OLIVER, TRW SIMULATION SOFTWARE DEPT., ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0923
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FLOWGEN, TITLE: FLOWGEN
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6500

TOOL SUMMARY: FLOWGEN GENERATES PROGRAM FLOWCHARTS AUTOMATICALLY FROM FORTRAN SOURCE CARDS. COMMENTS WHICH OCCUR ON THE SOURCE CODE ARE TRANSFERRED TO THE FLOWCHART IN AN INTELLIGENT MANNER. THE FLOWCHARTS PRODUCED ARE DIVIDED INTO PAGES WHICH CAN BE PHOTOREDUCED AND PRINTED ON 8-1/2 X 11 INCH PAPER CONNECTOR, CONTINUATION REMARKS, AND PAGE NUMBERS ARE AUTOMATICALLY INSERTED.

DOCUMENTATION: PROGRAM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: CALIFORNIA COMPUTER PRODUCTS, INC.
CONTACT: CALCOMP, CALIFORNIA COMPUTER PRODUCTS, INC., 2411 W. LA PALMA, ANAHEIM, CA, USA, 714-821-2011
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FOCUS, TITLE: FOCUS
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: REPORT GENERATION, GRAPHING, FILE MAINTENANCE, DATA ENTRY, FINANCIAL MODELLING, HIERARCHICAL FILE STRUCTURES, RELATIONAL FILE STRUCTURES

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: TEXT
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: NO

COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, VSI, SVS, MVS, VM/CMS, TSO
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
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TOOL SUMMARY: FOCUS IS AN INTERACTIVE INFORMATIONAL CONTROL SYSTEM THAT CONTAINS FACILITIES FOR DESCRIBING FILES, FOR ENTERING, CHANGING AND DELETING RECORDS IN FILES, AND FOR REPORTING, GRAPHING, MODELLING AND STATISTICALLY ANALYZING DATA FROM FILE INFORMATION. FOCUS CONTAINS MANY DBMS TYPE FACILITIES AND CAN ACCESS DATA FROM IBM'S IMS AND CULLINANE'S IDMS DATABASES AS WELL AS FROM FOCUS CREATED FILES. FEATURES INCLUDE: HIERARCHICAL AND RELATIONAL FILE STRUCTURES, INTERACTIVE ENGLISH LANGUAGE REPORT WRITER, GRAPHING, STATISTICS, FILE MAINTENANCE, 3270 FULL SCREEN FORMATTED DATA ENTRY, FINANCIAL MODELLING, INTERFACES TO IMS, IDMS, VSAM AND ISAM FILES.

DOCUMENTATION: USER'S MANUAL (500), PRIMER
REFERENCES: [COMP79], COMPUTER DECISIONS MAGAZINE, "BANK CUSTOMER QUERIES PUT INTO FOCUS", COMPUTER DECISIONS, 790500

[COMP79A], COMPUTERWORLD, "FOCUS AIDS VM FILE USE", COMPUTERWORLD, 790716

DEVELOPER: INFORMATION BUILDERS
CONTACT: INFORMATION BUILDERS, INC., 254 W. 31ST STREET, NEW YORK, NY, 10001, USA, 212-736-4433
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: FORAN, TITLE: FORTRAN ANALYZER PROGRAM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CROSS REFERENCE, CONSISTENCY CHECKING, ERROR ANALYSIS, INTERFACE CHECKING
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6400
TOOL AVAILABLE: YES

TOOL SUPPORTED: YES, TOOL SUPPORT: U.S. ARMY ADVANCED RESEARCH CENTER

TOOL SUMMARY: FORAN PERFORMS STATIC ANALYSIS ON SOURCE CODE WRITTEN IN ANY DIALECT OF FORTRAN. USAGE OF PROGRAM LABELS, TAGS, DATA VARIABLES, CONSTANTS, SUBROUTINES, AND OTHER PROGRAM ELEMENTS ARE ANALYZED FOR A MAIN PROGRAM AND ITS RELATED SUBROUTINE COMPONENTS. EACH ITEM NAME IS LISTED, SHOWING THE STATEMENT NUMBERS WHERE THE ITEM IS REFERENCED AND HOW IT IS REFERENCED (ASSIGNED, USED, INPUT, OUTPUT, SUBROUTINE CALL, ETC.). FORAN ALSO IDENTIFIES SYMBOLS DEFINED BUT NOT USED, DISCREPANCIES IN VARIABLE TYPE AND DIMENSION, AND NUMBER AND TYPE OF PARAMETERS IN FUNCTIONS AND SUBROUTINES. SYNTAX ERRORS ARE FLAGGED DURING THE ANALYSIS FORAN'S PRIMARY USE IS TO DETERMINE POSSIBLE COMPUTATION OF LOGIC ERRORS FROM THE STATIC ANALYSIS OF DATA USAGE. IT IS ALSO VALUABLE IN ANALYZING THE EFFECT OF A PROGRAM MODIFICATION ON DATA USAGE.

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[FINE79], M. FINFER, "SOFTWARE DEBUGGING METHODOLOGY", FINAL TECHNICAL REPORT, RADC-TR-79-57, THREE VOL., 790400
DEVELOPER: U.S. ARMY ADVANCED RESEARCH CENTER, HUNTSVILLE, ALABAMA
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: FORMAN, TITLE: FORMAN
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL SUMMARY: FORMAN IS USED TO DEFINE AND MAINTAIN SUBROUTINE COMMON DATA STRUCTURES DURING THE DEVELOPMENT AND MAINTENANCE PHASES OF LARGE FORTRAN PROGRAMS. WHEN DEFINING THE COMMON DATA BASE, THE USER INPUTS CARDS WHICH IDENTIFY THE NAME OF EACH VARIABLE, ITS DIMENSION, TYPE AND DESCRIPTION. FORMAN CONSTRUCTS A DICTIONARY CONTAINING THIS DATA AND PRODUCES PRINTED OUTPUT DOCUMENTING EACH COMMON BLOCK IN THE PROGRAM. A SECOND OPTION OF THE FORMAN SYSTEM ACCEPTS AS INPUT THE NUMBER OF EACH COMMON VARIABLE UTILIZED BY A PARTICULAR ROUTINE. FORMAN OUTPUTS ALL OF THE CARD IMAGES REQUIRED EFFECT THE LINKAGE TO COMMON THAT FORTRAN REQUIRES. THESE CARDS ARE NORMALLY INSERTED BY HAND INTO THE FORTRAN SOURCE DECK. THE GENERAL USE COMMON DATA BASE MANAGEMENT SOFTWARE CAN GREATLY REDUCE THE MAN HOURS REQUIRED TO UPDATE PROGRAMS AS WELL AS TO DEBUG COMMON PROBLEMS THAT MAY EXIST.

DOCUMENTATION: PROGRAM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
CONTACT: A. J. DESALVIO, TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3083
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FORREF, TITLE: FORTRAN CROSS-REFERENCE
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN, SLEUTH
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: FORREF PROVIDES THE FORTRAN USER WITH DETAILED CROSS-REFERENCE TABLES OF SELECTED FORTRAN SYMBOLIC ELEMENTS. THE THREE PRINCIPAL TYPES OF PRINTED OUTPUT ARE: A VARIABLE CROSS-REFERENCE TABLE OF ALL PROGRAM VARIABLES V

FORREF

PROGRAM LINE NUMBERS, INCLUDING THE NATURE OF THE CROSS-REFERENCE (E.G. USED, CALLED); A TRANSFER CROSS-REFERENCE LISTING ALL TRANSFER POINTS WITH THE SYMBOLIC ELEMENT; AND A STATEMENT NUMBER CROSS-REFERENCE TABLE INDICATE ALL PROGRAM LINE NUMBERS ON WHICH EACH STATEMENT NUMBER IS REFERENCED.

DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW SYS ENG AND ANAL DEP
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FORTRAN CHECKER, TITLE: FORTRAN CHECKER ERROR DETECTOR

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, ERROR DETECTION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY

TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION
TOOL SUMMARY: HOW TO USE TOOL: SIMPLY INPUT YOUR PROGRAM TO THE TOOL FOR ANALYSIS. BENEFITS OBTAINED WITH TOOL: MAXIMIZES PROGRAM PORTABILITY; DETECTS ERRORS THAT ESCAPE MOST COMMERCIAL COMPILERS; FACILITATES SOURCE PROGRAM STANDARDIZATION, AUDITING, AND MAINTENANCE; PROVIDES MANAGEMENT CONTROL AND VISIBILITY; AND IMPROVES PRODUCTIVITY.

DEVELOPER: SOFTOOL CORPORATION
CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0550
INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: FORTRAN-77 ANAL, TITLE: NBS FORTRAN-77 ANALYZER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROFILE GENERATION, COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, TRACE, ASSERTION CHECKING, TUNING

STAGE OF DEVELOPMENT: DESIGN, DATE (YYMMDD): 801000
APPLICABILITY: FORTRAN 77
IMPLEMENTATION LANGUAGE: FORTRAN 77
TOOL PORTABLE: YES
TOOL AVAILABLE: NO, PUBLIC DOMAIN: YES
TOOL SUPPORTED: YES, TOOL SUPPORT: NATIONAL BUREAU OF STANDARDS

TOOL SUMMARY: THE NBS FORTRAN-77 ANALYZER CONSISTS OF TWO PARTS: STATIC ANALYSIS AND DYNAMIC ANALYSIS. STATIC ANALYSIS COLLECTS FROM INDIVIDUAL PROGRAMS FREQUENCY STATISTICS ON FORTRAN STATEMENT TYPES. SUCH ACCUMULATIONS ARE USEFUL FOR LANGUAGE STUDIES, INPUT TO STANDARDS

FOSTRA

COMMITTEES, SYSTEM BENCHMARK CHARACTERIZATION, AND STUDIES IN SOFTWARE PORTABILITY AND CONVERSION. DYNAMIC ANALYSIS COLLECTS EXECUTION FREQUENCIES OF CODE SEGMENTS (A CODE SEGMENT IS A NON-EMPTY SEQUENCE OF STATEMENTS WITH A UNIQUE ENTRY AND A SOLE EXIT), INFORMATION ON THE CORRECTNESS OF USER-IMBEDDED ASSERTIONS, AND TRACE DATA. THIS DATA IS USEFUL IN TESTING, DEBUGGING, AND OPTIMIZING PROGRAMS.

DOCUMENTATION: OPERATIONS MANUAL, USERS MANUAL, TEST PLAN, PROGRAM MAINTENANCE MANUAL, SOFTWARE SUMMARY, FUNCTIONAL REQUIREMENTS DOCUMENT (46), SYSTEM SPECIFICATION

REFERENCES: [LYON74], LYON AND STILLMAN, "A FORTRAN ANALYZER", NBS TECHNICAL NOTE 849, 741000 [STIL75], STILLMAN AND LEONG-HONG, "SOFTWARE TESTING FOR NETWORK SERVICES", NBS TECHNICAL NOTE 874, 750700 [LYON75], LYON AND STILLMAN, "SIMPLE TRANSFORMS FOR INSTRUMENTING FORTRAN DECKS", SOFTWARE-PRACTICE AND EXPERIENCE, 750000 [LYON73], LYON, "STATIC LANGUAGE ANALYSIS", NBS TECHNICAL NOTE 797, 731000 [USDC79], US DEPT OF COMMERCE, "FORTRAN 77 ANALYZER", NB79SBCA0128, 790800

DEVELOPER: TRW

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: FORTREF, TITLE: FORTRAN SYMBOLIC NAME CROSS-REFERENCE

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

FEATURES: CROSS REFERENCE

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN IV

IMPLEMENTATION LANGUAGE: FORTRAN

COMPUTER (OTHER HARDWARE): IBM 360/370, UNIVAC 1100, HONEYWELL 6000, HONEYWELL 600/6, CDC 6000/7000

TOOL SUMMARY: FORTREF PRODUCES FROM FORTRAN SOURCE PROGRAMS A COMPREHENSIVE SYMBOLIC NAME CROSS-REFERENCE DICTIONARY TO ASSIST ANALYSTS AND PROGRAMMERS IN DEBUGGING, CHANGING AND CONVERTING THEIR FORTRAN PROGRAMS. IT IS ORGANIZED ALPHABETICALLY BY SYMBOLIC NAME AND SHOWS THE ACTUAL FORTRAN STATEMENT IN WHICH THE SYMBOLIC NAME APPEARS ALONG WITH THE ASSOCIATED PROGRAM NAME. THE DICTIONARY ALSO INCLUDES SUCH SELECTED FORTRAN STATEMENT NAMES AS READ, WRITE, FORMAT, CALL, ENTRY, STOP, AND RETURN.

DOCUMENTATION: USER'S MANUAL, PROGRAM MANUAL

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

CONTACT: WILLIAM F. DEHAAN, P.O. BOX 101, ROCKAWAY, NJ, 07886, USA, 201-627-6453

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: FOSTRA, TITLE: FORTRAN STRUCTURING AID

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: CONVERSION

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN, STRUCTURED FORTRAN

TOOL SIZE: CORE: 55K

COMPUTER (OTHER HARDWARE): DEC PDP-11

OS (OTHER SOFTWARE): RSX-11M

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES

TOOL SUMMARY: FOSTRA IS A GRAPHICALLY INTERACTIVE SYSTEM (USING ELECTRONIC PENCIL) THAT IS COGNIZANT OF STRUCTURED CODE AND BLOCK STRUCTURING AND IS USED TO FACILITATE CONVERSION OF FORTRAN TO SFTRAN. SFTRAN IS A STRUCTURED FORTRAN PREPROCESSOR USED AT JPL.

DOCUMENTATION: TECHNICAL PAPER

DEVELOPER: JET PROPULSION LABORATORY

CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: FST, TITLE: SFTRAN3/FORTRAN SUPPORT TOOLS

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: CROSS REFERENCE, STRUCTURED LANGUAGE PROCESSING

STAGE OF DEVELOPMENT: DESIGN

APPLICABILITY: STRUCTURED FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN, STRUCTURED FORTRAN 3

TOOL AVAILABLE: NO, PUBLIC DOMAIN: YES

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TOOL SUMMARY: A COORDINATED SET OF SOFTWARE TOOLS IS UNDER DEVELOPMENT TO SUPPORT PROGRAMMING IN SFTRAN3/FORTRAN. THESE TOOLS ARE BEING WRITTEN IN THE SFTRAN3 STRUCTURED FORTRAN LANGUAGE AND ARE BEING DESIGNED FOR EASE OF TRANSFER TO ANY COMPUTER SYSTEM SUPPORTING FORTRAN. INCLUDED SO FAR ARE, (A) A COMPLETE LEXICAL ANALYZER FOR SFTRAN3 AND FORTRAN INCLUDING COMMON DIALECTS OF FORTRAN, (B) A CROSS-REFERENCE INDEXER FOR SFTRAN3/FORTRAN CODE, AND (C) A SYMBOL TABLE HANDLER.

DEVELOPER: JET PROPULSION LABORATORY

CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3550

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: FTNCODER, TITLE: FTNCODER

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

FEATURES: TRACE, STANDARDS ENFORCEMENT, RUN TIME ANALYSIS, EXECUTION MONITORING

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN 66

IMPLEMENTATION LANGUAGE: PASCAL

COMPUTER (OTHER HARDWARE): CDC 6000

FTNXREF

TOOL AVAILABLE: YES
TOOL SUMMARY: FTNCDER PRODUCES ONE OR MORE 'STANDARD' CDC FORTRAN (FTN) PROGRAM MODULE FROM AN INPUT FILE OF LINES CONSISTING OF: MODULE NAME, AND A SHORT COMMENT DESCRIBING THE MODULE'S PURPOSE. EACH OF THE MODULES PRODUCED INCLUDES SUITABLY MARKED COMMENTS FOR THE HEADER (INCLUDING THE PURPOSE) MODULE AUTHOR, DATE, AND TIME; AND A PLACE TO INSERT NOTES RELATIVE TO THE MODULE. CONTROL DATA CORPORATION 'UPDATE' (REF. A) CONDITIONAL SOURCE CODE BLOCKS ARE WRITTEN AT THE ENTRY AND EXIT OF EACH MODULE TO MARK THE NAME AND TIME OF ENTRY, AND THE TOTAL ELAPSED TIME IN THE MODULE. THESE BLOCKS ARE LOGICALLY DELETABLE WHEN THE PROGRAM UNDER DEVELOPMENT REACHES THE PRODUCTION STAGE; HOWEVER, THEY REMAIN IN THE SOURCE CODE LIBRARY. UNIQUENESS OF TEXT MARKS PRODUCED BY 'FTNCDER' ALLOWS EASY LOCATION OF A SPECIFIC PORTION OF THE MODULES WITH A LINE ORIENTED TEXT EDITOR. SUFFICIENT 'WHITE SPACE' IS INCLUDED IN EACH MODULE TO ENHANCE READABILITY OF THE SOURCE CODE.
DEVELOPER: NSRDC
CONTACT: PETER N. ROTH, NSRDC, STRUCTURES DEPARTMENT, BETHESDA, MD, 20084, USA, 202-227-1851
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: FTNXREF, TITLE: FORTRAN INTER-SOURCE
CROSS-REFERENCE
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CROSS REFERENCE, DOCUMENTATION GENERATION, GLOBAL DATA MANAGEMENT, MODIFICATION VALIDATION, DATA BASE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN CDC EXTENDED
IMPLEMENTATION LANGUAGE: PASCAL 6000
TOOL SIZE: 1200 STATEMENTS

COMPUTER (OTHER HARDWARE): CDC 5000, CYBER-70
OS (OTHER SOFTWARE): NOS/BE (CDC SORT/MERGE UTILITY PACKAGE)
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): PROPRIETARY PROPERTY OF BATTELLE LABS, PRICE INQUIRIES WELCOME
TOOL SUMMARY: THE FORTRAN INTER-SOURCE CROSS-REFERENCE PROGRAM CONSISTS OF TWO PARTS: (1) A LEXICAL ANALYZER TO EXTRACT VARIABLE NAMES FROM THE SOURCE CODE, AND (2) A POST-SORT CROSS-REFERENCE LISTING PROGRAM. THIS TOOL IS EXTREMELY USEFUL FOR ANY HEAVILY COMMON-COUPLED FORTRAN SYSTEM. THE CROSS-REFERENCE OUTPUT IS SORTED BY SUBROUTINE/PROGRAM/FUNCTION NAME WITHIN VARIABLE NAME. EACH ENTRY IS ACCOMPANIED BY THE CARD IMAGE THAT THE VARIABLE APPEARED ON, THEREBY PERMITTING THE USER TO SEE HOW THAT VARIABLE WAS USED IN THAT PARTICULAR STATEMENT.
DOCUMENTATION: USER INSTRUCTIONS

DEVELOPER: BATTELLE COLUMBUS LABS, CARNEGIE-MELLON UNIVERSITY
CONTACT: CARY SCOFIELD, BATTELLE COLUMBUS LABS, 505 KING AVE, COLUMBUS, OH, 43201, USA, 614-424-5049

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: GIM/GIM II, TITLE: GENERALIZED INFORMATION MANAGEMENT SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CONFIGURATION MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: IMPLEMENTATION LANGUAGE: PWS, OBJECT COMPUTER (OTHER HARDWARE): IBM 360/370, UNIVAC 1108

TOOL SUMMARY: THE PRINCIPAL GIM FEATURES WHICH MAKE IT A VALUABLE TOOL FOR APPLICATIONS-LIKE CONFIGURATION MANAGEMENT ARE: NO PROGRAMMING IS REQUIRED FOR APPLICATION; FILES CAN BE CONSTRUCTED, LOADED WITH DATA, UPDATED, OR ACCESSED FROM A TERMINAL OR IN BATCH MODE; IT IS USER ORIENTED AND IT CAN BE QUERIED WITH AN ENGLISH-LIKE USER LANGUAGE, IT CAN RETRIEVE SELECTED DATA AND IT CAN GENERATE REPORTS AT THE TERMINAL. GIM IS BEING USED FOR CONFIGURATION MANAGEMENT ON THE SITE DEFENSE PROJECT AND FOR ALL SOFTWARE CONFIGURATION MANAGEMENT AT THE SUNNYVALE LABORATORY OF TRW. THIS ON-LINE OR BATCH MODE SYSTEM HAS BEEN USED EXTENSIVELY BY TRW TO MAINTAIN AND REPORT PROJECT AND CONFIGURATION MANAGEMENT RECORDS.
DOCUMENTATION: USER'S GUIDE

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, IPO
CONTACT: GARY WIRES, TRW, IPO, ONE SPACE PARK, REDONDO BEACH, CA, 90728, USA, 213-535-2380
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: GIRAFF, TITLE: GLOBAL INDEX AND ROUTINE ANALYZER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6X00, 7600 SIGMA 9, TSS
TOOL SUMMARY: GIRAFF AUTOMATICALLY PROVIDES A GLOBAL INDEX FOR EVERY SYMBOLIC NAME (EXCEPT LITERALS) DEFINED IN YOUR PROGRAM AND INDICATES WHETHER, OR HOW AND WHERE, IT IS REFERENCED IN A SUBROUTINE, MAIN PROGRAM, OR FUNCTION. A TOOL FOR THE ANALYSIS OF FORTRAN PROGRAMS OF INTERMEDIATE OR LARGE SIZE, GIRAFF ALLOWS FOR BOTH AN OVERVIEW AND AN IN-DEPTH SUBROUTINE OR FUNCTION) BY SUBROUTINE ANALYSIS OF SYMBOLIC OR STATEMENT NUMBER REFERENCE. PROVIDING FOR 24 CATEGORIES OF SYMBOLIC REFERENCING, THE ROUTINE ANALYZER FEATURE ALLOWS THE USER TO IMMEDIATELY IDENTIFY NOT ONLY WHERE A PARTICULAR SYMBOL IS REFERENCED IN A SUBROUTINE BUT THE NATURE OF THE REFERENCE, BE IT IN AN ARITHMETIC STATEMENT, DO LOOP, SUBROUTINE ARGUMENT, ETC. THE GLOBAL INDEXING FEATURE PROVIDES AN INDEX OF VARIABLE (INCLUDING

HARP

SUBROUTINE AND FUNCTION) REFERENCES BY SUBROUTINE AND FUNCTION THROUGHOUT THE PROGRAM. IT FURTHER IDENTIFIES VARIABLES REFERENCED ONLY IN COMMON BLOCK DEFINITIONS AND THOSE REFERENCED IN EXECUTABLE CODE.
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SIMULATION SOFTWARE DEPT
CONTACT: DAVID RICHMOND, TRW, SIMULATION SOFTWARE DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-4190
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: GOTO-ANALYZER, TITLE: GOTO-ANALYZER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 800000
APPLICABILITY: FORTRAN 77
IMPLEMENTATION LANGUAGE: FORTRAN 77
TOOL PORTABLE: YES
TOOL SUMMARY: YES

TOOL SUMMARY: THE GOTO-ANALYZER IS A STATIC ANALYZER WHICH COUNTS ALL OCCURRENCES OF THE GOTO STATEMENT IN A COMPLETE FORTRAN PROGRAM AND DIVIDES THEM OVER THE FOLLOWING CATEGORIES: (1) JUMP FORWARD, BACKWARD, OR TO THE END OF THE MODULE, (2) JUMPS DEPENDING ON A LOGICAL IF, AND (3) "KNOTS", IE, TWO JUMPS CROSSING EACH OTHER'S PATH. EACH CATEGORY HAS A CERTAIN WEIGHT. FOR INSTANCE, "KNOTS" ARE PENALIZED MORE HEAVILY THAN JUMPS TO THE END OF A MODULE. THE NUMBER OF EXECUTABLE STATEMENTS IS ALSO ESTABLISHED. IN THIS WAY, IT IS POSSIBLE TO ARRIVE AT A QUALIFICATION OF THE FORTRAN PROGRAM UNDER CONSIDERATION. THE OUTPUT OF THE GOTO-ANALYZER CONSISTS OF THE NUMBER OF GOTO'S IN EACH CATEGORY, THE NUMBER OF EXECUTABLE STATEMENTS, AND A RATING, RANGING FROM "GOOD" TO "VERY BAD".
REFERENCES: [KRAN80], A. KRANENDONK, "FORTRAN GOTO-ANALYZER DESCRIBED", TESTING TECHNIQUES NEWSLETTER, 800200
INFORMATION SOURCE: TESTING TECHNIQUES NEWSLETTER

ACRONYM: HARP, TITLE: HIGH-POWERED ACCOUNTING RESOURCES PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN

TOOL SUMMARY: HARP CREATES CHARTS FOR THE GRAPHIC DISPLAY OF PROJECT SCHEDULE AND RESOLVES INFORMATION. THE SYSTEM HAS BEEN DESIGNED TO PRESENT TEXTUAL, NUMERIC AND SCHEDULE DATA IN A FORMAT WHICH IS TAILORED TO FIT THE REQUIREMENTS OF A PARTICULAR APPLICATION OR PROJECT. THE HARP SYSTEM PROVIDES PROJECT MANAGEMENT AND COST CAPABILITIES WHICH ARE VALUABLE OVER THE ENTIRE LIFE CYCLE A PROJECT; INCLUDING PROPOSAL PRESENTATIONS, CONCEPT DESIGN, DATA VISUALIZATION, PROJECT SCHEDULE AND COST CONTROL, AND

ENHANCEMENT OF DELIVERABLE PRODUCTS. SEPARATION OF CHART DESIGN AND CHART DATA WITHIN THE SYSTEM ENABLES NEW AND SPECIAL CHARTS TO BE CREATED WITH NO MODIFICATION OF THE DATA BASE CHARTS ARE ALL RECTANGULAR IN SHAPE, AND DIMENSIONS ARE EXPANDED AUTOMATICALLY TO ACCOMMODATE ALL ENTERED DATA. THE POSITION AND NUMBER OF VERTICAL COLUMNS IS DETERMINED BY THE USER ONCE IN AN INITIAL DESIGN OF A CHART. DATA IS SEQUENTIALLY ENTERED INTO THIS FORMAT, AND CHARTS MAY BE PRODUCED WHENEVER UPDATES OCCUR WITHOUT MANIPULATING THE CHART FORMAT.

DOCUMENTATION: PROGRAM MAINTENANCE MANUAL, INPUT DESCRIPTION, SUMMARY DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPT.
CONTACT: P. W. BOGLE, TRW, SOFTWARE TECHNOLOGY DEPT., ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: HAWKEYE, TITLE: HAWKEYE UNIVERSAL COBOL STANDARDIZER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, CONVERSION, CODE RESTRUCTURING, PROGRAM FORMATTING

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 730000
APPLICABILITY: COBOL
IMPLEMENTATION LANGUAGE: COBOL ANSI
TOOL PORTABLE: YES, TOOL SIZE: REQUIRES 50K CHAR OF MEMORY
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): LEASE AGREEMENT, COPYRIGHTED, "HAWKEYE" IS A REGISTERED TRADEMARK
TOOL SUPPORTED: YES, TOOL SUPPORT: BLACKHAWK DATA CORP
TOOL SUMMARY: HAWKEYE IS A COBOL STANDARDIZER, DESIGNED PRIMARILY TO OPERATE ON EXISTING COBOL PROGRAMS, PARTICULARLY THOSE WHICH ARE OLD, OVERLY LARGE, POORLY DOCUMENTED, AND/OR POORLY MAINTAINED. PERFORMS THE FOLLOWING FUNCTIONS: 1) STANDARDIZES ALIGNMENT OR KEY WORDS IN DATA AND PROCEDURE DIVISION. 2) REPLACES A USER-DEFINED SET OF WORDS WITH ALTERNATE WORDS OR PHRASES; CAN DELETE NON-ESSENTIAL WORDS IF DESIRED. 3) NUMBERS, DE-NUMBERS, OR RE-NUMBERS THE PARAGRAPH NAMES, AND ALL REFERENCES THERETO. 4) LIMITS PROCEDURE DIVISION ENTRIES TO ONE VERB PER LINE. 5) STACKS MULTIPLE OPERANDS ONE BELOW THE OTHER. 6) CORRECTS MINOR FORMAT AND PUNCTUATION ERRORS AUTOMATICALLY. 7) INSERTS A BLANK LINE BETWEEN PARAGRAPHS AND 01 - LEVELS, AND SKIPS A PAGE BETWEEN DIVISIONS AND SECTIONS. 8) SINCE HAWKEYE'S DICTIONARIES ARE STORED IN A USER CONTROLLED EXTERNAL FILE, CAN EASILY BE SET UP TO HANDLE NEW COBOL VERBS AND/OR MANUFACTURER'S EXTENSIONS, INCLUDING ASSEMBLER ESCAPE ROUTINES.

IFTRAN-1

DOCUMENTATION: USER'S MANUAL (41), DESCRIPTIVE BROCHURE (4)
DEVELOPER: BLACKHAWK DATA CORP.
CONTACT: JOHN BRINK, BLACKHAWK DATA CORP., 200 NO. MICHIGAN
AVE., CHICAGO, IL, 60601, USA, 312-236-8473
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: IBM/DG/FORTRAN, TITLE: IBM/DG/FORTRAN
TRANSPORTATION PACKAGE
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CONVERSION IMPLEMENTED
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED
COMMERCIALY

TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION
TOOL SUMMARY: BENEFITS OBTAINED WITH TOOL: PROVIDES A
HIGHLY COST-EFFECTIVE TECHNIQUE FOR THE MANAGEMENT OF
FORTRAN PROGRAMS THAT ARE TO BE MOVED FROM ONE ENVIRONMENT
TO ANOTHER. PURPOSE OF TOOL: TO ALLOW THE DEVELOPMENT,
TESTING, AND FORMATTING ON IBM 360/370 COMPUTERS OF FORTRAN
PROGRAMS INTENDED FOR COMPILATION AND EXECUTION ON DATA
GENERAL COMPUTERS.
DEVELOPER: SOFTOOL CORPORATION
CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH
KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0550
INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: IFTRAN-1, TITLE: STRUCTURED PROGRAMMING EXTENSION
TO FORTRAN
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: IFTRAN

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
TOOL SUMMARY: STRUCTURE PROGRAMMING IS NOW POSSIBLE IN
FORTRAN USING THE GENERAL RESEARCH CORPORATION IFTRAN
STRUCTURED PROGRAMMING PROCESSOR. IFTRAN-1 EXTENDS FORTRAN
BY ADDING THE TWO CONTROL STATEMENT TYPES NECESSARY TO
WRITE GOTO FREE PROGRAMS: IF...OR IF...ELSE...END IF
PERMITS SELECTION OF PROGRAM ACTIONS WHILE...END WHILE
PERMITS ITERATION OF PROGRAM ACTIONS. THE SYSTEM WORK
FOLLOWS: THE IFTRAN PREPROCESSOR READS A CARD IMAGE FILE
OF INTERMIXED AND FORTRAN STATEMENTS, PRODUCES A
PURE-FORTRAN PROGRAM LOGICALLY EQUIVALENT TO THE IFTRAN
ONE, AND PROVIDES AN AUTOMATICALLY INDENTED LISTING OF THE
IFTRAN PROGRAM. FULL ERROR PROCESSING WARNS OF IMPROPER
IFTRAN CONSTRUCTIONS IFTRAN PRESERVES USA STANDARD FORTRAN
X3.9. THE IFTRAN-1 PREPROCESSOR, CONSISTING OF
APPROXIMATELY 800 FORTRAN STATEMENTS, IS COMPATIBLE WITH A
SYSTEM SUPPORTING STANDARD FORTRAN.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: GENERAL RESEARCH CORPORATION
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: IFTRAN-2, TITLE: STRUCTURED PROGRAMMING EXTENSION
TO FORTRAN
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: IFTRAN 2

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
TOOL SUMMARY: IFTRAN-2 ADVANCED CONSTRUCTIONS ARE POSSIBLE
USING THE IFTRAN-2 PREPROCESSOR, WHICH SUPPORTS THE
FOLLOWING STATEMENT FORMS; IF...OR IF...ELSE...END IF
WHILE...END WHILE; CASE OF...CASE...CASE ELSE...END CASE A
MULTI-WAY PROGRAM ACTION SELECTION FORM; UNTIL...END UNTIL
OPPOSITE TO THE ACTION OF THE WHILE STATEMENT; LOOP...END
LOOP USED TO FORCE REPETITION OF PROGRAM ACTIONS A FIXED
NUMBER OF TIMES; DO...END DO A LABELLESS EQUIVALENT TO THE
FORTRAN DO-STATEMENT; AND ESCAPE...ESCAPE
WHILE/UNTIL/LOOP/DO PERMITS EXIT FROM ITERATION WITHOUT THE
USE OF INTERNAL "FLAG" VARIABLES. OTHER FEATURES IFTRAN-2
ARE: COMPREHENSIVE ERROR PROCESSING WARNING OF IMPROPER
CONSTRUCTIONS AUTOMATIC INDENTATION OF IFTRAN LISTING;
STANDARD FORTRAN IS PRESERVED; VARIABLE NUMBER OF
LINES/PAGE AND CHARACTERS/LINE; OPTIONAL LEFT-ADJUST
INDENTATION; OPTIONAL COMMENT INDENTATION.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: GENERAL RESEARCH CORPORATION
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: INFORM/REFORM, TITLE: INFORM AND REFORM PROGRAMS
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: INTERFACE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): 6400/6500

TOOL SUMMARY: INFORM AND REFORM IDENTIFY AND DISPLAY FOR
FORTRAN SUBROUTINE/VARIABLE INTERFACES FOR EACH ROUTINE.
THIS TYPE OF DOCUMENTATION IS NOT ONLY USEFUL IN THE
DEVELOPMENT AND MAINTENANCE OF SOFTWARE SYSTEMS, BUT
ADDITIONALLY IS REQUIRED BY MANY DOCUMENTATION STANDARDS.
THESE PROGRAMS ARE NOT VERY LANGUAGE OR MACHINE DEPENDENT
BUT ARE HIGHLY DEPENDENT ON T CAPABILITIES FOUND IN THE
EDITOR AND CREF PROGRAMS OF THE TRW/TSS.

INSTRUMENTER

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW NAVIGATIONS SYS ENG DEP
 CONTACT: MARVIN W. KLOTZ, TRW NAVIGATIONS SYS ENG DEP, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-1581
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: INSERT, TITLE: INSERT
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: TRACE, PROGRAM FLOW ANALYSIS, EXECUTION MONITORING
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN 66
 IMPLEMENTATION LANGUAGE: RATFOR
 COMPUTER (OTHER HARDWARE): CDC 6000
 TOOL AVAILABLE: YES
 TOOL SUMMARY: 'INSERT' WAS ORIGINALLY DESIGNED TO INSERT TRACE SOURCE STATEMENTS INTO A LARGE FORTRAN PROGRAM FOR THE ANALYSIS OF SUBMARINE STRUCTURES. 'INSERT' READS THE SOURCE CODE AND EXTRACTS THE NAMES OF EACH FORTRAN MODULE FROM THE MODULE HEADER CARD. 'INSERT' CONTINUES READING FORTRAN SOURCE CODE UNTIL IT FINDS THE FIRST EXECUTABLE STATEMENT. A NEW 'FIRST EXECUTABLE STATEMENT' IS THEN COPIED ONTO THE SOURCE OUTPUT FILE, TO WIT 'WRITE(7, "NAME)". THE AUGMENTED STRUCTURAL ANALYSIS PROGRAM WAS THEN COMPILED AND EXECUTED, THE TAPE PRODUCED BY EXECUTION WAS EXAMINED FOR MODULE CALLS, AND THE UNUSED MODULES OF THE PROGRAM WERE DELETED. A SIMPLE MODIFICATION TO 'INSERT' WOULD ALLOW IT TO ALSO INSERT TEXT PRECEDING A 'RETURN' STATEMENT. THUS, THE EXECUTABLE FORTRAN TEXT WOULD BE BRACKETED BY USER INSERTED TRAPS, PARTICULARLY CALLS TO THE 'MONITOR' PACKAGE.
 DEVELOPER: NSRDC
 CONTACT: PETER N. ROTH, NSRDC, STRUCTURES DEPARTMENT, BETHESDA, MD, 20084, USA, 202-227-1851
 INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: INSTRUMENTER, TITLE: INSTRUMENTER I INSTRUMENTER II
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: TEST EFFECTIVENESS MEASUREMENT, PERFORMANCE MEASUREMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL, SEL
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY
 TOOL SUMMARY: YES, TOOL SUPPORT: SOFTOOL CORPORATION
 AND APPROPRIATE TEST DATA TO THE TOOL FOR ANALYSIS. BENEFITS OBTAINED WITH TOOL: ALLOW MANAGEMENT TO ESTABLISH, FACILITATE AND ENFORCE METHODOLOGY AND STANDARDS FOR SOFTWARE TESTING AND OPTIMIZATION; MINIMIZE THE HIGH

COST OF SOFTWARE TESTING; INSURE THAT OPTIMIZATION EFFORTS ARE PROPERLY DIRECTED TO AREAS OF MUCH POTENTIAL BENEFIT; PROVIDE MANAGEMENT CONTROL AND VISIBILITY; AND IMPROVE PRODUCTIVITY. INSTRUMENTER I PRODUCES ROUTINE LEVEL REPORTS WHILE INSTRUMENTER II CREATES STATEMENT LEVEL REPORTS.

DEVELOPER: SOFTOOL CORPORATION
 CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560
 INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: INTERFACE DOCUM, TITLE: INTERFACE DOCUMENTER
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: CROSS REFERENCE, PROGRAM MAINTENANCE
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: HIGHER LEVEL LANGUAGE
 COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY

TOOL SUPPORT: YES, TOOL SUPPORT: SOFTOOL CORPORATION
 TOOL SUMMARY: HOW TO USE TOOL: SIMPLY INPUT THE OBJECT MODULES TO THE TOOL FOR DOCUMENTATION. BENEFITS OBTAINED WITH TOOL: CONTRIBUTES TO A CLEAR UNDERSTANDING AND DOCUMENTATION OF SOFTWARE INTERFACES. HELPS PREVENT INTERFACE ERRORS; IMPROVES SOFTWARE QUALITY; PROVIDES MANAGEMENT CONTROL AND VISIBILITY; AND IMPROVES PRODUCTIVITY. THE TOOL GENERATES COMPLETE AND CLEAR CROSS REFERENCE DOCUMENTATION AT THE OBJECT MODULE LEVEL.
 DEVELOPER: SOFTOOL CORPORATION
 CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560
 INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: IORL, TITLE: INPUT/OUTPUT REQUIREMENTS LANGUAGE
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
 FEATURES: REPORT GENERATION, REQUIREMENTS LANGUAGE PROCESSING

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 760000
 APPLICABILITY: TEXT
 IMPLEMENTATION LANGUAGE: MACRO-11
 COMPUTER (OTHER HARDWARE): DEC/GT44, DEC/GT46
 OS (OTHER SOFTWARE): RT-11
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
 TOOL SUMMARY: STANDALONE, TURNKEY SYSTEM FOR DOCUMENTING SYSTEM DEFINITION, DESIGN AND TESTING REQUIREMENTS ASSOCIATED WITH THE DEVELOPMENT OF ANY COMPUTER BASED SYSTEM IN GENERAL. THE IORL SYSTEM PROVIDES AN INTERACTIVE GRAPHICS STORAGE AND RETRIEVAL CAPABILITY WITH THE PREC, SYSTEM REQUIREMENTS CAN BE GENERATED AND MODIFIED WITH AN THIS SYSTEM REQUIREMENTS CAN BE GENERATED AND MODIFIED WITH AN AN EDITOR, RETRIEVED BY LIGHT PEN, AND HARD COPIED ON 8 1/2

X 11 INCH PAPER.
DOCUMENTATION: TECHNICAL PAPER (USER MANUAL), USER MANUAL,
OPERATIONS MANUAL
REFERENCES: [EVER78], C. R. EVERHART, "USER EXPERIENCE WITH
A FORMALLY DEFINED REQUIREMENTS LANGUAGE IORL", 2ND US ARMY
SOFT SYMP, 781025
[EVER78A], C. R. EVERHART, "SYSTEM REQUIREMENTS LANGUAGE
- FOUNDATION FOR SOFTWARE ENGINEERING", 3RD ANNUAL NASA SUM
SOFT ENG WKSH, 780918
DEVELOPER: TELEDYNE BROWN ENGINEERING
CONTACT: C. R. EVERHART, TELEDYNE BROWN ENGINEERING,
CUMMINGS RESEARCH PARK, HUNTSVILLE, AL, 35807, USA,
205-532-1610
INFORMATION SOURCE: AIAA SURV OF SOFT ENG TOOLS

ACRONYM: IPDS, TITLE: INTERACTIVE PROGRAM DEVELOPMENT SYSTEM
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: PROOF OF CORRECTNESS, SPECIFICATION REFINEMENT
STAGE OF DEVELOPMENT: CONCEPT
APPLICABILITY: DESIGN
TOOL AVAILABLE: NO

TOOL SUMMARY: IPDS IS A TOOL BEING PLANNED BY SEVERAL
MEMBERS OF THE COMPUTER SCIENCE DEPARTMENT AT CORNELL
UNIVERSITY. THE TOOL WILL BE BASED ON THE PRL SYSTEM
DESCRIBED IN A RECENT TECHNICAL REPORT. THE REPORT
EXPLORES THE VIEW THAT CORRECT PROGRAMS ARE MOST NATURALLY
PRODUCED AS A RESULT OF CORRECT DEVELOPMENT AND THAT
REASONING ABOUT CODE IS NOT THE PROPER PARADIGM FOR SUCH
DEVELOPMENT. INSTEAD PROGRAMMERS SHOULD REASON ABOUT
SPECIFICATIONS IN A LOGIC FORMULATED FOR CONSTRUCTIVELY
PROVING THAT SPECIFICATIONS HAVE ACCEPTABLE
IMPLEMENTATIONS; FROM THESE PROOFS CODE MAY BE EXTRACTED.
THIS APPROACH PROVIDES A UNIFORM VIEW OF BOOLEAN FORMULAS
AND PROGRAM SPECIFICATIONS AS PROVABLE PROPOSITIONS. THERE
IS NO ASSERTION/CODE DISTINCTIONS BECAUSE PROOFS INCLUDE
NEITHER ASSERTIONS NOR CODE. THUS, PROGRAMMERS TRULY
CONCENTRATE ON PROOF DEVELOPMENT, NOT ON CODING.
EXECUTABLE TEXT IS SIMPLY A VALUABLE BY-PRODUCT OF CORRECT
REASONING.

REFERENCES: [BATE79], JOSEPH LOUIS BATES, "A LOGIC FOR
CORRECT PROGRAM DEVELOPMENT", CORNELL TECH REPORT, TR
79-388, 790800
DEVELOPER: CORNELL UNIVERSITY
INFORMATION SOURCE: CORNELL TECHNICAL REPORT

ACRONYM: ISDS, TITLE: INTEGRATED SOFTWARE DEVELOPMENT
SYSTEMS
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: CONSISTENCY CHECKING
STAGE OF DEVELOPMENT: DESIGN

ISDS

APPLICABILITY: DESIGN
IMPLEMENTATION LANGUAGE: IFTRAN
TOOL SIZE: CORE: 128K
COMPUTER (OTHER HARDWARE): HONEYWELL 635 (DISK: 6M)
OS (OTHER SOFTWARE): GCOS
TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO
TOOL SUMMARY: ALLOWS INTERACTIVE CHARTING OF SOFTWARE DESIGN
AND ANALYSIS OF CHARTS FOR CONSISTENT STRUCTURING. ALSO
ALLOWS SOURCE CODE INPUT (FORTRAN, JOVIAL, PDL AND OTHER
BEING DEVELOPED) TO ANALYZE THE CODE FOR COMPLEXITY AND
STRUCTURE.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: GENERAL ELECTRIC
CONTACT: ORIN BARKER, GENERAL ELECTRIC, CSP3-35, SYRACUSE,
NY, 13221, USA, 315-456-7111
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: ITDEM, TITLE: TEST DATA EFFECTIVENESS MEASUREMENT
SUBSYSTEM

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN V
IMPLEMENTATION LANGUAGE: FORTRAN V
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: THE ITDEM SUBSYSTEM PROVIDES A MEASUREMENT OF
THE EFFECTIVENESS OF TEST CASES IN EXERCISING FORTRAN
SOFTWARE AND DISPLAYS INFORMATION TO AID IN IMPROVING THE
EFFECTIVENESS OF TESTING. THE SUBJECT SOFTWARE IS
AUTOMATICALLY INSTRUMENTED WITH TRAPS BY ITDEM, AND THE
INSTRUMENTED PROGRAM IS THEN RECOMPILED. AT EXECUTION
TIME, THESE TRAPS GENERATE A RECORDING STREAM OF THE
EXECUTION. THE RECORDING STREAM IS USED TO DISPLAY A
SUMMARY MAP OF THE FREQUENCY OF EXECUTION OF THE SUBJECT
SOFTWARE SUBROUTINES, ENTRY POINTS, STATEMENTS, OR
TRANSFERS (SEGMENT RELATIONSHIPS) ACCORDING TO THE OPTION
SELECTED. OPTIONALLY, A DISPLAY OF THE UNEXECUTED CODE,
THE BRANCH CONDITIONS REQUIRED TO EFFECT EXECUTION, AND THE
STATEMENTS IN WHICH THE RELATED BRANCH VARIABLES ARE
COMPUTED MAY BE SELECTED TO PROVIDE INFORMATION TO AID IN
IMPROVING THE TEST CASES.

DOCUMENTATION: USER'S GUIDE, PROGRAMMER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100

DEVELOPER: TRW
CONTACT: K. W. KRAUSE, TRW, HOUSTON, TEXAS, US,
213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: JAVS, TITLE: JOVIAL AUTOMATED VERIFICATION SYSTEM

JET

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: INTERFACE ANALYSIS, TEST EFFECTIVENESS
MEASUREMENT, PERFORMANCE MEASUREMENT, PROGRAM FLOW
ANALYSIS, PROGRAM FORMATTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: JOVIAL J3
IMPLEMENTATION LANGUAGE: JOVIAL J3
COMPUTER (OTHER HARDWARE): CDC 6400, HIS-635
TOOL SUMMARY: JAVS IS A PROGRAM WHICH SUPPORTS A METHODOLOGY
FOR SYSTEMATICALLY AND COMPREHENSIVELY TESTING COMPUTER
SOFTWARE. THE METHODOLOGY USES THE STRUCTURE OF THE
SOFTWARE UNDERGOING TEST AS THE BASIS FOR ANALYSIS FOR AN
AUTOMATED VERIFICATION SYSTEM (AVS). JAVS ITSELF IS A
SERIES OF TOOLS WHICH PROVIDE A MEANS OF MEASURING THE
EFFECTIVENESS OF BOTH INDIVIDUAL AND CUMULATIVE SOFTWARE
TEST CASES, A CAPABILITY TO FACILITATE THE CONSTRUCTION OF
TEST DATA THAT WILL THOROUGHLY EXERCISE THE SOFTWARE, AND
AN ANALYSIS OF RETESTING REQUIREMENTS FOLLOWING SOFTWARE
MODIFICATION. JAVS CAN PROVIDE THE FOLLOWING: (1) ANALYZE
AND FORMAT SOURCE TEXT (2) PERFORM FLOW ANALYSIS, (3)
INSERT INSTRUMENTATION FOR PERFORMANCE MEASUREMENT, (4)
DESCRIBE INTER-MODULE RELATIONSHIPS, (5) GENERATE TEST
MEASUREMENT RESULTS.

DOCUMENTATION: REFERENCE MANUAL, USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A
REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13,
INTERIM REPORT, 800200
DEVELOPER: GENERAL RESEARCH CORPORATION
CONTACT: N. B. BROOKS, GENERAL RESEARCH CORPORATION,
805-964-7724

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RADC-TR-80-13

ACRONYM: JET, TITLE: JOVIAL EDIT AND TIDY
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROGRAM FORMATTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: JOVIAL J3B-2
IMPLEMENTATION LANGUAGE: PL/1
TOOL SIZE: CORE: 384K
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, MVS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
TOOL SUMMARY: PREPROCESSING PROGRAM WHICH PROVIDES SOURCE
FORMATTING AND SOURCE EDITING. J3B-2 SOURCE IS INDENTED TO
PROPER LEVEL OF NESTING. ALSO INCLUDES A STANDARD MODULE
OPTION WHICH ALLOWS SPECIFIED FORMAL PARAMETERS AND THEIR
DECLARATIONS TO BE REMOVED FROM THE SOURCE SO THAT COMPOOL
MAY BE USED.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
DEVELOPER: GENERAL DYNAMICS
CONTACT: L. C. KLOS, GENERAL DYNAMICS, P.O. BOX 748, FORT
WORTH, TX, 76101, USA, 817-732-4811
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: JIGSAW, TITLE: JOVIAL INSTRUMENTOR, GENERAL SYNTAX
ANALYZER AND WORD PROC
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, COVERAGE ANALYSIS, TEST
EFFECTIVENESS MEASUREMENT, STRUCTURED LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: JOVIAL J3
IMPLEMENTATION LANGUAGE: FORTRAN ANSI
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6X00, UNIVAC 1110
TOOL SUMMARY: JIGSAW PROVIDES THE CAPABILITY TO DEVELOP A
"STRUCTURED" JOVIAL J3 SOURCE PROGRAM THROUGH THE USE OF
JIGSAW TRANSLATES THESE MACROS INTO STRUCTURED JOVIAL J3
CODE BLOCKS. JIGSAW PROVIDES THE CAPABILITY TO AUDIT A
JOVIAL J3 SOURCE PROGRAM BY ANALYZING THE PROGRAM FOR
VIOLATION OF CODING STANDARDS AND CONVENTIONS. JIGSAW
PROVIDES THE CAPABILITY TO ANALYZE THE PERFORMANCE OF
PROGRAM WRITTEN IN JOVIAL J3. JIGSAW INDICATES THE AMOUNT
OF CODE BEING EXECUTED, HOW OFTEN A SEGMENT OF CODE
EXECUTED, AND THE THREADS, AS THE PROGRAM EXECUTED. JIGSAW
INPUTS CONSIST OF CONTROL PARAMETERS, A FILE CONTAINING
INSTRUMENTING INSTRUCTIONS AND A JOVIAL J3 SOURCE PROGRAM.
ITS OUTPUT CONSISTS OF JOVIAL J3 SOURCE PROGRAM LISTINGS
AND A LISTING CONTAINING PROGRAMMING EXECUTION STATISTICS.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY
DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
213-535-3480

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: JOCIT, TITLE: JOVIAL COMPILER IMPLEMENTATION TOOL
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: MACRO EXPANSION, LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 750000
APPLICABILITY: JOVIAL J3, SYMPL, GENESIS, GMAP
IMPLEMENTATION LANGUAGE: SYMPL
TOOL PORTABLE: NO, TOOL SIZE: CORE: 50K
COMPUTER (OTHER HARDWARE): HIS 6180 (DISK: 1.67M)
OS (OTHER SOFTWARE): GCOS, MULTICS
TOOL AVAILABLE: YES

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A. TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: THE JOVIAL COMPILER IMPLEMENTATION TOOL (JOCIT) WILL ASSIST IN THE GENERATION OF AN EXTREMELY HIGH QUALITY JOVIAL/J3 COMPILER WHICH CONFORMS TO AFM 100-24, STANDARD COMPUTER PROGRAMMING LANGUAGE FOR AIR FORCE COMMAND AND CONTROL SYSTEMS. SINCE APPROXIMATELY 70 PERCENT OF THE COMPILER IS PRODUCED AUTOMATICALLY BY JOCIT, THE AMOUNT OF EFFORT AND TIME, THUS COST, TO PRODUCE A JOVIAL J3 COMPILER IS SUBSTANTIALLY REDUCED AS IS THE RISK INVOLVED. MANY GENERAL OPTIMIZATION ALGORITHMS FOR OBJECT CODE ARE AUTOMATICALLY INSERTED INTO THE COMPILER BUILT WITH THE JOCIT. THIS ALLOWS ALMOST ALL OF THE EFFORT EXPENDED IN IMPLEMENTING THE COMPILER TO BE USED TO TAKE ADVANTAGE OF THE TARGET HARDWARE. MACHINE DEPENDENCIES: JOCIT PRESENTLY EXISTS IN A 45K-36 BIT WORD ENVIRONMENT ON THE HIS 6180 AT RADC. HOWEVER, IT COULD BE RECONFIGURED TO A SYSTEM AS SMALL AS 96K-16 BIT WORDS. JOCIT CAN PRODUCE COMPILERS FOR ANY TARGET MACHINE CAPABLE OF HOSTING THE COMPILER.

DOCUMENTATION: TECHNICAL WORKBOOK (4000), COMPILER USER'S MANUAL (200), FINAL REPORT (70)
DEVELOPER: COMPUTER SCIENCES CORPORATION
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: JOVIAL TCA, TITLE: JOVIAL J73/I TEST COVERAGE ANALYZER

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: TEST EFFECTIVENESS MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780000
APPLICABILITY: JOVIAL J73/I
IMPLEMENTATION LANGUAGE: JOVIAL J73/I
COMPUTER (OTHER HARDWARE): DECSYSTEM-10
PUBLIC DOMAIN: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): INFORMALLY DELIVERED TO WRIGHT-PATTERSON AIR FORCE BASE
TOOL SUPPORTED: NO

TOOL SUMMARY: THE TOOL PROVIDES THE CAPABILITY TO MEASURE THE "TESTEDNESS" OF JOVIAL J73/I PROGRAMS. THE TOOL INSTRUMENTS THE J73/I PROGRAM SO THAT WHEN THE PROGRAM EXECUTES, EACH LOGICAL SEGMENT OF THE PROGRAM WILL COUNT THE NUMBER OF TIMES IT WAS EXECUTED. A SUMMARY OF THESE COUNTS WILL BE PRINTED AT THE CONCLUSION OF PROGRAM EXECUTION. THE USER WILL THEN BE ABLE TO IDENTIFY SEGMENTS NOT EXECUTED BY A SUITE OF TEST CASES.

DOCUMENTATION: MAINTENANCE MANUAL (109)
DEVELOPER: BOEING AEROSPACE CO.
CONTACT: ROBERT L. GLASS, BOEING AEROSPACE CO., PO BOX 3999, SEATTLE, WA, 98124, USA, 206-773-0564
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: JOVIAL/J3SC, TITLE: JOVIAL/J3 STATISTICS COLLECTOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROFILE GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 770000
APPLICABILITY: JOVIAL J3
IMPLEMENTATION LANGUAGE: JOVIAL J3
TOOL SIZE: CORE: 80K
COMPUTER (OTHER HARDWARE): H 6000 1600
OS (OTHER SOFTWARE): GCOS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-5, PARAGRAPH 11-7A.
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS

TOOL SUMMARY: THE JOVIAL/J3 STATISTICS COLLECTOR IS A SOFTWARE TOOL DEVELOPED IN-HOUSE BY RADC TO MEASURE USAGE OF VARIOUS CONSTRUCTS AND FEATURES OF THE JOVIAL/J3 HIGHER ORDER COMPUTER PROGRAMMING LANGUAGE. COUNTS AVERAGE AND PERCENTAGES CAN BE OBTAINED FOR A GIVEN SOURCE PROGRAM REGARDING TYPES OF DATA USED; SIZE AND NATURE OF ARRAYS AND TABLES; TYPES OF STATEMENTS APPEARING; USE AND NESTING OF COMPLEX STATEMENTS; COMMENTS; DEFINE DIRECTIVES; AND OTHER ASPECTS OF SOURCE CODE USAGE BY PROGRAMMERS. IT IS HOPED THAT THE INFORMATION OBTAINED BY THE STATISTICS COLLECTOR WILL PROVIDE GUIDANCE TOWARD THE INSTRUCTION OF PROGRAMMERS IN MORE EFFICIENT AND LESS ERROR-PRONE PROGRAMMING METHODS, THE WRITING OF BENEFICIAL CHANGES TO THE LANGUAGE. MACHINE DEPENDENCIES: THE JOVIAL/J3 STATISTICS COLLECTOR IS CURRENTLY EQUIPPED TO RUN ONLY ON THE HONEYWELL 600/6000 GCOS COMPUTER SYSTEM, BUT CAN BE MODIFIED TO RUN ON OTHER SYSTEMS.

DOCUMENTATION: TECHNICAL PAPER
DEVELOPER: RADC/ISIS
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: JOVIAL/VS, TITLE: JOVIAL COMPILER VALIDATION SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: COMPILER VALIDATION
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: JCVS J3
IMPLEMENTATION LANGUAGE: JOVIAL J3
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: THESE TOOLS ASSIST IN THE TESTING AND DEBUGGING, ACCEPTANCE TESTING, AND MAINTENANCE OF JOVIAL (J3), JOVIAL (J73/I), AND JOVIAL (J73) COMPILERS. THE JOVIAL (J3) VALIDATION SYSTEM TESTS JOVIAL (J3) COMPILERS FOR CONFORMANCE TO MIL-STD-1588 USAF). THE JOVIAL (J73/I) VALIDATION SYSTEM TESTS JOVIAL (J73/I) COMPILERS FOR CONFORMANCE TO MIL-STD-1589 (USAF). THE JOVIAL (J73) VALIDATION SYSTEM TESTS JOVIAL (J73) COMPILERS FOR CONFORMANCE TO MIL-STD-1589A (USAF). WHEREVER POSSIBLE, THE TESTS ARE SELF CHECKING AND THUS REQUIRE MINIMAL EFFORT

JSDD

TO ANALYZE THE RESULTS OF MOST OF THE TEST SEQUENCES. MACHINE DEPENDENCIES: MOT MACHINE DEPENDENCIES ARE SPECIFIED BY DEFINE DECLARATIONS WHICH PRECEDE THE DATA DECLARATIONS AND TEST MODULES, THUS LOCALIZING THESE DEPENDENCIES TO THIS PRELIMINARY CODE. A FEW ARE NOTED BY COMMENTS IN THE MODULES THEMSELVES.

DEVELOPER: RADDC/ISIS
CONTACT: RADDC/ISIS, RADDC/ISIS, GRIFFISS AFB, NY, 13441, USA, 315-330-7834
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: JOYCE, TITLE: JOYCE
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CROSS REFERENCE, FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000
TOOL AVAILABLE: YES
TOOL SUPPORTED: YES, TOOL SUPPORT: MCDONNELL DOUGLAS ASTRONAUTICS COMPANY

TOOL SUMMARY: JOYCE IS AN AUTOMATIC STATIC ANALYSIS TOOL FOR FORTRAN PROGRAMS. IT ACCEPTS AS PRIMARY INPUT FORTRAN SOURCE DECKS IN THE FORM OF CARD DECKS OR CDC COMPILE FILES. THE SOURCE DECKS ARE EDITED AND THE EDITED INFORMATION IS COMBINED TO PRODUCE SEVERAL COMBINATIONS OF DESCRIPTIVE REPORTS. JOYCE COMPILES TABLES OF SYMBOLS AND CROSS REFERENCES OF SYMBOL USAGE WITHIN EACH ROUTINE OF A PROGRAM. THESE SYMBOLS INCLUDE FORTRAN VARIABLE NAMES, THE NAMES OF ANY REFERENCE FUNCTION OR MODULE, ANY ENTRY POINTS, AND ALL I/O FILE REFERENCES. FLOWLISTS ARE PROVIDED IN THE FORM OF MICROFILM FORTRAN LISTINGS WITH ALL TRANSFERS INDICATED BY ARROWS TO THE RIGHT OF THE STATEMENT TEXT AND ALL DO LOOPS INDICATED BY BRACKETS TO THE LEFT.

REFERENCES: [DONA80], JOHN D. DONAHO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADDC-TR-80-13, INTERIM REPORT, 800200
[STUC76], L. G. STUCKI, "METHODOLOGY FOR PRODUCING RELIABLE SOFTWARE", NASA CR 144769, TWO VOLUMES, 760300
DEVELOPER: MCDONNELL DOUGLAS ASTRONAUTICS COMPANY
INFORMATION SOURCE: RADDC-TR-80-13, INTERIM REPORT

ACRONYM: JSDD, TITLE: JOVIAL STRUCTURED DESIGN DIAGRAMER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: JOVIAL J3
IMPLEMENTATION LANGUAGE: JOVIAL J3
COMPUTER (OTHER HARDWARE): HONEYWELL 6180
OS (OTHER SOFTWARE): GCOS
PUBLIC DOMAIN: YES

TOOL SUMMARY: THE JSDD PRODUCES FLOW INVOCATION DIAGRAMS OF SOFTWARE WRITTEN IN EXTENDED JOVIAL J3. EXTENDED JOVIAL J3 IS STANDARD JOVIAL J3 PLUS CONTEMPORARY FLOW CONTROL CONSTRUCTS (A MULTICS PL/1 PREPROCESSOR FOR TRANSLATING THESE EXTENSIONS INTO JOVIAL J3 IS ALSO AVAILABLE).

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
REFERENCES: [RADDC78], ROME AIR DEVELOPMENT CENTER, "JOVIAL STRUCTURED DESIGN DIAGRAMER - FINAL TECHNICAL REPORT", RADDC-TR-78-9 (FOUR VOLUMES), 780200
DEVELOPER: DRAPER LABORATORY
CONTACT: MARK WHITWORTH, DRAPER LABORATORY, 555 TECHNOLOGY SQUARE, CAMBRIDGE, MA, 02139, USA, 617-258-1179
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: LEXICON, TITLE: LEXICON
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: TEXT
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN 3
COMPUTER (OTHER HARDWARE): UNIVAC 1108

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM WILL READ A SEQUENCE OF SYMBOLIC ELEMENTS WHICH CONTAIN, AS COMMENTS, DEFINITIONS OF VARIABLES AND WRITE OUT THESE DEFINITIONS IN ALPHABETIC ORDER IN ORDER TO PRODUCE A DICTIONARY OF COMMON BLOCK VARIABLES USING DEFINITIONS (COMMENTS) WHICH ARE INTERNAL TO THE SYMBOLIC ELEMENTS.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: LIBRARIAN, TITLE: SOURCE PROGRAM MANAGEMENT LIBRARY
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: VERSION CONTROL, LIBRARY MANAGEMENT, FILE MANAGEMENT

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 360/370

TOOL SUMMARY: THE LIBRARIAN IS A SOURCE PROGRAM MANAGEMENT SYSTEM. SOURCE PROGRAMS CAN BE STORED AND SUBSEQUENTLY RETRIEVED AND UPDATED USING SYSTEM COMMANDS. SYSTEM FACILITIES ARE INCLUDED TO PROTECT AGAINST UNAUTHORIZED ACCESS TO MASTER FILES. PROGRAMMING FACILITIES INCLUDE COMMANDS FOR INSERTING, DELETING AND REPLACING SOURCE STATEMENTS; SYNTAX CHECKING OF COBOL PROGRAMS; EDITING AND SCANNING; PROVISIONS FOR COPYING; RENAMING AND APPLYING TEMPORARY CHANGES TO SOURCE PROGRAMS; USER EXITS FOR SPECIALIZED OWN-CODE INTERFACES; AND THE ABILITY TO REARRANGE AND EXPAND STATEMENTS WITHIN A SOURCE PROGRAM.

LOGIFLOW

MANAGEMENT FACILITIES INCLUDE THE ABILITY TO PRODUCE REPORTS SHOWING THE STATUS AND ATTRIBUTES OF ALL SOURCE PROGRAMS WITHIN A MASTER FILE, INCLUDING A HISTORICALLY ACCURATE, DATE-STAMPED AUDIT TRAIL OF ALL CHANGES MADE TO A PROGRAM. A TSO INTERFACE OPTION PERMITS TSO USERS DIRECT ACCESS TO PROGRAM MODULES.

DOCUMENTATION: NONE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
DEVELOPER: APPLIED DATA RESEARCH, INC.
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RADC-TR-80-13

ACRONYM: LOGIC, TITLE: LOGIC
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: TEST EFFECTIVENESS MEASUREMENT, PROGRAM FLOW ANALYSIS, TIMING ANALYSIS

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 7600
TOOL SUMMARY: LOGIC IS A GROUP OF QUALITY ASSURANCE TOOLS (IOVAR, ESTIME, PATH, FILER, COUNTER, TRANMOD) THAT USE THE TABLE INFORMATION GENERATED BY PACE TO STATISTICALLY VERIFY COMPLIANCE WITH DETAIL DESIGN SPECIFICATIONS IN FORTRAN PROGRAMS. LOGIC AUTOMATICALLY DETERMINES ALL EXECUTION PATHS, VERIFIES USAGE OF INPUT/OUTPUT VARIABLES, COUNTS THE NUMBER OF CDC 7600 MACHINE INSTRUCTIONS BETWEEN ENTRY AND EXIT POINTS, AND COMPUTES THE AVERAGE AND MAXIMUM RUN TIME FOR A ROUTINE. THE INPUT FOR LOGIC IS THE OUTPUT FROM PACE WHICH INCLUDES A LISTING OF THE USER SOURCE CODE AND TABLE INFORMATION. LOGIC IS WRITTEN IN THE FORTRAN EXTENDED LANGUAGE FOR USE ON THE CDC 7600, BUT MANY OF ITS FEATURES COULD BE USED ON OTHER COMPUTERS.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: LOGIFLOW, TITLE: LOGIFLOW
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: IMPLEMENTATION LANGUAGE: FORTRAN, ASSEMBLY COMPUTER (OTHER HARDWARE): CDC 6X00
TOOL SUMMARY: LOGIFLOW IS A SEMI-AUTOMATIC FUNCTIONAL FLOWCHARTING TOOL WHICH BRIDGES THE GAP BETWEEN THE COMPLETELY AUTOMATIC FLOWCHARTERS LIKE AUTOFLOW AND FLOWGEN AND THE COMPLETELY MANUAL APPROACH. LOGIFLOW PROVIDES THE USER COMPLETE FLEXIBILITY IN FUNCTIONALLY GROUPING STATEMENTS TO BE FLOWCHARTED. THE USER MAY BE AS DETAILED OR AS GENERAL AS DESIRED. LOGIFLOW OPERATES IN EITHER A BATCH OR REMOTE TERMINAL ENVIRONMENT. THE FLOWCHARTS ARE PRODUCED BY CALCOMP PLOTTERS. ALTHOUGH DESIGNED FOR USE PRIMARILY WITH FORTRAN PROGRAMS, LOGIFLOW MAY BE USED TO CHART ANY TEXTUAL MATERIAL. FOR ANY REQUIREMENT WHERE MEANINGFUL, FUNCTIONAL FLOWCHARTS MUST BE PRODUCED, LOGIFLOW IS SUPERIOR TO COMPLETELY AUTOMATIC FLOWCHARTERS LIKE AUTOFLOW OR FLOWGEN BY ALLOWING THE INTELLIGENT, FUNCTIONAL GROUPING OF STATEMENTS. IT IS MORE CONVENIENT THAN THE MANUAL APPROACH IN THAT IT AUTOMATICALLY GENERATES THE FLOW DIAGRAM (WITH THE EXCEPTION OF LOGICAL BRANCHING LINES WHICH THE USER MUST FILL IN) ACCORDING TO USER SUPPLIED DIRECTIVE.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW SIMULATION SOFTWARE DEPT.
CONTACT: J. D. OLIVER, TRW SIMULATION SOFTWARE DEPT., ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0923
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: LOGOS, TITLE: LOGOS
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: STRUCTURED FORTRAN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN 2
COMPUTER (OTHER HARDWARE): UNIVAC 1108
OS (OTHER SOFTWARE): EXEC 8
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: PROVIDES A COMPLETE VARIABLE INDEX FOR PROGRAMS WRITTEN IN FORTRAN OR SFTRAN. ALSO WILL TRANSLATE LONG VARIABLE NAMES USED IN SFTRAN SYMBOLICS INTO NAMES COMPATIBLE WITH BOTH SFTRAN 2 AND FORTRAN ON THE UNIVAC 1108.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS
ACRONYM: MAGL, TITLE: META ASSEMBLERS AND GENERALIZED LINKAGE EDITOR

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: CONVERSION
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: ASSEMBLY
 IMPLEMENTATION LANGUAGE: FORTRAN
 TOOL PORTABLE: YES, TOOL SIZE: CORE: 45+8K
 COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000-7000, PDP-10, INTERDATA 8/32
 PDP AVAILABLE: YES, PUBLIC DOMAIN: YES
 TOOL SUMMARY: THE VERSION I META ASSEMBLER IS A SINGLE PROGRAM CAPABLE OF BEING RECONFIGURED BY A DATA SET SUPPLIED AT ASSEMBLY TIME. THE DATA SET INCLUDES A TARGET COMPUTER DEFINITION OF ALL REQUIRED MACHINE CHARACTERISTICS AND A DEFINITION OF THE ASSEMBLER INPUT LANGUAGE. THE META ASSEMBLER IS CODED IN FORTRAN IV AND CAN BE USED ON DIFFERENT HOST COMPUTERS TO SUPPORT ASSEMBLY LANGUAGES FOR A WIDE VARIETY OF TARGET COMPUTERS. THE META ASSEMBLER PROVIDES A TOOL TO ASSIST IN THE DEVELOPMENT OF VARIOUS ASSEMBLERS FOR VARYING TARGET MACHINES, VARYING ASSEMBLER INPUT LANGUAGE OR BOTH. THE META ASSEMBLER PROVIDES THE FOLLOWING BUILT-IN SERVICES: FREE-FORM SYMBOLIC INSTRUCTION CODING; RELOCATABLE OPERAND TERMS AND EXPRESSIONS; PROGRAM CONTROL; LISTING CONTROL; ADDRESSING CONTROL; LOCATION CONTROL; SYMBOL VALUE; PROCEDURE (MACRO) LANGUAGE; CONDITIONAL ASSEMBLY CONTROL; AND SOURCE PROGRAM DIAGNOSTICS. THE PURPOSE OF THE META ASSEMBLER IS TO PRODUCE OBJECT MODULES FOR VARIOUS COMPUTERS.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
 DEVELOPER: MCDONNELL DOUGLAS ASTRONAUTICS CO.
 CONTACT: KENNETH V. SMITH, MCDONNELL DOUGLAS ASTRONAUTICS CO., 5301 BOLSA AVENUE, HUNTINGTON BCH, CA, 92647, USA, 714-895-2937
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: MED-SYS, TITLE: MULTI-LEVEL EXPRESSION DESIGN SYSTEM
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
 FEATURES: REQUIREMENTS LANGUAGE PROCESSING, DESIGN LANGUAGE PROCESSING
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: SOURCE CODE
 IMPLEMENTATION LANGUAGE: FORTRAN
 TOOL SIZE: CORE: 30K
 COMPUTER (OTHER HARDWARE): DEC PDP 11/70
 OS (OTHER SOFTWARE): RSX-11M
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE
 TOOL SUMMARY: MED-SYS CONSISTS OF A FAMILY OF LOW COST INTERACTIVE SUBSYSTEMS THAT PROVIDE THE USER WITH COMPREHENSIVE SOFTWARE TOOLS FOR THE INITIAL PHASES IN THE SOFTWARE LIFE CYCLE. THIS APPROACH PROVIDES FOR A

COMPARISON OF DESIGN QUALITY USING STRUCTURAL DECOMPOSITION AND OTHER VERIFICATION AND VALIDATION TECHNIQUES. MED-SYS CONSISTS OF THREE SYSTEMS: MEDL-R REQUIREMENTS STATEMENT, MEDL-D DESIGN STRUCTURE, AND MEDL-P PROCEDURAL SPECIFICATION. THE THREE MED-SYS LEVELS MAY BE USED IN AN INTERACTIVE ENVIRONMENT OR AS STAND-ALONE SYSTEMS.
 DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
 DEVELOPER: MARTIN MARIETTA AEROSPACE
 CONTACT: AMY MUSSER, MARTIN MARIETTA AEROSPACE, P.O. BOX 179, CODE 0422, DENVER, CO, 80201, USA, 303-973-3298
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: MEMORY MANAGEMEM, TITLE: MEMORY MANAGEMENT PACKAGE WITH VIRTUAL MEMORY
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
 FEATURES: MEMORY MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY
 TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION
 TOOL SUMMARY: HOW TO USE TOOL: SIMPLY WRITE YOUR PROGRAM REQUESTING ALL DATA SPACE FROM A MEMORY POOL AND INCORPORATE SELECTED MANAGER INTO YOUR PROGRAM. BENEFITS OBTAINED WITH TOOL: MINIMIZES MEMORY REQUIREMENTS; PROVIDES MANAGEMENT CONTROL AND VISIBILITY; AND IMPROVES PRODUCTIVITY. PURPOSE OF TOOL: TO PROVIDE THE SOFTWARE DEVELOPER WITH A SELECTION OF DYNAMIC MEMORY MANAGERS THAT MINIMIZE THE AMOUNT OF DATA SPACE REQUIRED. AVAILABLE MANAGERS RANGE FROM A VERY SIMPLE ONE TO ONE THAT IMPLEMENTS A VIRTUAL MEMORY FACILITY.
 DEVELOPER: SOFTOOL CORPORATION
 CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560
 INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: METRAN, TITLE: UNIT CHIEF-LANGUAGE PROCESSING
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: STRUCTURED LANGUAGE PROCESSING
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: SOURCE CODE
 IMPLEMENTATION LANGUAGE: FORTRAN
 TOOL PORTABLE: YES, TOOL SIZE: CORE: WORDS PDP-10, 32+8
 TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO
 TOOL SUMMARY: THE META TRANSLATOR IS A GENERAL PURPOSE TOOL, WHICH PROVIDES THE USER WITH AUTOMATED TECHNIQUES FOR THE GENERATION OF LANGUAGE SPECIFIC TRANSLATORS. AN ASSOCIATED META-LANGUAGE (METRAN) PROVIDES A DESCRIPTIVE MEDIUM FOR THE USER TO DESCRIBE THE SYNTAX OF THE SOURCE LANGUAGE IN A MODIFIED BNF FORM AND TO SPECIFY TRANSLATIONAL AS WELL AS

CODE GENERATIVE SEMANTICS. TRANSLATIONAL DATA STRUCTURES ARE DEFINABLE AT THE METRAN LEVEL WHICH ALLOW THE USER TO DEFINE AND SUBSEQUENTLY EXPLOIT HASH CODED SYMBOL TABLES (WITH ATTRIBUTES); PUSH DOWN-POP UP (FIPO) STACKS LINKED DYNAMIC LISTS OF DATA STRUCTURES; SYNTACTIC PARSING PRIMITIVES ARE PROVIDED SO THAT THE USER NEED NOT BE CONCERNED WITH AN AD HOC CREATION OF A PARSING ALGORITHM. THE BNF-LIKE DESCRIPTION OF THE LANGUAGE IS MAPPED INTO A FORTRAN PARSING PROGRAM WHICH UTILIZES THESE PARSING PRIMITIVES TO PRODUCE A TOP-DOWN RECURSIVE DESCENT PARSER FOR THE LANGUAGE WITH EMBEDDED LINKAGES TO SYSTEM SEMANTIC PROCEDURES OR THE DESIRED USER DEFINED SEMANTIC PROCEDURES.

DOCUMENTATION: USER'S MANUAL

DEVELOPER: MCDONNELL DOUGLAS ASTRONAUTICS CO.

CONTACT: KENNETH V. SMITH, MCDONNELL DOUGLAS ASTRONAUTICS CO., 5301 BOLSA AVENUE, HUNTINGTON BCH, CA, 92647, USA, 714-896-2937

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: MODULE ORDERER, TITLE: MODULE ORDERER

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: MODULE ORDERING

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: HIGHER LEVEL LANGUAGE

COMPUTER (OTHER HARDWARE): DATA GENERAL

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY

TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION

TOOL SUMMARY: HOW TO USE TOOL: SIMPLY INPUT THE COLLECTION OF OBJECT MODULES TO THE TOOL FOR REORDERING. BENEFITS OBTAINED WITH TOOL: ELIMINATES CLERICAL WORK; MAXIMIZES PORTABILITY; AND IMPROVES PRODUCTIVITY. PURPOSE OF TOOL: TO ORDER A COLLECTION OF OBJECT MODULES SO THAT IF MODULE A REFERENCES MODULE B, THEN MODULE A WILL PRECEDE MODULE B IN THE COLLECTION.

DEVELOPER: SOFTOOL CORPORATION

CONTACT: CAROL BADDORF, SOFTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0560

INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: MONITOR, TITLE: MONITOR

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROGRAM FLOW ANALYSIS, TIMING ANALYSIS, RUN TIME ANALYSIS, EXECUTION MONITORING

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: RATFOR

COMPUTER (OTHER HARDWARE): CDC 6000

TOOL AVAILABLE: YES

TOOL SUMMARY: COLLECTS AND PRINTS MODULE EXECUTION COUNTS, AND TIMES: CENTRAL PROCESSOR PERIPHERAL PROCESSOR, INPUT/OUTPUT, AND CLOCK, FOR EACH MODULE MONITORED

'MONITOR' IS CALLED AT THE ENTRY AND EXIT OF EACH MODULE;

MONITOR

THE ARGUMENT IN EACH CASE IS THE NAME OF THE MODULE. THE TIMING TABLE IS PRINTABLE AT ANY TIME BY A CALL TO THE 'PRINT' MODULE. INSTRUMENTATION OF THE MONITORED SOURCE CODE IS MOST EASILY DONE WITH A TOOL SUCH AS 'INSERT.'

DEVELOPER: NSRDC

CONTACT: PETER N. ROTH, NSRDC, STRUCTURES DEPARTMENT, BETHESDA, MD, 20084, USA, 202-227-1851

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: MPS, TITLE: MANUSCRIPT PREPARATION SYSTEM

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: TEXT

IMPLEMENTATION LANGUAGE: COMPASS

COMPUTER (OTHER HARDWARE): CDC 6000, CDC CYBER 74

TOOL SUMMARY: THE MANUSCRIPT PREPARATION SYSTEM EXTENDS THE POWER OF A COMPUTER SYSTEM TO PEOPLE INVOLVED IN PRODUCING PRINTED MATTER. TO TAKE ADVANTAGE OF THIS SYSTEM THE USER NEED NOT BE FAMILIAR WITH COMPUTER SYSTEMS, BUT MAY SIMPLY BE EXPERIENCED IN THE PREPARATION OF MANUSCRIPTS. WITH MPS, TEXT IS ENTERED TO A COMPUTER FILE FROM A TERMINAL IN A MANNER MUCH LIKE THAT USED WITH AN ORDINARY TYPEWRITER. SIMPLE INSTRUCTIONS ARE USED TO PRINT A DOCUMENT OR TO MODIFY IT. GRAMMATICAL FORMATTING COMMANDS ARE ADDED WITH THE TEXT TO INDICATE PARAGRAPHS, HEADINGS AND PAGE NUMBERING INSTRUCTIONS, AND THESE NOTES COME IN A FORM CLOSELY RESEMBLING NORMAL MANUSCRIPT EDITING INSTRUCTIONS. ONCE TEXT HAS BEEN ENTERED, MODIFICATIONS MAY BE EASILY MADE AND THE ENTIRE DOCUMENT RECREATED BY THE COMPUTER IN ITS NEW FORM, COMPLETE WITH NEW PAGE NUMBERS, TABLE OF CONTENTS AND MANUSCRIPT FORMAT.

DOCUMENTATION: USER'S GUIDE

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, COMPUTER SYSTEMS DEPARTMENT

CONTACT: J. R. DEALY, TRW, COMPUTER SYSTEMS DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0833
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: MSEF, TITLE: MICROPROCESSOR SOFTWARE ENGINEERING FACILITY

CLASSIFICATION: SOFTWARE SUPPORT SYSTEM/PROGRAMMING ENVIRONMENT

FEATURES: CONFIGURATION MANAGEMENT, VERSION CONTROL, TEST DATA MANAGEMENT

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: C

COMPUTER (OTHER HARDWARE): PDP-11

N-SQUARED

OS (OTHER SOFTWARE): UNIX
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE

TOOL SUMMARY: THE MICROPROCESSOR SOFTWARE ENGINEERING FACILITY IS AN INTEGRATED SET OF SOFTWARE TOOLS TO SUPPORT THE DESIGN, DEVELOPMENT, AND MAINTENANCE OF MICROCOMPUTER SOFTWARE. THE MSEF IS HOSTED UNDER UNIX ON A PDP-11 COMPUTER, BUT SUPPORTS THE PRODUCTION OF SOFTWARE FOR MANY DIFFERENT MICROCOMPUTERS. THE MSEF STANDARDIZES THE TASKS OF DEFINING A SOFTWARE CONFIGURATION, UPDATING AND INTEGRATING PARTS OF A MASTER CONFIGURATION, ISOLATING USER WORK ENVIRONMENTS, AND PROVIDING VERSION CONTROL. THE MSEF SUPPORTS THE ORGANIZED TESTING OF SOFTWARE COMPONENTS BY ASSOCIATING TEST SCENARIOS AND TEST RESULTS WITH COMPONENTS TO BE TESTED. TEST RESULTS MAY BE COMPARED WITH EARLIER VERSIONS TO PROVIDE DISCREPANCY REPORTS. THE MSEF ALSO PROVIDES AUTOMATIC CHANGE LOGGING WITH A CONFIGURATION AUDIT TRAIL.

DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER, MAINTENANCE MANUAL, TEST PLAN
 DEVELOPER: SOFTECH, INC.
 CONTACT: VIC VOYDOCK, SOFTECH, INC., 460 TOTTEN POND ROAD, WALTHAM, MA, 02154, USA, 617-890-6900
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: N-SQUARED, TITLE: N-SQUARED CHART GENERATION PROGRAM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: PROJECT MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA

IMPLEMENTATION LANGUAGE: FORTRAN IV
 COMPUTER (OTHER HARDWARE): CDC 6X00, CDC 7X00
 TOOL SUMMARY: THE N-SQUARED CHART GENERATION PROGRAM IS A GRAPHIC DISPLAY TOOL FOR THE CREATION OF PROJECT AND TASK INTERFACE CHARTS. IT WAS DEVELOPED FOR USE AS A PROPOSAL AND PROJECT MANAGEMENT AID TO ASSIST IN THE PORTRAYAL OF SYSTEM ACTIVITY INTERACTION IN A CLEAR, EASY TO READ AND EASY TO DESIGN FORMAT. SYSTEM ACTIVITIES ARE REPRESENTED AS TITLED BOXES ARRANGED DIAGONALLY IN A SINGLE LINE ON A CHART. INTERFACES BETWEEN ANY TWO ACTIVITIES ON THIS DIAGONAL ARE REPRESENTED AS NUMBERED CIRCLES PLACED IN GRID FORMAT ADJACENT TO THE DIAGONAL. GROUPS OF BOXES MAY BE IDENTIFIED AROUND WHICH HEAVY EMPHASIS LINES WILL BE DRAWN AND TO WHICH A GROUP TITLE MAY BE GIVEN. CHARTS ARE OUTPUT ON EITHER CALCOMP OR VERSATEC PLOTTING DEVICES. INPUT IS DESIGNED TO BE SIMPLE AND FLEXIBLE TO ALLOW FOR EASY CHART CREATION AND MODIFICATION. EACH BOX IS ASSOCIATED WITH A UNIQUE ALPHANUMERIC CHARACTER IN THE INPUT STREAM, AND INTERFACES BETWEEN BOXES UTILIZE THESE IDENTIFIERS.
 DOCUMENTATION: USER'S MANUAL

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
 CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: N5500, TITLE: PROJECT MANAGEMENT SYSTEMS - N5500
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: PROJECT MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: COBOL ANSI
 TOOL PORTABLE: YES, TOOL SIZE: CORE: 120K-IBM
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE

TOOL SUMMARY: PROJECT MANAGEMENT SYSTEMS-N5500 IS A PROJECT PLANNING AND CONTROL SYSTEM THAT INTERRELATES TASKS AND PROJECTS THROUGH A PRECEDENCE NETWORKING SYSTEM. THIS ENABLES THE SYSTEM TO CONSTANTLY MONITOR THE IMPACT OF IN-PROCESS SLIPPAGES AND TO PLAN CHANGES FOR BOTH PLANNED AND IN-PROCESS PROJECTS. THE PROGRAM DETERMINES PROJECT TRENDS AND ROUTINELY PREDICTS ALL COMPLETION DATES AND EVENTUAL COSTS. PLANNING IS ACCOMPLISHED BY SIMULATING A TRIAL PLAN AND VIEWING THE IMPACT OF EACH TRIAL ON THE IN-PROCESS RESOURCE LOAD. THE SYSTEM USES AN UPDATABLE, TRANSACTION-LOADED DICTIONARY THAT ALLOWS INTERFACES WITH ANY SYSTEM DEVELOPMENT LIFE CYCLE METHODOLOGY AND STANDARD. IT ALSO CONTAINS A TRANSACTION HISTORY FOR IN-DEPTH ANALYSIS OF EACH PERSON'S PERFORMANCE BY FUNCTION, TASK, AND PROJECT, AND OFFERS TOTAL REPORTING CAPABILITIES. BY USING THIS DATA AND SIMULATING VARIOUS CONDITIONS, THE USER OF PROJECT MANAGEMENT SYSTEMS CAN BUILD A DATA BASE FOR ESTIMATING GUIDELINES AND GOALS.

DOCUMENTATION: USER'S MANUAL
 DEVELOPER: NICHOLS AND COMPANY, INC.
 INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: NASA-VATS, TITLE: HAL/S VERIFICATION AND TESTING SYSTEM
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: SYMBOLIC EVALUATION

STAGE OF DEVELOPMENT: DESIGN
 APPLICABILITY: HAL/S
 IMPLEMENTATION LANGUAGE: PASCAL
 COMPUTER (OTHER HARDWARE): CDC 6000/CYBER
 OS (OTHER SOFTWARE): NOS
 TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO
 TOOL SUMMARY: AN INTEGRATED, USER - COOPERATIVE CODE VERIFICATION AND TESTING SYSTEM. THE SYSTEM IS DESIGNED TO USE STATIC ANALYSIS TOOLS, SYMBOLIC EXECUTION, AND DYNAMIC

TEST ANALYSIS TOOLS FOR TESTING OF RESEARCH-ORIENTED, CONCURRENT PROCESS AVIONICS SOFTWARE. THE SYSTEM TOOLS ARE DESIGNED TO BE HIGHLY-MODULAR, INTEGRATED, COOPERATIVE, AND USER-CONTROLLED. THE SYSTEM IS CURRENTLY DESIGNED FOR ANALYSIS OF FLIGHT SOFTWARE WRITTEN IN THE HAL/S LANGUAGE. DOCUMENTATION: USER'S MANUAL, DEVELOPMENT SPECIFICATION DEVELOPER: NASA LANGLEY RESEARCH CENTER
CONTACT: E. H. SENN, NASA LANGLEY RESEARCH CENTER, MAIL STOP 125A, HAMPTON, VA, 23665, USA, 804-827-3086
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: NBS ANALYZER, TITLE: NBS ANALYZER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROFILE GENERATION, COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, TUNING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 741000
APPLICABILITY: FORTRAN 66
IMPLEMENTATION LANGUAGE: FORTRAN 66
TOOL PORTABLE: YES, TOOL SIZE: 5665 STATEMENTS (60% COMMENTS)

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABLE THROUGH NTIS
TOOL SUPPORTED: YES, TOOL SUPPORT: NATIONAL BUREAU OF STANDARDS

TOOL SUMMARY: THE NBS ANALYZER CONSISTS OF TWO PARTS: STATIC ANALYSIS AND DYNAMIC ANALYSIS. STATIC ANALYSIS COLLECTS FROM INDIVIDUAL PROGRAMS 118 FREQUENCY STATISTICS ON FORTRAN STATEMENT TYPES AND CAN ACCUMULATE THESE STATISTICS OVER ALL PROGRAMS ANALYZED. SUCH ACCUMULATIONS ARE USEFUL FOR LANGUAGE STUDIES, INPUT TO STANDARDS COMMITTEES, SYSTEM BENCHMARK CHARACTERIZATION, AND STUDIES IN SOFTWARE PORTABILITY AND CONVERSION. DYNAMIC ANALYSIS COLLECTS EXECUTION FREQUENCIES OF CODE SEGMENTS (A CODE SEGMENT IS A NON-EMPTY SEQUENCE OF STATEMENTS WITH A UNIQUE ENTRY AND A SOLE EXIT). EXECUTION FREQUENCIES ARE USEFUL FOR OPTIMIZATION AND TESTING OF PROGRAMS.

REFERENCES: TECHNICAL DESCRIPTION (23)
REFERENCES: [LYON74], LYON AND STILLMAN, "A FORTRAN ANALYZER", NBS TECHNICAL NOTE 849, 741000
[STIL75], STILLMAN AND LEONG-HONG, "SOFTWARE TESTING FOR NETWORK SERVICES", NBS TECHNICAL NOTE 874, 750700
[LYON75], LYON AND STILLMAN, "SIMPLE TRANSFORMS FOR INSTRUMENTING FORTRAN DECKS", SOFTWARE-PRACTICE AND EXPERIENCE, 750000
[LYON73], LYON, "STATIC LANGUAGE ANALYSIS", NBS TECHNICAL NOTE 797, 731000

DEVELOPER: NATIONAL BUREAU OF STANDARDS
CONTACT: GORDON LYON, NATIONAL BUREAU OF STANDARDS, TECH BLDG, A265, WASHINGTON, DC, 20234, USA, 301-921-3485
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

NODAL

ACRONYM: NODAL, TITLE: NODE DETERMINATION AND ANALYSIS PROGRAM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROFILE GENERATION, COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, TEST DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780600
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: YES
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000, DECSYSTEM-10/20, UNIVAC 1108

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: NODAL IS DESIGNED TO AID THE USER IN EXECUTING ALL THE SOURCE CODE AND ALL THE BRANCHES IN TESTING A FORTRAN PROGRAM. IT USES THE TECHNIQUE OF ANALYZING THE CODE OF AN EXISTING PROGRAM AND INSTRUMENTING OR ADDING CODE THAT WILL RECORD THE EXECUTION OF THE PROGRAM'S NODES. A NODE IS DEFINED AS AN ENTRY POINT TO THE SMALLEST SET OF CONSECUTIVELY EXECUTABLE STATEMENTS TO WHICH CONTROL CAN BE GIVEN DURING PROGRAM EXECUTION. AT THE NORMAL END OF AN EXECUTION OF THE USER'S INSTRUMENTED PROGRAM, NODAL WILL OBTAIN CONTROL AND PROVIDE INFORMATION ABOUT THE FREQUENCY OF EXECUTION OF EACH NODE. ALSO PROVIDED IS A TEST EFFECTIVENESS RATIO (NODES EXECUTED/NODES IDENTIFIED) FOR EACH ROUTINE, A TEST EFFECTIVENESS RATIO FOR THE ENTIRE PROGRAM, AND A LIST OF THE PROGRAM NODES NOT EXECUTED. NODAL INCREASES ON RUN TIME APPROXIMATELY 8% AND CORE REQUIREMENTS 25%.

DOCUMENTATION: TECHNICAL DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: DAVE LEWIS, DEPT OF DEFENSE, S863, OPS BLDG 3, FT MEADE, MD, 20755, USA, 301-688-6015
R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: DOD TECHNICAL REPORT, TRW SOFTWARE TOOLS CATALOG

ACRONYM: OPTIMIZER II, TITLE: TAA
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROGRAM OPTIMIZATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL ANSI
IMPLEMENTATION LANGUAGE: ASSEMBLY ALC
COMPUTER (OTHER HARDWARE): IBM 360/370

TOOL SUMMARY: OPTIMIZER II AUTOMATICALLY IMPROVES THE EFFICIENCY OF THE OBJECT CODE GENERATED BY THE IBM ANS COBOL COMPILERS. ITS OBJECT LEVEL ANALYSIS PROVIDES SAVINGS IN MAIN PROCESSOR TIME AND MAIN STORAGE REQUIREMENTS WHICH CANNOT BE OBTAINED AT THE SOURCE-CODE LEVEL. SAVINGS OF UP TO 25% IN EXECUTION TIME AND 20-30%

IN MEMORY REQUIREMENTS MAY BE ACHIEVED.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A
REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13,
INTERIM REPORT, 800200
DEVELOPER: CAPEX CORPORATION
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RADC-TR-80-13

ACRONYM: OPTIMUS, TITLE: OPTIMUS
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: ASSEMBLY
TOOL SIZE: CORE: 600-DOS, 2K-DOS/VS
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): DOS, DOS/VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE
TOOL SUMMARY: OPTIMUS IS AN AUTOMATIC THROUGHPUT OPTIMIZER
THAT PROVIDES USERS THE FLEXIBILITY TO RUN JOBS IN ANY
PARTITION WITHOUT CONCERN FOR PARTITION LOCKOUTS OR SYSTEM
DEGRADATION. OPTIMUS ANALYZES MULTI-PROGRAMMING ACTIVITY
AT SPECIFIED INTERVALS AND DYNAMICALLY ADJUSTS PARTITION
PRIORITIES, GIVING I/O-BOUND JOBS HIGHER PRIORITY THAN
CPU-BOUND JOBS. OPTIMUS DOES NOT REQUIRE ANY SUPERVISOR OR
IBM SOFTWARE MODIFICATIONS. IT IS RELEASE-INDEPENDENT AND
OPERATES WITH POWER AND POWER/VS AS WELL AS THE VENDOR'S
ASAP SPOOLING SYSTEM.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: UNIVERSAL SOFTWARE, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: OSTEST-II, TITLE: OS THOROUGHNESS ESTIMATOR AND
SYSTEM TEST - VERSION II
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT,
TRACE
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780600
APPLICABILITY: ASSEMBLY
IMPLEMENTATION LANGUAGE: COBOL
TOOL PORTABLE: NO
COMPUTER (OTHER HARDWARE): IBM 360/370
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: OSTEST-II IS AN AUTOMATED TOOL DEVELOPED BY
TRW FOR THE DYNAMIC VERIFICATION OF OPERATING SYSTEM AND
COMMUNICATION PROCESSOR SOFTWARE. OSTEST-II ANALYZES THE
STRUCTURE WITHIN A MODULE AND MONITORS TEST EXECUTION TO
PROVIDE A MEASUREMENT OF INDIVIDUAL AND CUMULATIVE TESTING
THOROUGHNESS. THE ANALYZER CAN BE ADAPTED TO MOST CURRENT

OSTEST-II

OPERATING SYSTEMS BECAUSE IT ANALYZES CODE AT THE MODULE
LEVEL. OUTPUT FROM THE ANALYZER CAN INCLUDE SEGMENT/BRANCH
USAGE, TEST EFFECTIVENESS RATIO, SEGMENT/BRANCH HISTORY
TRACE, MODULE TRACE, AND SEGMENTS/BRANCHES NOT EXECUTED.

DOCUMENTATION: TECHNICAL DESCRIPTION, TEST PLAN
DEVELOPER: TRW, REDONDO BEACH, CA
CONTACT: DAVE LEWIS, DEPT OF DEFENSE, S863, OPS BLDG 3, FT
MEADE, MD, 20755, USA, 301-688-6015
INFORMATION SOURCE: DOD TECHNICAL REPORT

ACRONYM: PAC II, TITLE: PAC II
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: COBOL
COMPUTER (OTHER HARDWARE): BURROUGHS B3500, IBM 360, UNIVAC
1106

TOOL SUMMARY: PAC II IS DESIGNED TO AID IN THE MANAGEMENT OF
PROJECTS OF ALL KINDS BY PROVIDING FOR THE BUDGETING,
PLANNING, MONITORING, AND COSTING OF ALL ASPECTS OF PROJECT
MANAGEMENT. IT CONSISTS OF NINE COMPUTER PROGRAMS THAT
OPERATE ON A SEQUENTIALLY ORGANIZED DATA BASE. RESOURCE
SCHEDULING CAN BE ON PRIORITIES, AVAILABILITY, AND/OR
NETWORK DEPENDENCIES. SINGLE OR MULTIPLE PROJECTS CAN BE
SCHEDULED AS WELL AS INDIVIDUAL RESOURCES, GROUP RESOURCES,
OR UNLIMITED RESOURCES. PROJECTS CAN BE OF ALL TYPES AND
INCLUDE MAINTENANCE OR NEW DEVELOPMENTS. PAC II FUNCTIONS
ON PARAMETERS SPECIFIED BY THE USER. THE USER CAN SELECT
FEATURES, OUTPUT AND RUN FREQUENCY AT RUN TIME.

DOCUMENTATION: USER'S MANUAL, IMPLEMENTATION GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: INTERNATIONAL SYSTEMS, INC.
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PACE, TITLE: PRODUCE ASSURANCE CONFIDENCE
EVALUATION
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 7600, UNIVAC 1108, CDC 6500
TOOL SUMMARY: PACE IS A UNIQUE QUALITY ASSURANCE TOOL TO AID
PROGRAM DEVELOPERS AND TESTERS IN THE PLANNING, EXECUTION,
AND EVALUATION OF BOTH ROUTINE LEVEL AND PROGRAM LEVEL
TESTS. THE OBJECT OF PACE IS TO QUANTITATIVELY ASSESS HOW
THOROUGHLY AND RIGOROUSLY A PROGRAM HAS BEEN TESTED. PACE
IS THE TOOL THAT IS USED TO ASSURE THAT EVERY LOGICAL AND
ARITHMETIC INSTRUCTION OF EVERY BRANCH BE SUBJECTED TO AN
EXECUTION TEST. VERSIONS OF THE PACE SYSTEM HAVE BEEN

DEVELOPED BY TRW WHICH PROVIDE SPECIAL OPTIONS DICTATED BY A GIVEN USER. THESE PACE VERSIONS ARE NODAL, ANODE, AND AVS/TDEM. A HIGHLY MODULAR DESIGN APPROACH WAS TAKEN TO REDUCE AND ISOLATE HARDWARE/SOFTWARE DEPENDENT CHARACTERISTICS AND ASSURE EASY IMPLEMENTATION ON A VARIETY OF COMPUTERS. INPUT TO PACE CONSISTS OF THE USER'S FORTRAN SOURCE CODE, AND A PACE OPTION CARD. OUTPUT FROM PACE CAN BE VARIED BY USING THE OPTION CARD, BUT NOMINALLY INCLUDES: (1) A LISTING OF THE USER'S SOURCE CODE ANNOTATED WITH SEGMENT NUMBERS. (2) A PROGRAM STRUCTURE SUMMARY.

DOCUMENTATION: USER'S MANUAL, PROGRAMMER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

[DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-40-13, INTERIM REPORT, 800200
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RADC-TR-80-13

ACRONYM: PACE-C, TITLE: PRODUCT ASSURANCE CONFIDENCE EVALUATOR-COMPASS

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COMPASS

IMPLEMENTATION LANGUAGE: FORTRAN, COMPASS
COMPUTER (OTHER HARDWARE): CDC 7600

TOOL SUMMARY: PACE-C IS SIMILAR TO PACE IN AIDING PROGRAM DEVELOPERS AND TESTERS IN THE PLANNING, EXECUTION, AND EVALUATION OF BOTH ROUTINE LEVEL AND PROGRAM LEVEL TESTS. PACE-C QUANTITATIVELY ASSESSES HOW THOROUGHLY AND RIGOROUSLY ONE OR MORE COMPASS ROUTINES HAVE BEEN TESTED. 1) THE PACE-C EXTENDED SIMULATOR - THE SAS SIMULATOR, WHICH SIMULATES THE CDC 7600 CPU, IS UPDATED TO CREATE THE EXTENDED SIMULATOR. THERE ARE TWO CONFIGURATIONS OF THE EXTENDED SIMULATOR; ONE FOR UNIT LEVEL TESTS AND THE OTHER FOR PROGRAM LEVEL TESTS. THE EXTENDED SIMULATOR CREATES A SEGMENT TABLE WHILE SIMULATING THE USER'S PROGRAM. THE SEGMENT TABLE INDICATES WHICH ABSOLUTE LOCATIONS OF THE USER'S OBJECT CODE WERE EXECUTED. THE SEGMENT TABLE IS WRITTEN OUT TO A FILE FOR POST PROCESSING. (2) THE PACE-C POST PROCESSORS - THE POST PROCESSOR DETERMINES WHICH SEGMENTS OF THE USER'S CODE WERE ACTUALLY TESTED. AS INPUT, IT READS THE SEGMENT TABLE PRODUCED BY THE EXTENDED SIMULATOR AS WELL AS AN ASSEMBLY LISTING OF THE CODE.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE

TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PDL, TITLE: PROGRAM DESIGN LANGUAGE
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: REPORT GENERATION, CROSS REFERENCE, PROGRAM FORMATTING, DESIGN LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: TEXT, DESIGN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6X00, UNIVAC 1108, DECSYSTEM 10/20, SEL 32, PDP 11

TOOL SUMMARY: THE PROGRAM DESIGN LANGUAGE (PDL) IS A TOOL TO AID IN DESIGNING AND DOCUMENTING A PROGRAM OR SYSTEM OF PROGRAMS. THE LANGUAGE IS SUPPORTED BY A PROCESSOR WHICH IS AVAILABLE FOR A WIDE VARIETY OF COMPUTERS. THE LANGUAGE IS SIMPLE TO LEAN AND SIMPLE TO USE. IT HAS PROVEN EFFECTIVE IN DEVELOPING COMPLETE DESIGNS PRIOR TO THE STARTING OF ANY PROGRAMMING ON A PROJECT. A DESIGN IN PDL IS WRITTEN IN STRUCTURED ENGLISH WHICH IS THEN INPUT TO THE PDL PROCESSOR. INPUT TO THE PROCESSOR CONSISTS OF CONTROL INFORMATION PLUS DESIGNS FOR PROCEDURES (CALLED "SEGMENTS" IN PDL). THE OUTPUT IS A WORKING DESIGN DOCUMENT CONSISTING OF A TABLE OF CONTENTS, A LISTING OF THE SEGMENTS AUTOMATICALLY FORMATTED, A DISPLAY OF THE PROCEDURE CALLING TREE, AND A CROSS-REFERENCE OF THE PROCEDURE CALLS. IT IS FORMATTED TO BE EASILY PHOTO-REDUCED FOR LATER INCLUSION IN A PROJECT WORKBOOK. THE OUTPUT OF THE PROCESSOR CAN COMPLETELY REPLACE FLOWCHARTS.

DOCUMENTATION: PROGRAM DESCRIPTION

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: CAINE, FARBER GORDON, INC.
CONTACT: KENT GORDON, CAINE, FARBER GORDON, INC., USA, 213-449-3070

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PDS, TITLE: PROGRAM DEVELOPMENT SYSTEM
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: TEST EFFECTIVENESS MEASUREMENT, TEST DATA MANAGEMENT, PROGRAM FORMATTING, DESIGN LANGUAGE PROCESSING, FILE MANAGEMENT

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: TEXT, FORTRAN, STRUCTURED FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): IBM 360/370, UNIVAC 1100, CDC
 CYBER 74 AN, UNIVAC 1100 SER
 TOOL SUMMARY: THE PROGRAM DEVELOPMENT SYSTEM IS A MULTIPLE
 PURPOSE SOFTWARE PACKAGE DESIGNED TO PROVIDE A SINGLE TOOL
 FOR THE STRUCTURED DESIGN AND DEVELOPMENT OF FORTRAN
 COMPUTER PROGRAMS. IT IS A PRE-PROCESSOR, EXTENDING THE
 FORTRAN LANGUAGE TO INCLUDE STRUCTURED CONSTRUCTS AND
 PROVIDING A MEANS FOR A CONVERSION OF SUCH STRUCTURED
 FORTRAN TO STANDARD FORTRAN. IT IS A FILE CONTROL SYSTEM,
 DESIGNED TO REDUCE DEVELOPMENT COSTS AND INCREASE FILE
 CONTROL BY AUTOMATICALLY LISTING AND PROCESSING ONLY THOSE
 ROUTINES CHANGED SINCE THE PREVIOUS RUN, WHILE MAINTAINING
 A COMPLETE SYSTEM FILE. IT IS A TEST TOOL, CAPABLE OF
 CREATING AN INSTRUMENTED, COMPILABLE VERSION OF AN ORIGINAL
 STRUCTURED FORTRAN PROGRAM FOR THE COLLECTION AND DISPLAY
 OF TEST EXECUTION STATISTICS. LISTINGS PROVIDED BY THE
 SYSTEM ARE INDENTED TO SHOW THE LOGICAL STRUCTURE OF THE
 CODE, AND ARE IMPRINTED WITH DATE AND FILENAME INFORMATION.
 DOCUMENTATION: IN PROGRESS
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
 DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS
 CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
 TOOLS SERIES, 790100
 DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
 CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY
 DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
 213-535-3480
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PDS FLOW, TITLE: PDS FLOW
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: FLOW CHART GENERATION
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: STRUCTURED FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): CDC 6X00
 TOOL SUMMARY: PDS FLOW CREATES FLOWCHARTS FOR PROGRAMS
 WRITTEN IN A STRUCTURED LANGUAGE. FLOWCHARTS ARE CREATED
 ON A GRAPHICS DEVICE AND ARE DESIGNED TO REPRESENT THE
 COMPLETE CONTROL FLOW OF THE PROGRAM FROM A SOURCE CODE
 FILE. WHILE SPECIAL SYMBOLS HAVE BEEN CREATED TO REPRESENT
 THE COMPLETE CONTROL FLOW OF THE PROGRAM FROM A SOURCE CODE
 FILE. WHILE SPECIAL SYMBOLS HAVE BEEN CREATED TO REPRESENT
 THE STRUCTURED CODE FORM, BOTH STRUCTURED AND UNSTRUCTURED
 CONSTRUCTS ARE PLOTTED. PDS FLOW POSITIONS CODE TO
 INDICATE ITS PLACE WITHIN THE CONTROL STRUCTURE OF THE
 ROUTINE. IN THIS SENSE, CODE IS NOT SIMPLY PLOTTED A LINE
 AT A TIME. INDENTATION IS USED TO SHOW THE POSITION OF
 CODE WITHIN DO WHILE, DO UNTIL, DO FOR, IF THEN ELSE, AND
 IF THEN ORIF ELSE CONSTRUCTS, AND LINES OF CONSECUTIVELY
 EXECUTABLE CODE WHICH DO NOT EFFECT THE CONTROL STRUCTURE
 ARE PLOTTED WITHIN A SINGLE BLOCK. SUCH FEATURES ARE USED

TO CONTROL PLOT SIZE AND PRESENT A ROUTINE IN A MANNER
 ACCENTUATING THE CONTROL FLOW WHILE PRESERVING DETAIL.
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
 DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS
 CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
 TOOLS SERIES, 790100
 DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
 CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY
 DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
 213-535-3480
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PDSS, TITLE: PROJECT DATA SCHEDULING SYSTEM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: PROJECT MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA
 IMPLEMENTATION LANGUAGE: FORTRAN
 COMPUTER (OTHER HARDWARE): CDC 6000
 TOOL SUMMARY: THE PROJECT DATA SCHEDULING SYSTEM WAS
 DEVELOPED TO ASSIST IN THE SCHEDULING AND MANAGEMENT OF
 PROJECT EVENTS AND DELIVERABLES. USING A DATA BASE
 CONTAINING DATES AND DATE-MODIFYING INFORMATION FOR PROJECT
 EVENTS, PDSS PRODUCES A GRAPHIC DISPLAY OF THE PREDICTED
 SCHEDULE FOR THE PROJECT. EVENTS MAY BE SCHEDULED RELATIVE
 TO KEY PROJECT DATES, MAY BE ENTERED AS ACTUAL DATES OR MAY
 BE LEFT BLANK. ALL DATA IS ENTERED ONLY ONCE, AND NEED NOT
 BE MANIPULATED UNLESS CHANGES OCCUR. PDSS CALCULATES ALL
 POSSIBLE EVENT DATES USING WHATEVER INFORMATION IS
 AVAILABLE, INCLUDING HOLIDAYS IN CALCULATIONS IF DESIRED.
 ADDITIONALLY, KEY PROJECT DATES MAY BE ENTERED SEPARATELY
 WITH AN IDENTIFIER (IE: CDR, FCA). USE OF THIS IDENTIFIER
 TO FIX OTHER PROJECT EVENTS ALLOWS A FLUXUATION OF THE KEY
 DATES WITH A MINIMAL EFFECT ON THE DATA BASE. OUTPUT FROM
 PDSS IS PRODUCED ON THE VERSATEC PLOTTER, AND MAY BE SORTED
 IN A VARIETY OF WAYS. REPORT OUTPUT INCLUDES EVENT TITLES,
 DELIVERY DATES AND CONTROLLING DATES.

DOCUMENTATION: USER'S MANUAL
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
 DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS
 CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
 TOOLS SERIES, 790100
 DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
 CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY
 DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA,
 213-535-3480
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PERCAM, TITLE: PERFORMANCE AND CONFIGURATION
 ANALYSIS MODEL
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
 AND PROGRAM GENERATION

PET

FEATURES: SIMULATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6X00, CDC 7X00
TOOL SUMMARY: PERCAM IS AN ANALYSIS METHODOLOGY WHICH PROVIDES FOR THE REPRESENTATION OF SYSTEMS IN THE FORM OF EVENT LOGIC TREES (ELTS), AND WHICH SUBSEQUENTLY AUTOMATES THE CONSTRUCTION OF A SIMULATION WHOSE OPERATIONAL SEQUENCING LOGIC DUPLICATES THE DESIGNED ELTS. AN ELT IS THE GRAPHIC REPRESENTATION OF A SYSTEM, INCLUDING THOSE FUNCTIONS AND DECISIONS INCLUDED IN THE SYSTEM. BY FORMING A COMPUTER LIBRARY CONTAINING DESCRIPTIONS OF THE PRIMITIVE COMPONENTS OF THIS GRAPHIC REPRESENTATION, A COMPUTER MODEL CAN BE CONSTRUCTED WITH THE LIBRARY COMPONENTS TO SIMULATE THE WORKINGS OF THE PROPOSED SYSTEM ON THE COMPUTER. IN THIS MANNER, PERCAM PROVIDES A TECHNIQUE VALUABLE IN THE DEFINITION AND DEVELOPMENT PHASES OF A PROJECT. A PROPOSED SYSTEM MAY BE DESIGNED GRAPHICALLY, AND A LIBRARY DESIGNED OR AN EXISTING LIBRARY UTILIZED TO REPRESENT THE SYSTEM'S COMPONENTS. SIMULATIONS OF THE TARGET SYSTEM CAN THEN BE CREATED AND THE SYSTEM REVISED UNTIL VERIFIED THROUGH ALTERATIONS IN THE LIBRARY AND ELT DESIGN.
DOCUMENTATION: USER'S MANUAL, PROGRAM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW SOFT ANAL AND EVAL DEPT
CONTACT: J. FIELDS, TRW SOFT ANAL AND EVAL DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-2045
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PET, TITLE: PROGRAM EVALUATOR AND TESTER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, PROFILE GENERATION, COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT, DATA RANGE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: YES
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUPPORTED: YES, TOOL SUPPORT: MCDONNELL-DOUGLAS CORPORATION
TOOL SUMMARY: PET ACCEPTS FORTRAN PROGRAMS AS INPUTS AND GATHERS AND ANALYZES DATA IN TWO GENERAL AREAS: (1) THE SYNTACTIC PROFILE OF THE SOURCE PROGRAM SHOWING THE NUMBER OF EXECUTABLE, NONEXECUTABLE, AND COMMENT STATEMENTS, THE NUMBER OF CALL STATEMENTS AND TOTAL PROGRAM BRANCHES, AND THE NUMBER OF CODING STANDARD'S VIOLATIONS, AND (2) ACTUAL PROGRAM PERFORMANCE STATISTICS CORRESPONDING TO VARIOUS TEST DATA SETS. WITH ALL OPTIONS ENABLED, THE ACTUAL

PROGRAM PERFORMANCE STATISTICS PRODUCED BY THE PET INCLUDE: THE NUMBER AND PERCENTAGE OF THOSE EXECUTABLE SOURCE STATEMENTS ACTUALLY EXECUTED; THE NUMBER AND PERCENTAGE OF THOSE BRANCHES AND CALL'S ACTUALLY TAKEN OR EXECUTED; THE FOLLOWING SPECIFIC DATA ASSOCIATED WITH EACH EXECUTABLE SOURCE STATEMENT: A DETAILED EXECUTION COUNTS, DETAILED BRANCH COUNTS ON ALL IF AND GOTO STATEMENTS, AND MIN/MAX DATA RANGE VALUES ON ASSIGNMENT.

DOCUMENTATION: USER MANUAL, SYSTEM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
[STUC72], L. G. STUCKI, "A PROTOTYPE AUTOMATIC PROGRAM TESTING TOOL", AFIPS FALL JOINT COMPUTER CONFERENCE, 721205
[STUC75], L. G. STUCKI AND F. L. FOSHEE, "NEW ASSERTION CONCEPTS FOR SELF-METRIC SOFTWARE VALIDATION", PROC OF 1975 INT CONF ON RELIABLE SOFTWARE, 750421
DEVELOPER: MCDONNELL-DOUGLAS CORPORATION
CONTACT: J. B. CHURCHWELL, MCDONNELL-DOUGLAS CORPORATION, 5301 BOLSA AVENUE, HUNTINGTON BCH, CA, 92647, USA, 714-896-4155

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: PFORT, TITLE: PFORT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THE PFORT VERIFIER, DEVELOPED AND DISTRIBUTED BY THE BELL RESEARCH LABORATORIES, MURRAY HILL, NEW JERSEY, ANALYZES A FORTRAN PROGRAM AND NOTES THE OCCURRENCES OF PROGRAMMING PRACTICES THAT ARE LIKELY TO BE IMPEDIMENTS TO PORTABILITY.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS, RADC-TR-80-13

ACRONYM: PFS, TITLE: PROJECT FORECASTING SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA

PMCS

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000
TOOL SUMMARY: THE PROJECT FORECAST SYSTEM IS A TIMESHARE, COMPUTER BASED SYSTEM WHICH PRINTS AND FORMATS COST DATA AND TABULATES AND PLOTS INDENTED WORK BREAKDOWN STRUCTURE CHARTS. THE SYSTEM GREATLY REDUCES THE EFFORT REQUIRED TO SPREAD AND PRICE COST DATA DURING PROJECT BUDGETING AND ESTIMATE-TO-COMPLETE PREPARATIONS. PFS ALLOWS PROJECT PLANNING AND CONTROL PERSONNEL TO RAPIDLY ITERATE THEIR FORECASTS WHILE UPDATING THEIR DATA THROUGH REMOTE TERMINALS. INPUT FOR THE SYSTEM, WHICH MAY COME FROM TERMINALS OR THE TRW PROJECT REPORTING AND REVIEW (PR+R) SYSTEM, CONSISTS OF COST DATA (JOB NUMBER, COST ELEMENT, COST CENTER, AND COSTS IN DOLLARS, MANHOURS OR MANMONTHS), RATE DATA (BY BURDEN POOL, COST CENTER OR TOTAL), THE ACCOUNTING CALENDAR, AND ACTUAL COSTS (BY JOB NUMBER). OUTPUT CONSISTS OF DETAIL COST, SUMMARY COST, FORECAST EXPENDITURE PLAN AND MANPOWER EXPENDITURE PLAN REPORTS AS WELL AS INDENTED WORK BREAKDOWN STRUCTURE CHARTS. THE COST DETAIL REPORTS, ETC. ARE VALUABLE PROJECT/SUBPROJECT OFFICE TOOLS.

DOCUMENTATION: USER'S MANUAL, USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW MGMT SYS PLANNING ANAL
CONTACT: KEN SCHULTZ, TRW MGMT SYS PLANNING ANAL, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-2326
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PMCS, TITLE: PROJECT MANAGEMENT AND CONTROL SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN, COMPASS
TOOL SIZE: CORE: 165K
COMPUTER (OTHER HARDWARE): CDC 6000, CYBER 70 SERIES
OS (OTHER SOFTWARE): CYBER KRONOS 2., CDC 6600 SECRE
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE

TOOL SUMMARY: PMCS (PROJECT MANAGEMENT AND CONTROL SYSTEM) IS A CRITICAL PATH PLANNING SYSTEM USED FOR SCHEDULING AND CONTROLLING LARGE COMPLEX PROJECTS. IT ALLOWS THE USER TO QUICKLY IDENTIFY CURRENT AND POTENTIAL PROBLEM AREAS WITHIN A PROJECT SO THAT CORRECTIVE ACTION CAN BE TAKEN. SOME OF THE FEATURES OF THE PACKAGE ARE: UP TO 15,000 ACTIVITIES AND 12,000 EVENTS CAN BE CONTROLLED, MULTIPLE STAND-ALONE START AND END EVENTS WITHIN A NETWORK OR SUBNETWORK CAN BE IDENTIFIED, MULTI-PROJECT SCHEDULING AND REPORTING ARE STANDARD FUNCTIONS, UP TO NINE MILESTONE LEVELS MAY BE IDENTIFIED, BOTH ARROW DIAGRAM AND PRECEDENCE DIAGRAM

NETWORKS ARE INCLUDED, AND RANDOM ASSIGNMENT OF ALPHANUMERIC NODE NUMBER OR NAME IS ALLOWED. SOME OF THE REPORTS AVAILABLE FROM THIS SYSTEM INCLUDE: A DIAGNOSTIC PRINTOUT FOR ERRORS AND INCONSISTENCIES, FLEXIBLE 10-YEAR CALENDAR WITH TWO CALENDAR REPORT FORMATS, AND A REPORT ON TIME PROGRESS AS A PERCENTAGE OF COMPLETENESS. UP TO THREE ESTIMATE (DURATION) FACTORS MAY BE SPECIFIED.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: MULTIPLE ACCESS COMPUTER GROUP
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: PMS IV, TITLE: PROJECT MANAGEMENT SYSTEM IV
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: ASSEMBLY
TOOL SIZE: CORE: 44K TO 75K
COMPUTER (OTHER HARDWARE): IBM 350/370
OS (OTHER SOFTWARE): OS, OS/VS

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: PMS IV (5734-XP4) IS A MANAGEMENT TOOL DESIGNED TO AID IN THE PLANNING AND CONTROL OF RESOURCES. THE SYSTEM PROVIDES CRITICAL PATH AND GENERAL COST ANALYSES, PERT AND PERT COST CAPABILITIES, PRECEDENCE AND PRECEDENCE/COST CAPABILITIES, AS WELL AS RESOURCE ALLOCATION. A FLEXIBLE ADD-ON AND SUBSTITUTION CAPABILITY ALLOWS FOR A GROWING LIBRARY OF MANAGEMENT-ORIENTED ROUTINES AND PERMITS THE USER TO TAILOR THE PROGRAM TO THE SPECIFIC REQUIREMENTS OF HIS INSTALLATION. PMS IV OFFERS THREE OPTIONAL FEATURES: AN EXTENDED NETWORK PROCESSOR, A COST PROCESSOR FOR COST ACCOUNTING, AND A RESOURCE ALLOCATION PROCESSOR FOR SCHEDULE ADJUSTMENT BASED UPON RESOURCE AVAILABILITY.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: IBM

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: PPE, TITLE: PROBLEM PROGRAM EVALUATOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: TIMING ANALYSIS, RESOURCE MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: COBOL, ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 350/370

TOOL SUMMARY: PPE ENABLES A USER TO IDENTIFY TIME CONSUMING AREAS OF PROGRAM CODE OR OTHER PROGRAM CHARACTERISTICS THAT RESULT IN INEFFICIENT RUNNING TIMES. PPE'S APPROACH IS TO HAVE AN IN-CORE RESIDENT MONITOR, THE EXTRACTOR PROGRAM, WHICH SAMPLES THE ACTIVITY OF THE PROBLEM PROGRAM AND OUTPUTS THIS ACTIVITY DATA TO AN EXTRACTOR DATA SET. THE EXTRACTOR DATA SET CAN BE RECORDED ON TAPE OR DISK. THE

PREF HDR GEN

USER'S PROGRAM RUNS NORMALLY, AND NO RECOMPILATION IS NECESSARY. THE REPORT PROGRAM, ANALYZER, PRODUCES AN EASY-TO-UNDERSTAND CODE ACTIVITY REPORT, BASED ON THE EXTRACTOR DATA SET THE ANALYZER CAN BE RUN AS THE SECOND PART OF A JOB WITH THE EXTRACTOR OR AT A LATER TIME AS A STAND ALONE JOB.

DOCUMENTATION: PROGRAM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, OPERATING SYSTEMS DEPARTMENT
CONTACT: D. MARTIN ROBINSON, TRW, OPERATING SYSTEMS DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0582

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: PPP, TITLE: PROJECT PRE-PLANNER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: DESIGN
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: PL/1
TOOL SIZE: CORE: 20K
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): MVS
TOOL AVAILABLE: NO

TOOL SUMMARY: THIS PROGRAM IS DESIGNED TO INTERACTIVELY CREATE, MODIFY, AND PLOT SOFTWARE DEVELOPMENT PROJECT STRUCTURES USING A 4014 OR 4015 TEKTRONIX STORAGE TERMINAL AS A FRONT-END TO PERT OR CPM. A 12" BY 9" WINDOW CAN BE VIEWED AS A SECTION OF A 36" BY 30" PLOTTING SURFACE. THE PLOTTING PROGRAM CAN CREATE A LARGE SIZE CALCOMP PLOT IN COLOR OR BLACK AND WHITE, TOGETHER WITH ANY NUMBER OF SMALL PLOTS. THE OPERATION OF THE PROGRAM IS CONDUCTED BY TYPING A UNIQUE KEYSTROKE FOR EACH OPERATION. THE PROGRAM CAN GENERATE FIGURES, LINES AND TEXT. ONLY ONE FLOW CHART AT A TIME CAN BE CREATED, SO THAT A DATA SET MUST BE DEFINED AND SAVED FOR EACH DRAWING. THE DATA SET WILL SERVE AS THE INPUT TO A PROGRAM THAT WILL CREATE A CALCOMP 30" WIDE PLOT. THE END PRODUCT IS THEN USED AS AN INPUT INTO STANDARD PERT OR CPM SOFTWARE.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: APPLIED PHYSICS LABORATORY
CONTACT: JOHN H. MANLEY, APPLIED PHYSICS LABORATORY, JOHNS HOPKINS ROAD, LAUREL, MD, 20810, USA, 301-953-7100
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: PREF HDR GEN, TITLE: PREFACE HEADER GENERATOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS, INTERFACE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): MODCOMP III
PUBLIC DOMAIN: YES

TOOL SUMMARY: THE HEADER GENERATOR TOOL PRODUCES A COMPLETE PICTURE OF THE FLOW OF DATA INTO AND OUT OF A SUBPROGRAM. THE RESULTING PICTURE CAN BE USED TO VERIFY THAT EACH SUBPROGRAM OF A SYSTEM MEETS ITS INTERFACE SPECIFICATION, ENSURING THAT EACH SUBPROGRAM USES ONLY ITS SPECIFIED INPUTS AND PRODUCES ONLY ITS SPECIFIED OUTPUTS. THE ANALYST CAN USE THE PROGRAM-GENERATED OUTPUT DURING THE CODING PHASE OF SYSTEM DEVELOPMENT TO VERIFY THAT A SUBPROGRAM IS USING ONLY THOSE INPUTS AND OUTPUTS THAT HAVE BEEN SPECIFIED IN THE SYSTEM DESIGN. DURING ALL PHASES OF THE SYSTEM'S EXISTENCE, THE OUTPUT CAN BE USED TO VERIFY THAT THE PREFACE BLOCK CONTAINED IN A SUBPROGRAM'S SOURCE CODE HAS BEEN CREATED AND MAINTAINED CORRECTLY, OR, IF NO PREFACE BLOCK EXISTS, THEN THE OUTPUT PROVIDES A STRONG FRAMEWORK FROM WHICH TO CREATE ONE.

DOCUMENTATION: TECHNICAL PAPER
DEVELOPER: TELEDYNE BROWN ENGINEERING
CONTACT: R. E. ALGER, TELEDYNE BROWN ENGINEERING, CUNNINGS RESEARCH PARK, HUNTSVILLE, AL, 35807, USA, 205-532-1257
INFORMATION SOURCE: AIAA SURV OF SOFT DEV TOOLS

ACRONYM: PREPROCESSOR GE, TITLE: CONTROL STRUCTURES PREPROCESSOR GENERATOR
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: CODE RESTRUCTURING, PREPROCESSOR GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN, COBOL

COMPUTER (OTHER HARDWARE): IBM 360/370, DATA GENERAL
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): MARKETED COMMERCIALY

TOOL SUPPORTED: YES, TOOL SUPPORT: SOFTOOL CORPORATION
TOOL SUMMARY: HOW TO USE TOOL: SIMPLY GENERATE A PREPROCESSOR AND INPUT THE STRUCTURED SOURCE PROGRAM TO THE PREPROCESSOR FOR EXPANSION. BENEFITS OBTAINED WITH TOOL: ALLOWS CREATION OF PREPROCESSORS WITH CONTROL STRUCTURES SPECIFIED BY USERS; LEADS TO EASY TO MAINTAIN CODE; PROVIDES MANAGEMENT CONTROL AN VISIBILITY; AND IMPROVES PRODUCTIVITY.

DEVELOPER: SOFTOOL CORPORATION
CONTACT: CAROL BADDORE, SOFTOOL CORPORATION, 340 SOUTH KELLOGG AVENUE, GOLETA, CA, 93017, USA, 805-964-0550
INFORMATION SOURCE: SOFTOOL PRODUCT SUMMARY

ACRONYM: PROG COMP ANAL, TITLE: PROGRAM COMPARISON ANALYSIS
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CONFIGURATION MANAGEMENT, COMPARISON

PROGLOOK

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE, OBJECT CODE
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): MODCOMP III
PUBLIC DOMAIN: YES

TOOL SUMMARY: THE PROGRAM COMPARISON ANALYSIS TOOL PROVIDES THE MEANS TO COMPARE TWO SOFTWARE SYSTEM VERSIONS, AT EITHER THE SOURCE OR OBJECT LEVEL, TO DETERMINE IF THEY ARE IDENTICAL. IT SERVES PRIMARILY AS A TOOL FOR CONFIGURATION MANAGEMENT. DURING THE CODING AND TEST PHASES OF DEVELOPMENT, THE TOOL MAY BE USED TO VERIFY THAT EACH DELIVERY AND REVISION OF SOFTWARE RECEIVED, WHETHER IN SOURCE OR OBJECT FORM, CONTAIN ONLY THOSE MODIFICATIONS IDENTIFIED. IF THE SYSTEM IS DEPLOYED TO MULTIPLE SITES, THIS TOOL CAN BE USED DURING THE MAINTENANCE PHASE OF THE SYSTEM'S EXISTENCE TO VERIFY THAT A PARTICULAR OBJECT VERSION OF THE SYSTEM IS INSTALLED AT A GIVEN SITE.

DOCUMENTATION: TECHNICAL PAPER
DEVELOPER: TELEDYNE BROWN ENGINEERING
CONTACT: R. E. ALGER, TELEDYNE BROWN ENGINEERING, CUNNINGS RESEARCH PARK, HUNTSVILLE, AL, 35807, USA, 205-532-1257
INFORMATION SOURCE: AIAA SURV OF SOFT DEV TOOLS

ACRONYM: PROGLOOK, TITLE: PROGLOOK
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN IV, ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, OS/VS2
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: PROGLOOK CONSISTS OF TWO PROGRAMS, PROGTIME AND PROGPLOT, WHICH ENABLE THE USER TO MAKE DETAILED MEASUREMENTS OF HIS PROGRAM WHILE IT IS RUNNING IT CAN BE USED TO MEASURE ANY USER PROGRAM THAT CAN BE RUN UNDER OS/MVT, OS/MFT, OR VS2 REL 1.6; WITH IT, THE USER CAN ASCERTAIN WHAT ACTION HE MUST TAKE IN ORDER TO IMPROVE THE PERFORMANCE OF THE PROGRAM. PROGTIME USES A CONTROL CLOCK TO SNAP A PICTURE OF ANY PROGRAM RUNNING UNDER IT AND RECORDS THIS INFORMATION IN A SPECIALLY FORMATTED DATA SET. IT IS DESIGNED TO HANDLE OVERLAY STRUCTURES AND DYNAMIC PROGRAMMING LINKAGES. THE NEW VERSION OF PROGTIME HAS PROVISIONS FOR ELIMINATING INTERFERENCE FROM OTHER JOBS IN THE SYSTEM. IT WILL ALSO PROPERLY TIME PROGRAMS USING THE LOAD MACRO. THE SPECIALLY FORMATTED DATA SETS SERVE AS INPUT FOR PROGPLOT, WHICH PRINTS SUMMARIES OF THE OBSERVATIONS. THE TWO PROGRAMS WORK IN CONJUNCTION TO PRODUCE GRAPHS THAT SHOW WHERE THE PROGRAM HAS SPENT ITS TIME (BOTH RUN AND WAIT-TIME) AND HOW PERFORMANCE CAN BE IMPROVED.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: COSMIC
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: PROGRAM GENERAT, TITLE: PROGRAM GENERATOR AND PROGRAM GENERATION
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, FEATURES: TRANSLATE
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 800315
APPLICABILITY: VHLL, PROGRAM SPECIFICATION
IMPLEMENTATION LANGUAGE: BASIC HP 250 EXTENDED
COMPUTER (OTHER HARDWARE): HP 250 (150K SYS MEMORY, 64K USER MEMORY)

TOOL SUMMARY: GENERATES SOURCE CODE FOR PROGRAMS TO BE USED IN SMALL BUSINESS SYSTEMS. THE SYSTEM IS EXPECTED TO INCREASE OVER-ALL PRODUCTION OF SOFTWARE BY A FACTOR OF 4.
DEVELOPER: LAKESIDE
CONTACT: BILL AUSTIN, LAKESIDE, BOX 800, BROOKS, ALBERTA, TOJ OJO, CANADA, 403-362-3326
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: PRONET, TITLE: PROJECT NETWORK SYSTEM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: RESOURCE MONITORING
STAGE OF DEVELOPMENT: DESIGN
APPLICABILITY: SOURCE CODE
TOOL PORTABLE: YES

TOOL SUMMARY: THE PRONET (PROJECT NETWORK) SYSTEM IS DESIGNED TO MONITOR BOTH THE PLANNING AND THE EXECUTION OF A GIVEN PROJECT. THE DEFINITION OF THIS PROJECT MAY FOLLOW A FREE FORMAT, OR ELSE, IF THE RELATIONSHIPS BETWEEN PROJECT ACTIVITIES ARE THEMSELVES DEFINABLE, THE PROJECT MAY BE DEFINED IN TERMS OF NETWORK PLANNING. IN EITHER CASE, PRONET GENERATES AND GRAPHICALLY DISPLAYS A PERT CHART ON WHICH IS TRACED THE PROGRESS OF THE PLAN. THE SYSTEM STORES INFORMATION CONCERNING THE FACTORS INVOLVED IN ARRIVING AT THE TARGET DATA AND IN ESTIMATING THE COST OF THE PROJECT IN QUESTION. SHOULD ANY OF THESE FACTORS CHANGE, THE SYSTEM CALCULATES NECESSARY REVISIONS. THIS FACILITATES MODIFICATIONS OF THE PROJECT AND ASSISTS THE PROJECT TEAM IN DEALING WITH THE UNEXPECTED. SINCE PRONET IS DESIGNED TO HANDLE BOTH NETWORK AND FREE-FORM PLANNING, A PROJECT PLAN MAY CONSIST OF ACTIVITIES THAT ARE EITHER RELATED OR ELSE INDEPENDENT OF EACH OTHER.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: SYSNET COMPANY
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: PSL, TITLE: PROGRAMMING SUPPORT LIBRARY
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: REPORT GENERATION, CODE AUDITING, DOCUMENTATION GENERATION, PROGRAM FORMATTING, STANDARDS ENFORCEMENT, LIBRARY MANAGEMENT, FILE MANAGEMENT

PSL/PSA

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 770000
APPLICABILITY: FORTRAN, COBOL 68, JOVIAL J3
IMPLEMENTATION LANGUAGE: COBOL 68
TOOL PORTABLE: NO, TOOL SIZE: CORE: 37K
COMPUTER (OTHER HARDWARE): HONEYWELL 6000, HONEYWELL H6000
OS (OTHER SOFTWARE): GCOS

TOOL AVAILABLE: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: THE WMMCCS PSL WILL PROVIDE THE FACILITIES TO ORGANIZE AND CONTROL THE DEVELOPMENT AND MAINTENANCE OF A PROGRAMMING PROJECT. THE SYSTEM WILL PROVIDE A MEANS OF COMMUNICATION BETWEEN PROJECT DEVELOPERS AND SERVE AS THE INTERFACE BETWEEN THE PROGRAMMING PERSONNEL AND THE COMPUTER SYSTEM. THE PSL PROVIDES SUPPORT TO ALL ASPECTS OF THE PROGRAM DEVELOPMENT PROCESS INCLUDING DESIGN, CODING TESTING, DOCUMENTATION AND MAINTENANCE. THE PSL PROVIDES THIS SUPPORT THROUGH: STORAGE AND MAINTENANCE OF PROGRAMMING DATA; OUTPUT OF PROGRAMMING AND RELATED CONTROL DATA; SUPPORT OF COMPILATION AND TESTING OF PROGRAMS; SUPPORT OF THE GENERATION OF PROGRAM DOCUMENTATION; COLLECTION AND REPORTING OF MANAGEMENT DATA RELATED TO PROGRAM DEVELOPMENT; CONTROL OVER THE INTEGRITY AND SECURITY OF THE DATA STORED IN THE PSL; SEPARATION OF THE CLERICAL ACTIVITY RELATED TO THE PROGRAMMING PROCESS.
DOCUMENTATION: USER'S MANUAL (300), MAINTENANCE MANUAL (300) REFERENCES: [RADC74], RADC, "STRUCTURED PROGRAMMING SERIES", RADC TR-74-300, (15 VOLUMES), 740000
DEVELOPER: ROME AIR DEVELOPMENT CENTER (ISIE)
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: PSL/PSA, TITLE: PROBLEM STATEMENT LANGUAGE/PROBLEM STATEMENT ANALYZER
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: REQUIREMENTS LANGUAGE PROCESSING, DESIGN LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: REQUIREMENTS
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: YES
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
TOOL SUMMARY: PSL/PSA IS A LANGUAGE AND A RELATIONAL DATA BASE THAT MAY BE USED TO DESCRIBE THE REQUIREMENTS AND TOP LEVEL DESIGN FOR A TARGET DATA SYSTEM. THE ANALYZER IS USED TO GENERATE A LARGE NUMBER OF DIFFERENT REPORTS. IT HAS BEEN IN USE FOR OVER FOUR YEARS. A USER'S GROUP HAS BEEN FORMED AND AN ON-GOING CONTINUING DEVELOPMENT ACTIVITY IS MAINTAINED BY THE UNIVERSITY OF MICHIGAN.
DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER
DEVELOPER: JET PROPULSION LABORATORY

CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3550
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: QCM, TITLE: QUANTITATIVE COMPUTER MANAGEMENT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PERFORMANCE MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 350/370, AMDAHL
OS (OTHER SOFTWARE): OS, MVS, VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: QCM (QUANTITATIVE COMPUTER MANAGEMENT) IS A COMPREHENSIVE FAMILY OF FOUR INDEPENDENT BUT INTERRELATED COMPUTER MODULES DESIGNED TO MEASURE, REPORT, AND OPTIMIZE ALL FACETS OF COMPUTER UTILIZATION. THE MODULES ARE: SPM (SYSTEMS PERFORMANCE MODULE) FOR OFF-LINE CAPACITY PERFORMANCE MANAGEMENT AND OVERALL SYSTEM TUNING; SPI (SYSTEMS PERFORMANCE INTERROGATOR) FOR REAL-TIME DIAGNOSTIC PERFORMANCE MANAGEMENT AND SYSTEM PROGRAMMING CAPABILITIES VIA OPERATOR AND TSO COMMANDS; JOB ANALYSIS AND BILLING) FOR EQUITABLE, ACCURATE, AND REPEATABLE RESOURCE CHARGEBACK AND JOB ANALYSIS; AND A REGULATOR FOR DYNAMIC THROUGHPUT OPTIMIZATION AND REAL-TIME PRIORITY CONTROL OF JOB WORKBACK. (EACH OF THESE MODULES IS DETAILED SEPARATELY IN THIS SECTION OF THE DIRECTORY. REFER TO THE INDEXES FOR THE EXACT LOCATIONS OF THE REPORTS.) AT THE HEART OF EACH COMPONENT IS A TIMING/MEASUREMENT SYSTEM THAT RECORDS ALL SOFTWARE AND HARDWARE USAGES.
DOCUMENTATION: USER'S MANUAL
DEVELOPER: DEQUESNE SYSTEMS, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: QCRT, TITLE: QCRT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FILE MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: COBOL ANSI
TOOL SIZE: CORE: 45K-IBM, 12K-HW
COMPUTER (OTHER HARDWARE): IBM 350/370, HONEYWELL 6000
OS (OTHER SOFTWARE): OS, VS, DOS, GCOS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: QCRT (QUICK CHANGE REAL TIMER) IS AN ON-LINE FILE MAINTENANCE SYSTEM DESIGNED TO REDUCE PROGRAMMING TIME FOR ANY ON-LINE APPLICATION. IT ALLOWS THE USER TO SET UP ON-LINE INQUIRY, EDIT, AND UPDATE CRT SCREENS WITH SIMPLE POSITION-STATING PARAMETERS. IT ALSO ALLOWS THE USER TO SET UP CORRESPONDING EDITING, VALIDATING, AND OTHER PROCESSING WITH PARAMETERS SIMILAR TO THOSE OF A REPORT GENERATOR. QCRT PROVIDES FOR CHECKPOINT/RESTART/RECOVERY

RADC/FCA

PROGRAM LOOP CONTROL, MULTI-TASKING RECORD LOCKOUT, REAL-TIME ERROR HANDLING, AND OTHER ON-LINE CONSIDERATIONS. QCRT INCLUDES AN ABEND (DUMP) TRAP IN WHICH DATA EXCEPTION (OC7) TYPE PROCESSING ERRORS ARE INTERCEPTED AND TERMINATION FORCED. A GENERAL-PURPOSE ON-LINE DEBUGGING AND CONTROL SCREEN IS ALSO PROVIDED. THE SYSTEM USES THREE FORMS: ONE FOR CRT SCREEN FORMATTING, ONE FOR DATA MANIPULATION, AND ONE FOR TABLE LOOKUP. SECURITY IS PROVIDED VIA PASSWORDS QCRT WILL HANDLE MULTIPLE FILES, MULTIPLE RECORD TYPES, HIERARCHICAL FILE STRUCTURES, AND DATA BASES.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: THE MANAGEMENT GROUP, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: QUICK-DRAW, TITLE: SOURCE PROGRAM FLOWCHARTER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN, COBOL, ASSEMBLY, PL/1
IMPLEMENTATION LANGUAGE: COBOL, OBJECT
COMPUTER (OTHER HARDWARE): IBM 360/370, UNIVAC, HONEYWELL
TOOL SUMMARY: QUICK-DRAW IS A SYNTAX ANALYSIS SYSTEM THAT SCANS COBOL, BAL, AUTO CODER, FORTRAN, AND PL/1 SOURCE PROGRAMS AND AUTOMATICALLY PRODUCES FLOWCHARTS, PROGRAM DIAGNOSTICS, AND A SERIES OF RELATED CROSS-REFERENCES. IT IS CONFIGURATION INDEPENDENT WITH NO MANUAL INTERVENTION OR SPECIAL PREPARATION REQUIRED.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: NATIONAL COMPUTER ANALYSIS, INC.
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: RADC/FCA, TITLE: RADC FORTRAN CODE AUDITOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, STANDARDS ENFORCEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 760000
APPLICABILITY: FORTRAN IV
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 40K
COMPUTER (OTHER HARDWARE): HONEYWELL H6180
OS (OTHER SOFTWARE): GCOS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A.
TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIE
TOOL SUMMARY: THE FORTRAN CODE AUDITOR, AN AUTOMATED TEST TOOL, IS USED FOR THE COST EFFECTIVE ENFORCEMENT OF FORTRAN PROGRAMMING STANDARDS AND CONVENTIONS APPROPRIATE TO THE AIR FORCE SOFTWARE ENVIRONMENT. IT DOES NOT MODIFY CODE. USING PREDEFINED CODING STANDARDS AND CONVENTIONS, IT

SIMPLY ADVISES THE USER WHERE THESE STANDARDS AND CONVENTIONS HAVE NOT BEEN ADHERED TO. THE MAJOR ADVANTAGE OF FAVORING AN AUTOMATED AUDITOR OVER MANUAL METHODS, BESIDES COST EFFECTIVENESS, IS COMPLETE OBJECTIVITY AND UNAMBIGUITY. THE STANDARDS CAN BE VIEWED AS BEING CODING ENFORCEMENTS IN FOUR AREAS: (1) DOCUMENTATION STANDARDS - STANDARDS DEFINING QUANTITY AND PLACEMENT OF COMMENTARY THUS ENHANCING PROGRAM READABILITY AND COMPREHENSIVE (2) FORMAT STANDARDS - STANDARDS IDENTIFYING PHYSICAL PLACEMENT AND GROUPING OF CODE ELEMENTS ON THE SOURCE CODE LISTING. (3) DESIGN STANDARDS - STANDARDS LIMITING MODULE SIZE AND PLACING RESTRICTIONS ON THE USE OF CERTAIN INSTRUCTIONS WITH THE END RESULT OF PROVIDING AN OPTIMIZATION OF CODE RELATIVE TO EXECUTION TIME. (4)
DOCUMENTATION: USER'S MANUAL (55), PROGRAM MAINTENANCE MANUAL (82)

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: RATCODER, TITLE: RATCODER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: TRACE, STANDARDS ENFORCEMENT, RUN TIME ANALYSIS, EXECUTION MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: RATFOR
IMPLEMENTATION LANGUAGE: PASCAL
COMPUTER (OTHER HARDWARE): CDC 6000

TOOL AVAILABLE: YES
TOOL SUMMARY: RATCODER PRODUCES ONE OR MORE STANDARD RATFOR PROGRAM MODULES FROM AN INPUT FILE OF LINES CONSISTING OF: MODULE NAME, AND A SHOT COMMENT DESCRIBING THE MODULE'S PURPOSE. EACH OF THE MODULES PRODUCED INCLUDES SUITABLY MARKED COMMENTS FOR THE HEADER (INCLUDING THE PURPOSE); MODULE AUTHOR, DATE, AND TIME; AND A PLACE TO INSERT NOTES RELATIVE TO THE MODULE. CONTROL DATA CORPORATION 'UPDATE' (REF. B) CONDITIONAL SOURCE CODE BLOCKS ARE WRITTEN AT THE ENTRY AND EXIT OF EACH MODULE TO MARK THE NAME AND TIME OF ENTRY, AND THE TOTAL ELAPSED TIME IN THE MODULE. THESE BLOCKS ARE LOGICALLY DELETABLE WHEN THE PROGRAM UNDER DEVELOPMENT REACHES THE PRODUCTION STAGE; HOWEVER, THEY REMAIN IN THE SOURCE CODE LIBRARY. UNIQUENESS OF TEXT MARKS PRODUCED BY 'RATCODER' ALLOWS EASY LOCATION OF A SPECIFIC PORTION OF THE MODULES WITH A LINE ORIENTED TEXT EDITOR. SUFFICIENT 'WHITE SPACE' IS INCLUDED IN EACH MODULE TO ENHANCE READABILITY OF THE SOURCE CODE. THE DEVELOPER HAS USED THIS PROGRAM TO DEVELOP SEVERAL 'RATFOR' PROGRAMS.

DEVELOPER: NSRDC
CONTACT: PETER N. ROTH, NSRDC, STRUCTURES DEPARTMENT, BETHESDA, MD, 20084, USA, 202-227-1851
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: RATFOR, TITLE: RATIONAL FORTRAN TRANSLATOR

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: STRUCTURED LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 760000
APPLICABILITY: STRUCTURED FORTRAN, RATFOR
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: YES
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): COPYRIGHT 1975 BY BELL TELEPHONE LABORATORIES, INC. AND YOURDON, INC.
TOOL SUMMARY: THE PRIMARY PURPOSE OF RATFOR IS TO MAKE FORTRAN A BETTER PROGRAMMING LANGUAGE, FOR BOTH WRITING AND EXPLAINING, BY PERMITTING AND ENCOURAGING READABLE AND WELL-STRUCTURED PROGRAMS. THIS IS DONE BY PROVIDING THE CONTROL STRUCTURES THAT ARE UNAVAILABLE IN BARE FORTRAN, AND BY IMPROVING THE "COSMETICS" OF THE LANGUAGE. THE CONTROL FLOW STRUCTURES ARE IF-ELSE, WHILE, DO, BREAK, NEXT, FOR, REPEAT-UNTIL, AND STATEMENT GROUPING WITH BRACES. RATFOR IS TRANSLATED INTO FORTRAN, THUS RETAINING THE ADVANTAGES OF FORTRAN - UNIVERSALITY, PORTABILITY, AND RELATIVE EFFICIENCY - WHILE AT THE SAME TIME CONCEALING ITS WORST DRAWBACKS.
DOCUMENTATION: PROGRAM DESCRIPTION (34)
REFERENCES: [KERN76], BRIAN W. KERNIGHAN AND P. J. PLAUGER, "SOFTWARE TOOLS", ADDISON-WESLEY PUBLISHING CO., 760000
DEVELOPER: ADDISON-WESLEY PUBLISHING CO.
INFORMATION SOURCE: KERN76

ACRONYM: REFER, TITLE: REFER PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN IV
COMPUTER (OTHER HARDWARE): IBM 350/370
TOOL SUMMARY: THE REFER PROGRAM OPERATES ON COMPILER-PRODUCED DATA TO AUTOMATICALLY PRODUCE CROSS-REFERENCE MAPS OF SUBROUTINE USAGE AND HIERARCHICAL DISPLAYS OF SUBROUTINE CALLING STRUCTURES. SINCE THIS DATA IS NOT NORMALLY PRODUCED BY VENDOR-SUPPLIED OPERATING SYSTEMS, REFER CAN BE USED EXTENSIVELY FOR PROGRAM ANALYSIS AND DOCUMENTATION.
DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
CONTACT: CLARK LUCAS, TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0426

REFER

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG
ACRONYM: REFLECT II, TITLE: REFLECT II
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: RESOURCE MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 350/370
TOOL (OTHER SOFTWARE): VSI, SVS, MVS, OS/MVT
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE
TOOL SUMMARY: REFLECT II MONITORS THE EXECUTION OF USER PROGRAMS AND MEASURES PROGRAM PERFORMANCE. IT CONSISTS OF TWO MAJOR COMPONENTS: A MONITOR PROGRAM AND A REPORT GENERATOR. THE MONITOR PROGRAM OVERSEES THE EXECUTION OF A USER PROGRAM. IT ISSUES TIMER INTERRUPT REQUESTS AND, AT EACH INTERRUPT, MAKES AN ENTRY IN A TRACE FILE THAT RECORDS THE STATE OF THE USER PROGRAM. THE REPORT GENERATOR READS THE TRACE FILE AND PRODUCES REPORTS THAT SUMMARIZE THE SAMPLING DATA COLLECTED BY THE MONITOR. THE MOST SIGNIFICANT OF THESE REPORTS IS A HISTOGRAM, WHICH CLEARLY DEPICTS THE DISTRIBUTION OF CPU TIME UTILIZATION WITHIN A PROGRAM. REFLECT II IS DESIGNED TO PROVIDE THE INFORMATION NEEDED TO QUICKLY LOCATE AND ELIMINATE COSTLY BOTTLENECKS IN COMPUTER PROGRAMS WRITTEN IN ANY LANGUAGE. WITHOUT REQUIRING RELINKING OR MODIFICATION, THE SYSTEM GENERATES A RESOURCE UTILIZATION PROFILE OF THE PROGRAM. THE PROFILE CLEARLY IDENTIFIES THOSE PORTIONS OF THE PROGRAM THAT SHOULD BE OPTIMIZED IN ORDER TO REDUCE EXECUTION COSTS SUBSTANTIALLY.
DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: CACI, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: REFORM, TITLE: FORTRAN REFORMATTING PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROGRAM REFORMATTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC
TOOL SUMMARY: REFORM IS AN AUTOMATED TOOL FOR USE IN THE DEVELOPMENT AND MAINTENANCE OF CONSISTENT FORTRAN CODE. REFORM IMPROVES THE QUALITY OF SOFTWARE THROUGH THE APPLICATION OF A CLEAR, WELL-DEFINED SET OF FORTRAN SOFTWARE DESIGN CRITERIA. THIS PROGRAM DOES NOT SIMPLY REPORT DISCREPANCIES, BUT WILL RESTRUCTURE CODE TO COMPLY WITH GIVEN RULES WITHOUT MANUAL INTERACTION. REFORMATED CODE EXECUTES EXACTLY THE SAME AS ORIGINAL CODE BUT IS GREATLY ENHANCED IN FORM AND LOGICAL STRUCTURE. REFORM INSURES THAT: 1) ALL CODE IS STRUCTURALLY CONSISTENT. 2)

REL MEAS MODEL

ALL VARIABLE SPECIFICATION STATEMENTS ARE COMBINED AND ALPHABETIZED. 3) THE IMPLIED HIERARCHY OF ARITHMETIC AND LOGICAL OPERATORS IS EXPLICITLY SHOWN BY WAY OF SELECTIVE SPACING. (4) STATEMENT LABELS ARE IN ASCENDING ORDER (5) LOOPS ARE INDENTED TO SHOW THE NESTING LEVELS. (6) COMMENTS ARE FORMATTED TO IMPROVE READABILITY. (7) BLANK COMMENTS ARE ADDED TO EMPHASIZE BLOCK STRUCTURE.

DOCUMENTATION: CAPABILITIES BRIEFING
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPT.
CONTACT: P. W. BOGLE, TRW, SOFTWARE TECHNOLOGY DEPT., ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: REL MEAS MODEL, TITLE: RELIABILITY MEASUREMENT MODEL

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: TEST EFFECTIVENESS MEASUREMENT, MEAN-TIME-BETWEEN - FAILURE ANALYSIS

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: SOURCE CODE

TOOL PORTABLE: YES

TOOL AVAILABLE: YES

TOOL SUMMARY: MEAN-TIME-TO-FAILURE (MTTF) IS A USEFUL METRIC FOR CHARACTERIZING SYSTEM OPERATION AND FOR CONTROLLING CHANGE DURING THE MAINTENANCE PHASE. AN AUTOMATED MODEL HAS BEEN DEVELOPED USING A NUMBER OF FUNDAMENTAL EQUATION WHICH RELATE FAILURES EXPERIENCE, PRESENT MTTF, MTTF OBJECTIVE, AND TIME REQUIRED TO MEET THE MTTF OBJECTIVE. THE MODEL REQUIRES THE INPUT OF THE EXECUTION TIME INTERVALS BETWEEN EXPERIENCED FAILURES, THE MTTF OBJECTIVE AND A PARAMETER DESCRIBING THE ENVIRONMENT. THE MODEL CAN PROVIDE A QUANTITATIVELY-BASED MECHANISM FOR CHANGE CONTROL IN THE OPERATIONS AND MAINTENANCE PHASE. GENERALLY, THE MTTF WILL DROP AFTER THE INSTALLATION OF SOFTWARE CHANGES AND IMPROVE DURING THE FOLLOWING PERIOD OF ERROR REMOVAL. IF THE MTTF CAN BE TRACKED AND IF MTTF SERVICE OBJECTIVES CAN SET FOR THE SYSTEM, THE MODEL CAN BE USED AS A TOOL FOR THE MANAGEMENT OF SYSTEM MODIFICATIONS. WHEN THE MTTF FALLS BELOW THE SERVICE OBJECTIVE, THE SYSTEM CAN BE FROZEN UNTIL IMPROVEMENT OCCURS.

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[MUSA00], JOHN D. MUSA, "SOFTWARE RELIABILITY MEASURES APPLIED TO SYSTEM ENGINEERING", PROCEEDINGS AFIPS CONFERENCE, VOLUME 48, AFIPS PRESS, 0
DEVELOPER: BELL LABORATORIES, WHIPPANY, NEW JERSEY
INFORMATION SOURCE: RADC-TR-80-13, INTER REPORT

ACRONYM: RENAME, TITLE: RENAME
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: EDITING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM REPLACES A SET OF UP TO 200 VARIABLE NAMES WITHIN A FORTRAN PROGRAM WITH OTHER NAMES. THE PRIMARY USE OF THIS PROGRAM IS THE STANDARDIZATION OF VARIABLE NAMES IN A GROUP OF ROUTINES.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: BRUNSWICK DEFENSE DIV.
CONTACT: JAMES N. CHURCHYARD, BRUNSWICK DEFENSE DIV., 3333 HARBOR BLVD., COSTA MESA, CA, 92626, USA, 714-546-8030
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: RISOS TOOLS, TITLE: RISOS TOOLS
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CROSS REFERENCE, DATA BASE ANALYSIS, FLOW CHART GENERATION, PROFILE GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 760300
APPLICABILITY: ASSEMBLY
IMPLEMENTATION LANGUAGE: FORTRAN CDC
TOOL PORTABLE: NO

COMPUTER (OTHER HARDWARE): CDC 7600
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THE RISOS TOOLS WERE DEVELOPED BY THE RESEARCH IN SECURED OPERATING SYSTEMS (RISOS) PROJECT AT LAWRENCE LIVERMORE LABORATORY. THESE TOOLS WERE DEVELOPED TO ANALYZE ASSEMBLY LANGUAGE PROGRAMS AND CONSIST OF THE FOLLOWING THREE ANALYTIC TOOLS: (1) SAP (STATISTICAL ANALYSIS PROGRAM) COUNTS ALL OCCURRENCES OF SPECIFIED SYMBOLS WITHIN A GIVEN MODULE, (2) SPAM (SOURCE PROGRAM ALTERATION MODULE) IDENTIFIES THE CONTROL FLOW IN A MODULE BY INSERTING COMMENTS PRIOR TO STATEMENTS THAT ARE BRANCHED TO AND STATEMENTS THAT CAUSE A BRANCH, AND (3) CRISP (CROSS REFERENCE INTERFACE AND SEARCH PROGRAM) IS A CHARACTER STRING PROCESSING ROUTINE THAT LOCATES INSTRUCTION PATTERNS BY MODULE AND LINE NUMBER. THE RISOS TOOLS HAVE THE DRAWBACK THAT THEY REQUIRE FOUR FILES TO WORK PROPERLY. IN ORDER TO CREATE THESE FILES, THE USER MUST EITHER USE AN AVAILABLE PARSER OR MODIFY A PROTOTYPE PARSER FOR THE ASSEMBLY LANGUAGE THAT IS BEING ANALYZED.

DOCUMENTATION: TECHNICAL DESCRIPTION
DEVELOPER: LAWRENCE LIVERMORE LABORATORY, LIVERMORE, CALIFORNIA
CONTACT: DAVE LEWIS, DEPT OF DEFENSE, S863, OPS BLDG 3, FT MEADE, MD, 20755, USA, 301-688-5015
INFORMATION SOURCE: DOD TECHNICAL REPORT

ACRONYM: RXVP, TITLE: RXVP
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TEST EFFECTIVENESS MEASUREMENT,
CODE RESTRUCTURING, STRUCTURED LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN, IFTRAN
IMPLEMENTATION LANGUAGE: FORTRAN, IFTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, UNIVAC 1108, CDC 6400
TOOL SUMMARY: RXVP OFFERS AN ORGANIZED APPROACH TO
COMPREHENSIVE TESTING AND SUPPORTS THE VALIDATION AND
VERIFICATION EFFORT THROUGH ALL ITS PHASES. IT BECOMES A
PARTNER IN TESTING; RXVP GUIDES THE PROGRAM TESTER IN THE
SYSTEMATIC DEVELOPMENT OF TEST CASES THAT ENSURE THOROUGH
PROGRAM COVERAGE, AND THE REPORTS ON TEST COVERAGE
ACHIEVED. IN ACCEPTANCE TESTING, RXVP HAS A SPECIAL PLACE:
AN EFFICIENT SET OF ACCEPTANCE TESTS CAN BE DEvised, AND
FULL TEST COVERAGE CAN BE DEMONSTRATED. RXVP AUTOMATICALLY
PERFORMS A COMPLETE STRUCTURAL ANALYSIS OF FORTRAN PROGRAMS
AND STORES THE RESULTS IN A DATA BASE. USING THIS DATA
BASE, RXVP PROVIDES YOU WITH THE FOLLOWING AUTOMATED
SERVICES: DETAILED STATIC ANALYSIS OF INDIVIDUAL PROGRAM
MODULES (SUBPROGRAMS) AND GROUPS OF MODULES; AUTOMATIC
INSTRUMENTATION OF THE CONTROL STRUCTURE OF THE SOURCE
CODE; INSTRUMENTATION AT THE STATEMENT LEVEL FOR RECORDING
STATISTICS ON PROGRAM VARIABLES; SOPHISTICATED ADVICE AND
ANALYSIS SERVICES ORIENTED TOWARDS GENERATING COMPREHENSIVE
SETS OF TEST CASES;
DOCUMENTATION: REFERENCE MANUAL, USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
[DONA80], JOHN D. DONAHO AND DOROTHY SWEARINGER, "A
REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADDC-TR-80-13,
INTERIM REPORT, 800200
DEVELOPER: GENERAL RESEARCH CORPORATION
CONTACT: GRC, GENERAL RESEARCH CORPORATION, SANTA BARBARA,
CA, USA, 805-964-7724
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG, RADDC-TR-80-13

ACRONYM: S-FORTRAN, TITLE: S-FORTRAN
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: STRUCTURED LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: STRUCTURED FORTRAN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 7600, CDC 6X00,
UNIVAC 1108, SEL-32
TOOL SUMMARY: THE S-FORTRAN LANGUAGE, DEVELOPED BY CAINE,
FARBER GORDON, INC., IS AN EXTENSION OF FORTRAN WHICH
ALLOWS EASY, EFFICIENT AND RELIABLE STRUCTURE PROGRAMMING
IN A FORTRAN ENVIRONMENT. THE LANGUAGE RESULTS FROM THE

ADJUNCTION OF A CAREFULLY CHOSEN SET OF CONTROL STRUCTURES
TO EXISTING FORTRAN. THE S-FORTRAN LANGUAGE IS IMPLEMENTED
USING AN S-FORTRAN TO FORTRAN TRANSLATOR. THE PURPOSE OF
THE TRANSLATOR IS TO LIST THE INPUT PROGRAMS AUTOMATICALLY
INDENTED, SCAN FOR POSSIBLE ERRORS AND PRINT APPROPRIATE
DIAGNOSTIC, AND PRODUCE EQUIVALENT FORTRAN PROGRAMS THAT
CAN SUBSEQUENTLY BE COMPILED AND EXECUTED.

DOCUMENTATION: LANGUAGE REFERENCE GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: CAINE, FARBER GORDON, INC.
CONTACT: KENT GORDON, CAINE, FARBER GORDON, INC., USA,
213-449-3070
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SADAT, TITLE: STATIC AND DYNAMIC ANALYSIS AND TEST
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: REPORT GENERATION, DATA FLOW ANALYSIS, PROFILE
GENERATION, COVERAGE ANALYSIS, SYMBOLIC EVALUATION, PROGRAM
FLOW ANALYSIS, DATA AUDITING, EXECUTION MONITORING, PATH
CONSTRAINT GENERATION, PROGRAM STRUCTURE CHECKING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780000
APPLICABILITY: FORTRAN 66
IMPLEMENTATION LANGUAGE: PL/1
COMPUTER (OTHER HARDWARE): IBM 360/370, IBM 3033
TOOL AVAILABLE: YES
TOOL SUMMARY: SADAT IS AN EXPERIMENTAL TEST SYSTEM FOR
STATIC AND DYNAMIC ANALYSIS OF SINGLE FORTRAN-MODULES.
ADDITIONALLY IT GENERATES A COVERING SET OF PATHS THROUGH
THE PROGRAM AND COMPUTES THE CORRESPONDING PATH PREDICATES.
CURRENTLY THE PATH PREDICATES ARE NOT SIMPLIFIED NOR ARE
CONTRADICTIONS RECOGNIZED.
DOCUMENTATION: USER MANUAL (11), INSTALLATION INSTRUCTION
(15)

REFERENCES: [VOGE79], U. VOGES, L. GMEINER AND A. AMSCHLER
VON MAYRHAUSER, "SADAT - AN AUTOMATED TESTING TOOL",
IEEE-TSE, 790000
[AMSC77], A. AMSCHLER, L. GMEINER, "SADAT2
BENUTZERHANDBUCH", KFK-EXT. 13/77-02, 770200
[GMEI78], L. GMEINER, "DYNAMIC ANALYSIS AND TEST DATA
GENERATION IN AN AUTOMATIC TEST SYSTEM", WORKSHOP ON
RELIABLE SOFTWARE, 780922
[SEIF], M. SEIFERT, "SADAT-EIN SYSTEM ZUR AUTOMATISCHEN
DURCHFUEHRUNG UND ANSWERTUNG VON TESTS", KFK-EXT. 13/75-05,
750500
DEVELOPER: KERNFORSCHUNGSZENTRUM KARLSRUHE GMBH
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: SALSIM, TITLE: SALSIM
CLASSIFICATION: SOFTWARE MODELING AND SIMULATION

SAP

FEATURES: DESIGN SIMULATION, REAL-TIME SOFTWARE DESIGN
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: IMPLEMENTATION LANGUAGE: FORTRAN IV
COMPUTER (OTHER HARDWARE): CDC 6X00, IBM 360, CDC 7X00
TOOL SUMMARY: SALSIM SOFTWARE ENABLES A USER TO CONSTRUCT A
SIMULATION PROGRAM USING A SPECIAL HIGHER-ORDER LANGUAGE
(CALLED LOGICAL CONTROL CHAIN-LCC- LANGUAGE) FOR
DISCRETE-EVENT SIMULATION, TOGETHER WITH FORTRAN AS
REQUIRED TO COMPLETE THE SIMULATION. THE SALSIM EXECUTIVE
RELATES THE LCC LANGUAGE TO FORTRAN SUBROUTINES IN THE
SALSIM PACKAGE. SALSIM OPERATION RESULTS IN A FORTRAN
SIMULATION PROGRAM WHICH CAN BE COMPILED AND EXECUTED IN
THE NORMAL MANNER. THE REAL POWER OF SALSIM IS IN
PERMITTING A USER TO RAPIDLY CONSTRUCT A REASONABLY PRECISE
DISCRETE-EVENT SIMULATION OF A SYSTEM. SINCE A WIDE
VARIETY OF THE SYSTEM PROBLEMS WHICH MUST BE ADDRESSED BY
SOFTWARE DESIGNERS ARE OF THE DISCRETE-EVENT VARIETY,
SALSIM HAS COME INTO INCREASING USE IN TRW. FOR EXAMPLE, A
REAL TIME SOFTWARE SYSTEM WHICH MUST PROCESS QUEUED INPUT
MESSAGE TRAFFIC IS IN MANY RESPECTS A DISCRETE-EVENT
SYSTEM. A SIMULATION CAN BE USED TO GAIN INSIGHT INTO A
NUMBER OF CRITICAL QUESTIONS ABOUT A PROPOSED OR ACTUAL
SYSTEM.

DOCUMENTATION: USER'S GUIDE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100
DEVELOPER: TRW
CONTACT: DENNIS TOWNSEND, TRW, ONE SPACE PARK, REDONDO BEACH,
CA, 90728, USA, 213-535-1945
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SAP, TITLE: SOURCE ANALYZER PROGRAM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PROFILE GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN
TOOL SIZE: CORE: 120K
COMPUTER (OTHER HARDWARE): DEC - PDP-11/70 (DISK: 80K)
OS (OTHER SOFTWARE): RSX-11D OR M
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM IS DESIGNED TO EXTRACT
QUANTITATIVE INFORMATION PERTAINING TO A GIVEN FORTRAN
SUBROUTINE OR FUNCTION. THE INFORMATION CONSISTS OF SUCH
THINGS AS NUMBER OF SOURCE LINES, NUMBER OF COMMENTS,
NUMBER OF DO LOOPS, NUMBER OF GO TO'S, LEVEL OF
SUBSCRIPTING USED, ETC. THE INTENT OF THE TOOL IS TO
SUPPORT THE CAPABILITY OF COMPUTING BASIC PROGRAM MEASURES
OR EVALUATING WHETHER STATIC CONSTRAINTS HAVE BEEN MET IN A
GIVEN MODULE.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT
SPECIFICATION, TEST PLAN
DEVELOPER: NASA/GODDARD SPACE FLIGHT CENTER
CONTACT: F. E. MCGARRY, NASA/GODDARD SPACE FLIGHT CENTER,
CODE 582.1, GREENBELT, MD, 20771, USA, 301-344-5048
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SAP/H, TITLE: SOURCE ANALYZER PROGRAM/HALSTEAD
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COMPLEXITY MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN
TOOL SIZE: CORE: 133K
COMPUTER (OTHER HARDWARE): DEC PDP-11/70 (DISK: 90K)
OS (OTHER SOFTWARE): RSX-11M OR D
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS IS AN EXTENSION OF THE SAP SUPPORT
UTILITY. IT IS DESIGNED TO USE THE STATIC INFORMATION OF A
FORTRAN SUBROUTINE OR FUNCTION (PROVIDED BY SAP) AND
GENERATE VARIOUS SETS OF COMPLEXITY MEASURES AND HALSTEAD
PARAMETERS (SUCH AS PROGRAM LENGTH, PROGRAM VOLUME, ETC.).
THE COMPLEXITY MEASURES ARE BASED ON MCCABES DEFINITION OF
COMPLEXITY AND ALSO CONTAIN A LOCAL (TO GSFC)
CATEGORIZATION OF EACH SUBROUTINE INTO ONE OF SIX
CATEGORIES.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT
SPECIFICATION, TEST PLAN
DEVELOPER: NASA/GODDARD SPACE FLIGHT CENTER
CONTACT: F. E. MCGARRY, NASA/GODDARD SPACE FLIGHT CENTER,
CODE 582.1, GREENBELT, MD, 20771, USA, 301-344-5048
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SARA-H, TITLE: SARA-H
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT, RESOURCE MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 54K
COMPUTER (OTHER HARDWARE): HONEYWELL 6000
OS (OTHER SOFTWARE): GCOS
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: THE SARA (SYSTEM ANALYSIS AND RESOURCE
ACCOUNTING) SYSTEMS ENABLE USERS TO MEASURE COMPUTER SYSTEM
CAPACITY AND ESTABLISH REASONABLE PRODUCTION PERFORMANCE
STANDARDS. SARA-H IS DESIGNED FOR USE WITH HONEYWELL
COMPUTERS. THE PRIMARY INPUT SOURCE FOR SARA-H IS
HONEYWELL'S STATISTICAL COLLECTION FILE (SCF). THE SYSTEM
PROCESSES THE RAW SCF DATA, ANALYZES IT AGAINST
PRE-ESTABLISHED STANDARDS, AND OUTPUT VARIOUS ANALYSIS
REPOR THE SYSTEMS PRODUCES THE FOLLOWING REPORTS: GENERAL
SYSTEM OVERVIEW REPORTS, TOP-DOWN MANAGEMENT REPORTS, JOB

SARA-IV

MIX CHARACTERISTICS AND RESOURCE UTILIZATION, PERFORMANCE INDICATORS, GRAPHICAL DATA DISPLAYS SHOWING RESOURCE DISTRIBUTIONS, AND EXCEPTION REPORTS. SARA-H ALSO PROVIDES REPORTS ON TSS ACTIVITY. A GENERAL-PURPOSE REPORT WRITER AND A MANAGEMENT REPORTING SYSTEM ARE AVAILABLE AS OPTIONS. DEVELOPER: BOEING COMPUTER SERVICES INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SARA-III, TITLE: SARA-III
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT, RESOURCE MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 160K
COMPUTER (OTHER HARDWARE): IBM 360/370, AMDAHL
OS (OTHER SOFTWARE): OS, OS/VSI, OS/V52
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE

TOOL SUMMARY: THE SARA (SYSTEMS ANALYSIS AND RESOURCE ACCOUNTING) PACKAGES ARE COMPUTER CAPACITY MANAGEMENT TOOLS. THE SARA III PROVIDES COMPREHENSIVE REPORTS DESCRIBING JOB MIX CHARACTERISTICS AND SYSTEM BEHAVIOR AT EACH LEVEL OF MULTIPROGRAMMING. THE REPORTS ASSIST THE USER IN SETTING STANDARDS FOR LEVELS OF BATCH AND TSO PERFORMANCE AND PROVIDE THE NECESSARY VISIBILITY FOR PERFORMANCE CONTROL. THE SYSTEM PRODUCES APPLICATION ANALYSIS REPORTS THAT ANALYZE AND EVALUATE JOBS, STEPS, AND PROGRAMS. IN ADDITION, SARA III PRODUCES GRAPHIC DISPLAYS SHOWING PEAK AND NOMINAL SYSTEM PERFORMANCE LEVELS, USER ANALYSIS REPORTS SHOWING THE IMPACT OF USERS ON THE DATA PROCESSING ENVIRONMENT, AND SHIFT ANALYSIS REPORTS THAT REPORT SYSTEM ACTIVITY BY USER-DEFINED SHIFTS. DEVELOPER: BOEING COMPUTER SERVICES, INC. INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SARA-IV, TITLE: SARA-IV
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT, RESOURCE MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 200-700K
COMPUTER (OTHER HARDWARE): IBM 360/370, AMDAHL
OS (OTHER SOFTWARE): OS, OS/VSI, OS/V52
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE
TOOL SUMMARY: THE SARA (SYSTEMS ANALYSIS AND RESOURCE ACCOUNTING) PACKAGES ARE COMPUTER CAPACITY MANAGEMENT TOOLS. SARA IV IS DESIGNED TO ADDRESS THOSE PROBLEMS

UNIQUE TO MVS. SARA IV INCLUDES ALL OF THE FEATURES OF SARA III PLUS MF/I AND RMF ANALYSIS CAPABILITIES. SARA IV ACCEPTS MF/I AND RMF RECORD AND PREPARES THEM FOR PROCESSING BY THE SARA REPORT WRITER.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: BOEING COMPUTER SERVICES, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SARA-U, TITLE: SARA-U
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT, RESOURCE MONITORING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): UNIVAC 1100
OS (OTHER SOFTWARE): EXEC 8
TOOL AVAILABLE: YES

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: THE SARA (SYSTEM ANALYSIS AND RESOURCE ACCOUNTING) SYSTEMS ENABLE USERS TO MEASURE COMPUTER SYSTEM CAPACITY AND ESTABLISH REASONABLE PRODUCTION PERFORMANCE STANDARDS. SARA-U IS DESIGNED FOR USE WITH THE UNIVAC COMPUTERS. THE PRIMARY INPUT SOURCE FOR SARA-U IS UNIVAC'S MASTER LOG FILE (MLF) AS ITS INPUT SOURCE. THE SYSTEM PROCESS THE RAW MLF DATA, ANALYZE IT AGAINST PRE-ESTABLISHED STANDARDS, AND OUTPUT VARIOUS ANALYSIS REPORTS. THE SYSTEM PRODUCES THE FOLLOWING REPORTS: GENERAL SYSTEM OVERVIEW REPORTS, TOP-DOWN MANAGEMENT REPORTS, JOB MIX CHARACTERISTICS AND RESOURCE UTILIZATION, PERFORMANCE INDICATORS, GRAPHICAL DATA DISPLAYS SHOWING RESOURCE DISTRIBUTIONS, AND EXCEPTION REPORTS. A GENERAL PURPOSE REPORT WRITER AND A MANAGEMENT REPORTING SYSTEM ARE AVAILABLE AS OPTIONS.

DEVELOPER: BOEING COMPUTER SERVICES
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SCERT, TITLE: SCERT
CLASSIFICATION: SOFTWARE MODELING AND SIMULATION
FEATURES: ENVIRONMENT SIMULATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: COBOL
TOOL SIZE: CORE: 150K
COMPUTER (OTHER HARDWARE): IBM 350/370
OS (OTHER SOFTWARE): OS, OS/V5

TOOL SUMMARY: SCERT IS A COMPUTER SYSTEM SIMULATION PACKAGE DESIGNED TO SIMULATE ALMOST ANY WORKING ENVIRONMENT, INCLUDING REAL-TIME, VIRTUAL STORAGE, TIME-SHARING, MULTIPROGRAMMING, MULTIPROCESSING, DATA BASE MANAGEMENT, AND DATA COMMUNICATIONS. BASICALLY, SCERT UTILIZES HIGHLY DETAILED DESCRIPTIONS OF CONFIGURATIONS AND APPLICATIONS PROGRAMMING SPECIFICATIONS, AND BREAKS THEM DOWN INTO INDIVIDUAL PROCESSING EVENTS. THEN FROM THE WORKLOAD

DEFINITION AND THE FACTOR LIBRARY, TIMING AND UTILIZATION INFORMATION IS COMPUTED FOR EQUIPMENT COMPONENTS AND FOR CONTROL SOFTWARE SUCH AS OPERATING SYSTEMS AND/OR INPUT/OUTPUT CONTROL ROUTINES, THEREBY PROVIDING DETAILED THROUGHPUT INFORMATION REGARDING TOTAL SYSTEM PERFORMANCE. DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: PERFORMANCE SYSTEMS, INC.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SCG/DQM, TITLE: STRUCTURE CHART GRAPHICS/DESIGN QUALITY METRICS
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: REPORT GENERATION, CODE AUDITING, CROSS REFERENCE, DOCUMENTATION GENERATION, MODIFICATION VALIDATION, DATA BASE ANALYSIS, COMPLEXITY MEASUREMENT, CONSISTENCY CHECKING, DESIGN ANALYSIS, STANDARDS ENFORCEMENT, TEST DATA GENERATION, REFERENCE ANALYSIS, PROGRAM STRUCTURE CHECKING, SOFTWARE QUALITY EVALUATION

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 780600
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE:250KB
COMPUTER (OTHER HARDWARE): AMDAHL 470/V5 (DISK: 1MB), PDP-11/70
OS (OTHER SOFTWARE): TSO, OS/MVS
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AGREEMENT REQUIRED.

TOOL SUPPORTED: YES, TOOL SUPPORT: HUGHES AIRCRAFT CO.
TOOL SUMMARY: SCG PROVIDES AN INTERACTIVE GRAPHICS INTERFACE FOR DEVELOPING, MODIFYING AND DOCUMENTING SOFTWARE DESIGN STRUCTURE CHARTS DEVELOPED UNDER THE STRUCTURED DESIGN METHODOLOGY ORIGINALLY PROPOSED BY L. CONSTANTINE IN 1974. DQM USES THE SCG DATA BASE TO ESTABLISH MEASURES OF QUALITY FOR STRUCTURED DESIGNS; IN PARTICULAR, PLOTS OF COMPLEXITY AND TREE PURITY AS A FUNCTION OF TREE DEPTH, FAN IN AND FAN OUT INFORMATION, AND MEASURES OF THE STABILITY/MODIFIABILITY OF A DESIGN. AN AUTOMATIC LAYOUT FEATURE HAS JUST BEEN COMPLETED WHICH RESTRUCTURES A HIERARCHY OF MODULES INTO WELL FORMED DIAGRAMS. A TEST PLAN GENERATION PROGRAM BASED ON THE STRUCTURE IS NOW BEING IMPLEMENTED.

DOCUMENTATION: USER MANUAL (50)
REFERENCES: [WILL78E], R. WILLIS, "DAS - AN AUTOMATED SYSTEM TO SUPPORT DESIGN ANALYSIS", PROC. 3RD INTERNATIONAL CONFERENCE ON SOFTWARE ENG., ATLANTA, 780600
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: SCMS, TITLE: SOFTWARE COMPLEXITY MEASUREMENT SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING, FLOW CHART GENERATION, COMPLEXITY MEASUREMENT, COVERAGE ANALYSIS

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 790000
APPLICABILITY: FORTRAN, PASCAL
IMPLEMENTATION LANGUAGE: FORTRAN IV
TOOL PORTABLE: YES

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THE SCMS IS AN ANALYSIS TOOL THAT COMPUTES THREE TYPES OF COMPLEXITY (CYCLOMATIC, ESSENTIAL, AND ACTUAL) AND GRAPHICALLY DISPLAYS THE CONTROL STRUCTURE FOR EACH MODULE OF AN INPUT PROGRAM. THE COMPLEXITY MEASURE IS BASED ON A GRAPH-THEORETIC APPROACH TO THE ANALYSIS OF PROGRAMS DEVELOPED BY MCCABE AND PROVIDES INFORMATION ABOUT HOW COMPLICATED (CYCLOMATIC) COMPLEXITY), HOW WELL STRUCTURED (ESSENTIAL COMPLEXITY), AND HOW WELL TESTED A MODULE IS (ACTUAL COMPLEXITY). THIS TOOL ALSO PROVIDES A TREE DATA STRUCTURE THAT WILL IDENTIFY MODULAR INTERACTION FOR THE ENTIRE PROGRAM.

DOCUMENTATION: USER'S MANUAL (64), TECHNICAL DESCRIPTION, DESIGN SPECIFICATION, TEST PLAN
REFERENCES: [MCCA76], THOMAS J. MCCABE, "A COMPLEXITY MEASURE", IEEE TRANS ON SOF ENG, 761200
DEVELOPER: TRW
CONTACT: DAVE LEWIS, DEPT OF DEFENSE, S863, OPS BLDG 3, FT MEADE, MD, 20755, USA, 301-688-6015
R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: DOD TECHNICAL REPORT

ACRONYM: SCOPE, TITLE: SCOPE CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: PROGRAM GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: CICS

IMPLEMENTATION LANGUAGE: COBOL
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS/V5, DOS/V5
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
TOOL SUMMARY: SCOPE IS A CICS PROGRAM GENERATOR THAT ENABLES COBOL PROGRAMMERS WITH MINIMAL OR NO CICS TRAINING TO CODE CICS APPLICATION PROGRAMS. THE SYSTEM GENERATES COMPLETE COBOL-CICS SOURCE PROGRAMS AND ASSOCIATED SCREEN MAPPINGS FROM A SIMPLE INPUT LANGUAGE. CONVERSATION BETWEEN THE TERMINAL OPERATOR AND THE PROGRAM IS HANDLED STEP BY STEP TO REDUCE CPU LOADS AND RESPONSE TIME. SCOPE OBTAINS AND RELEASES MAIN STORAGE AND DISK SPACE AS NECESSARY. IT PROVIDES FOR BASE ADDRESSES, MAPPING SUPPORT, DUMMY SECTIONS, ETC. EXTENSIVE DOCUMENTATION IS PROVIDED. SCOPE ALSO INCLUDES AN INTERACTIVE DEBUGGING FEATURE CALLED TRACE.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: DATACHREN CORPORATION

SDP

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SDDL, TITLE: SOFTWARE DESIGN AND DOCUMENTATION LANGUAGE

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: DESIGN LANGUAGE PROCESSING

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: DESIGN

IMPLEMENTATION LANGUAGE: SIMSCRIPT II.5
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000, UNIVAC OS (OTHER SOFTWARE): EXEC 8

TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES

TOOL SUMMARY: DESIGN STATEMENTS, EXPRESSED IN SDDL SYNTAX ARE FORMATTED BY THE PROCESSOR PROVIDING A STRUCTURED REPRESENTATION OF THE DESIGN, WITH INDENTATION, FLOW LINES, AND PAGE REFERENCE NUMBERS. AFTER THE DESIGN STATEMENTS HAVE BEEN PROCESSED, THE PROGRAM PRODUCES DESIGN SUMMARY INFORMATION SUCH AS A MODULE HIERARCHY REPORT, MODULE CROSS REFERENCE, AND OTHER USER SELECTED CROSS REFERENCE TABLES. THE PROCESSOR CAN EASILY BE CONTROLLED AND EXTENDED BY THE USER.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN

REFERENCES: [KLEI78], KLEINE, H., "AUTO. THE SOFT. DES. PROCESSES BY MEANS OF THE SOFT. DES. DOCU. LANG.", IBEE CATALOG 78 CH. 1363-1C., 780500

[KLEI77], KLEINE, H., "A VEHICLE FOR DEVELOPING STANDARDS FOR SIMULATION PROGRAMMING", PROCEEDINGS OF WINTER, 77 SIMULATION CONF., EDS., 731-741., 770000

[HEIM77], HEIMBURGER, D. A., "VEEP: VEHICLE ECONOMY, EMISSIONS AND PERFORMANCE PROGRAM", PROCEEDINGS OF WINTER, 77 SIMULATION CONFERENCE, 770000

[KLEI74], KLEINE, H., "MODERN PROGRAMMING: A DEFINITION", SIGPLAN NOTICES, VOL. 9, NO. 9, 740900

DEVELOPER: JET PROPULSION LABORATORY

CONTACT: H. KLEINE, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3655

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SDP, TITLE: SOURCE DIRECTORY PROGRAM

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

FEATURES: CONFIGURATION MANAGEMENT, VERSION CONTROL

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: FORTRAN

COMPUTER (OTHER HARDWARE): IBM 360/370

TOOL SUMMARY: ONE OF THE PROBLEMS ENCOUNTERED DURING THE DEVELOPMENT AND MAINTENANCE OF A LARGE SCALE SOFTWARE SYSTEM IS ACCURATELY DETERMINING THE CURRENT SOFTWARE CONFIGURATION. THIS INVOLVES THE IDENTIFICATION OF EACH ACCOUNTABLE ELEMENT IN THE SYSTEM (SUBROUTINE, MODULE, PROGRAM, DATA BASE ENTRY, ETC.) AND ITS CURRENT MODIFICATION LEVEL. ALTHOUGH FREQUENTLY DONE BY HAND, THIS

IDENTIFICATION PROCESS CAN EASILY TAKE ON MAMMOTH PROPORTIONS AS THE NUMBER OF IDENTIFIABLE ENTITIES GROWS INTO THE HUNDREDS AND THE THOUSANDS. THE SOURCE DIRECTORY PROGRAM WAS WRITTEN TO AUTOMATE THE IDENTIFICATION OF EACH SUBROUTINE IN THE CURRENT SYSTEM CONFIGURATION. THE PRINTED OUTPUT PROVIDES THE PROJECT WITH A CONCISE ACCURATE RECORD OF EACH ROUTINE NAME, CURRENT VERSION NUMBER (MODIFICATION LEVEL), DOCUMENT NUMBER (CORRESPONDING TO THE SOURCE LISTING) AND NUMBER OF CARDS IN THE ROUTINE. EVERY PROJECT HAS TO REPORT THIS DATA IN SOME FORM. THIS PROGRAM PROVIDES AN AUTOMATED WAY TO RETRIEVE AND MAINTAIN THIS INFORMATION.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT
CONTACT: CLARK, LUCAS, TRW, DEFENSE SYSTEMS SOFTWARE DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-0426

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SDVS, TITLE: SOFTWARE DESIGN AND VERIFICATION SYSTEM

CLASSIFICATION: SOFTWARE MODELING AND SIMULATION

FEATURES: ENVIRONMENT SIMULATION

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: FORTRAN, COBOL, ASSEMBLY, JOVIAL J73 COMPUTER (OTHER HARDWARE): DECSYSTEM-10

TOOL SUMMARY: SDVS IS AN INTEGRATED SOFTWARE SYSTEM TO SUPPORT DESIGN, CODING, TEST AND MAINTENANCE OF DIGITAL AVIONICS INFORMATION SYSTEM (DAIS) MISSION SO SOFTWARE (PROTOTYPE OFP). IT PROVIDES THE FOLLOWING CAPABILITIES:

A SIMULATION OF THE DAIS PROCESSORS AND DATA BUS FOR DEVELOPING MISSION SOFTWARE WITHOUT USING THE ACTUAL HARDWARE; AUTOMATED CONFIGURATION MANAGEMENT OF MISSION SOFTWARE; AUTOMATIC CONTROL OF SIMULATION RUNS; EDITING AND PROCESSING OF DATA GENERATED BY THE SIMULATION; A SIMPLE, EASY USER LANGUAGE WHICH ALLOWS THE SOFTWARE DEVELOPER, THE TEST ENGINEER, AND THE PROJECT MANAGER TO COMMUNICATE WITH THE SYSTEM.

DOCUMENTATION: SYSTEM DESCRIPTION

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW SOFTWARE TECHNOLOGY DEPT

CONTACT: HAL HART, TRW SOFTWARE TECHNOLOGY DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-1781

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

SELECT

ACRONYM: SEF, TITLE: SOFTWARE ENGINEERING FACILITY
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: REPORT GENERATION, CONFIGURATION MANAGEMENT,
DOCUMENTATION GENERATION, GLOBAL DATA MANAGEMENT, TEST DATA
MANAGEMENT, TEST HARNESS, LIBRARY MANAGEMENT, INTERFACE
CHECKING

STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
TOOL SUPPORTED: YES, TOOL SUPPORT: NAVAL AIR DEVELOPMENT
CENTER, WARMINSTER, PA

TOOL SUMMARY: AN SEF CONSISTS OF A SOFTWARE ENGINEERING DATA
BASE, STRUCTURED DATA MANAGEMENT SYSTEM (SDMS), STRUCTURED
DATA LANGUAGE PROCESSOR (SDLP) AND A SET OF SUBSYSTEMS
WHICH PROVIDE SPECIALIZED SUPPORT TO SOFTWARE DEVELOPMENT
FUNCTIONS. A PRIMARY OBJECTIVE OF THE SEF IS TO PROVIDE A
CAPABILITY FOR AUTOMATED CAPTURE OF AS MUCH SOFTWARE
DEVELOPMENT DATA AS POSSIBLE FOR THE SOFTWARE ENGINEERING
DATA BASE. IN ADDITION, THE SEF, THROUGH THE STRUCTURED
DATA LANGUAGE, PROVIDES A COMMON PROTOCOL FOR INVOLVING THE
SUBSYSTEM PROCESSORS. THESE PROCESSORS MAY BE LINKED
DIRECTLY TO THE SEF AS AN "SEF COMPATIBLE PROCESSOR."

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY
SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY",
RADC-TR-80-13, INTERIM REPORT, 800200
[IRVI77], C. A. IRVINE, "AUTOMATED SOFTWARE ENGINEERING
THROUGH STRUCTURED DATA MANAGEMENT", IEEE TRANS. ON SOFT.
ENG., VOL. SE-3, NO. 1, PP 34-40, 770100
DEVELOPER: NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: SELECT, TITLE: SYMBOLIC EXECUTION LANGUAGE TO
ENABLE COMPREHENSIVE TESTING

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: ASSERTION CHECKING, SYMBOLIC EXECUTION, TEST DATA
GENERATION, PATH STRUCTURE ANALYSIS

STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 740000
APPLICABILITY: LISP SUBSET
IMPLEMENTATION LANGUAGE: LISP
TOOL SUPPORTED: YES, TOOL SUPPORT: STANFORD RESEARCH
INSTITUTE

TOOL SUMMARY: SELECT IS A SYMBOLIC EXECUTION TOOL WHICH IS
INTENDED TO BE A COMPROMISE BETWEEN AN AUTOMATED PROGRAM
PROVING SYSTEM AND AD HOC DEBUGGING PRACTICE
EXPERIMENTALLY, SELECT INCLUDES: (A) SEMANTIC ANALYSIS OF
PROGRAMS, (B) CONSTRUCTION OF INPUT DATA CONSTRAINTS TO
COVER SELECTED PROGRAM PATH, (C) IDENTIFICATION OF (SOME)
UNFEASIBLE PROGRAM PATHS, (D) AUTOMATIC DETERMINATION OF
ACTUAL (REAL NUMBER) INPUT DATA TO DRIVE THE TEST PROGRAM
THROUGH SELECTED PATHS, (E) EXECUTION (ACTUAL OR SYMBOLIC)
OF THE TEST PROGRAM WITH OPTIMAL INTERMEDIATE ASSERTIONS
AND OUTPUT ASSERTIONS, (F) GENERATION OF SIMPLIFIED
EXPRESSIONS FOR THE VALUES OF ALL PROGRAM VARIABLES, IN
TERMS OF SYMBOLIC INPUT VALUES, AND (G) PATH ANALYSIS FOR
EACH POTENTIALLY EXECUTABLE PATH OR FOR A USER-SELECTED

SUBSET OF PATHS. MULTIPLE EXECUTIONS OF A LOOP WITH A PATH
ARE DEFINED AS SEPARATE PATHS, PRODUCING A POTENTIALLY
INFINITE NUMBER OF DISTINCT PATHS. THE NUMBER OF LOOP
TRAVERSALS MAY BE CONSTRAINED BY THE USER.

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY
SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY",
RADC-TR-80-13, INTERIM REPORT, 800200
[BOYE75], R. S. BOYER, "SELECT A FORMAL SYS. FOR TESTING
DEBUG. PROG. BY SYMBOLIC EXECUTION", PROCEEDINGS INTER.
CONF. ON RELIABLE SOFT. PP 234-245, 750400

DEVELOPER: STANFORD RESEARCH INSTITUTE
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: SFORT-1, TITLE: STRUCTURED FORTRAN PREPROCESSOR
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION

FEATURES: STRUCTURED LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: STRUCTURED FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 72K

COMPUTER (OTHER HARDWARE): IBM 350/370
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS IS A TYPICAL STRUCTURED FORTRAN
PREPROCESSOR THAT SUPPORTS TWO ADDITIONAL CONSTRUCTS TO THE
STANDARD FORTRAN LANGUAGE: DOWHILE, IF THEN ELSE.
SUPPORTING STATEMENTS INCLUDING THE ENDDO AND ENDFI AND ARE
GENERATED BY THE PRECOMPILER. THIS PREPROCESSOR ALSO
PERFORMS FORMATTING, ERROR CHECKING AND REPORTING. THE
EXTENT OF EACH IS CONTROLLED BY INPUT PARAMETERS.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT
SPECIFICATION, TEST PLAN

DEVELOPER: NASA/GODDARD SPACE FLIGHT CENTER
CONTACT: F. E. MCGARRY, NASA/GODDARD SPACE FLIGHT CENTER,
CODE 582.1, GREENBELT, MD, 20771, USA, 301-344-5048
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SFTRAN3, TITLE: SFTRAN3 STRUCTURED FORTRAN
PREPROCESSOR

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION

FEATURES: STRUCTURED LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: DESIGN

APPLICABILITY: STRUCTURED FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN, STRUCTURED FORTRAN 3
TOOL PORTABLE: YES

TOOL AVAILABLE: NO, PUBLIC DOMAIN: YES
TOOL SUMMARY: TRANSLATES CODE FROM THE SFTRAN3 STRUCTURED
PROGRAMMING LANGUAGE TO STANDARD FORTRAN. THE LANGUAGE
FEATURES INCLUDE STRUCTURED BRANCHING AND LOOPING,
STRUCTURE LABELS, MULTILEVEL STRUCTURE EXITS, PROCEDURES,
I/O END-OF-FILE AND ERROR DETECTION, AND DYNAMIC INCLUSION
OF NAMED SEGMENTS OF CODE, SUCH AS, TYPE AND COMMON
STATEMENTS. THE PREPROCESSOR PRODUCES AN INDENTED LISTING

SHOWING THE HIERARCHY OF CONTROL STRUCTURES. EARLIER VERSIONS OF SFTRAN HAVE BEEN IN USE AT JPL SINCE 1973. THE NEW SFTRAN3 PREPROCESSOR IS DESIGNED TO FACILITATE INSTALLATION ON ANY COMPUTER SUPPORTING FORTRAN. DOCUMENTATION: USER'S MANUAL
DEVELOPER: JET PROPULSION LABORATORY
CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3550
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SIGS, TITLE: SAMM INTERACTIVE GRAPHICS SYSTEM
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: REQUIREMENTS LANGUAGE PROCESSING, DOCUMENTATION GENERATION, GRAPHICAL REPRESENTATION, COMPLETENESS CHECKING, DESIGN SPECIFICATION
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 790100
APPLICABILITY: DESIGN, REQUIREMENTS
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: NO, TOOL SIZE: 60,000 WORDS OF MEMORY
COMPUTER (OTHER HARDWARE): CDC 6600, CYBER 175
OS (OTHER SOFTWARE): NOS/BE, NOS (PSR LEVELS 433, 460, AND 485)

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): BCS PROPRIETARY PROGRAM, LICENSED FOR USE BY AIR FORCE FOR ICAM PROGRAM
TOOL SUPPORTED: YES, TOOL SUPPORT: AIR FORCE MATERIALS LABORATORY, AFSC, WRIGHT-PATTERSON AFB, OHIO
TOOL SUMMARY: THE SAMM (SYSTEMATIC ACTIVITY MODELING METHOD) INTERACTIVE GRAPHICS SYSTEM (SIGS) PROVIDES A USER WITH A GRAPHICAL APPROACH TO DEFINING THE ACTIVITIES AND DATA FLOW WHICH DESCRIBE SOFTWARE REQUIREMENTS OR DESIGN. SIGS ALSO ALLOWS A USER TO PRODUCE A SET OF REPORTS AND FIGURES DURING THE DESCRIPTION PHASE, IN DOCUMENT FORM AND QUALITY, TO SUMMARIZE THE DATA AND ACTIVITIES WITHIN A SOFTWARE DEVELOPMENT. THE TOOL ALSO AIDS THE USER IN VERIFYING THE SYNTACTIC CORRECTNESS AND DESIGN COMPLETENESS IN A COLLECTION OF DIAGRAMS ACCORDING TO THE CONSTRUCTS OF THE SAMM METHODOLOGY.

DOCUMENTATION: USER MANUAL (50), TECHNICAL DESCRIPTION (200), SYSTEM USERS MANUAL (50)
REFERENCES: [LAMB78], S.S. LAMB, V.G. LECK, L.J. PETERS, G.L. SMITH, "SAMM: A MODELING TOOL FOR REQUIREMENTS AND DESIGN SPECIFICATION", PROCEEDINGS OF COMPASAC '78, 781100
DEVELOPER: BOEING COMPUTER SERVICES COMPANY
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: SLIM, TITLE: SOFTWARE LIFE CYCLE MANAGEMENT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT, COST ESTIMATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA

SLIM

IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SIZE: CORE: 208000
COMPUTER (OTHER HARDWARE): DEC 2050
OS (OTHER SOFTWARE): TOPS 20
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE

TOOL SUMMARY: SLIM ESTIMATES THE MANPOWER, COST AND SCHEDULE FOR SOFTWARE PROJECTS. IT PROJECTS THE CASH FLOW OVER THE LIFE CYCLE. IT ACCEPTS LIMITING CONSTRAINTS ON COST, MANPOWER AND SCHEDULE AND USING THE LINEAR PROGRAMMING ALGORITHM IT IDENTIFIES A MINIMUM COST SOLUTION, A MINIMUM TIME SOLUTION, AND ALL OTHER FEASIBLE SOLUTIONS TO THE SOFTWARE DEVELOPMENT PROBLEM. IN ADDITION, SLIM PROVIDES RISK PROJECTIONS FOR COSTS AND SCHEDULES AND PROVIDES A POWERFUL CAPABILITY TO EXPERIMENT WITH TRADE-OFFS BETWEEN COST, DEVELOPMENT TIME AND RISK. SOME VERY LARGE COST SAVINGS ARE USUALLY IDENTIFIED. SLIM DETERMINES THE RATE OF CODE PRODUCTION DURING DEVELOPMENT AND THE AMOUNT OF TEST BED COMPUTER USAGE MONTH-BY-MONTH THROUGHOUT THE DEVELOPMENT AND OPERATIONAL PHASES OF THE SYSTEM LIFE CYCLE. SLIM HAS A BUILT IN CALIBRATION MODULE LETS IT BE TUNED TO THE SPECIFIC DEVELOPMENT ENVIRONMENT (PEOPLE, TOOLS, LANGUAGE, MACHINE, SYSTEM TYPE, ETC.) THAT WILL DO THE SOFTWARE WORK.

DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER
DEVELOPER: QUANTITATIVE SOFTWARE MANAGEMENT, INC.
CONTACT: LAWRENCE H. PUTNAM, QUANTITATIVE SOFTWARE MANAGEMENT, INC., 1057 WAVERLEY WAY, MCLEAN, VA, 22101, USA, 703-790-0055

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SMAL/80, TITLE: STRUCTURED MACRO ASSEMBLY LANGUAGE
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: MACRO EXPANSION

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: SMAL/80

IMPLEMENTATION LANGUAGE: ASSEMBLY, SMAL/80

TOOL SIZE: CORE: 8K

COMPUTER (OTHER HARDWARE): INTEL 8080, 8085

TOOL AVAILABLE: YES

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE

TOOL SUMMARY: THE SMAL/80 PACKAGE CONSISTS OF THE SMAL/80 (STRUCTURED MACRO ASSEMBLY LANGUAGE) COMPILER, A MACRO PREPROCESSOR, AND A MACRO DEFINITION/ TRANSLATOR PROGRAM. SMAL/80 IS A MICROPROCESSOR LANGUAGE THAT FUNCTIONS ON THE LEVEL OF INDIVIDUAL INTEL 8080 AND 8085 MACHINE INSTRUCTION. SMAL/80 INSTRUCTIONS ARE WRITTEN IN A SYMBOLIC, INDENTED NOTATION RESEMBLING THAT OF PASCAL AND PL/M. PROGRAMS ARE NOT RESTRICTED TO A RIGID FORMAT, BUT CAN BE WRITTEN FREE-FORM, WITH INDIVIDUAL STATEMENTS WRITTEN EITHER ON A SINGLE LINE OR OVER SEVERAL LINES. SEVERAL STATEMENTS CAN BE COMBINED INTO A SINGLE COMPLEX STATEMENT. THE COMPILER INCORPORATES THE THREE BASIC

STRUCTURED PROGRAMMING CONSTRUCTS: DO-END, IF-THEN-ELSE, AND LOOP-REPEAT. THESE CONSTRUCTS CAN BE COMBINED OR NESTED WITHIN EACH OTHER. THE COMPILER IS DESIGNED TO ENABLE PROGRAMMER TO DEVELOP THE LOGICAL STRUCTURE OF MACHINE-LEVEL PROGRAMS AS IF THEY WERE HIGH-LEVEL PROGRAMS. THE MACRO PREPROCESSOR PERMITS CONDITIONAL EXPANSION OF STATEMENTS AND UNLIMITED NESTING OF MACROS.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: CHROMOD ASSOCIATES

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SMMA, TITLE: STRUCTURED MACROS FOR THE MODCOMP ASSEMBLER

CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: MACRO EXPANSION

STAGE OF DEVELOPMENT: DESIGN

APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: ASSEMBLY

COMPUTER (OTHER HARDWARE): MODCOMP

TOOL AVAILABLE: NO, PUBLIC DOMAIN: YES

TOOL SUMMARY: THE STRUCTURED MACROS ARE A SET OF MACROS DEVELOPED TO EXPLICITLY SUPPORT THE CONCEPTS OF STRUCTURED PROGRAMMING. THEY HAVE BEEN USED WITH THE MODCOMP ASSEMBLER AND MAY PRODUCE REENTRANT CODE. THE MACROS ARE IN THE FINAL STAGE OF TESTING.

DOCUMENTATION: USER'S MANUAL

DEVELOPER: JET PROPULSION LABORATORY

CONTACT: JOHN R. SCULL, JET PROPULSION LABORATORY, 4800 OAK GROVE DRIVE, PASADENA, CA, 91103, USA, 213-354-3560

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SMT, TITLE: SYSTEM MANAGEMENT TOOL

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: PERFORMANCE MEASUREMENT

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: DATA

IMPLEMENTATION LANGUAGE: ASSEMBLY

TOOL SIZE: CORE: 128K

COMPUTER (OTHER HARDWARE): IBM 360/370

OS (OTHER SOFTWARE): MVS, OS/VS1

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: SMT IS AN ON-LINE, REAL-TIME SYSTEM TOOL DESIGNED TO AID OPERATIONS, SYSTEMS PROGRAMMING, AND PRODUCTION CONTROL PERSONNEL. THE SYSTEM PROVIDES AN "EARLY WARNING" CAPABILITY THAT NOTIFIES THE USER OF PENDING JOB "TIME-OUTS" AND ALLOWS THE TIME TO BE RESET. SMT PROVIDES REAL-TIME DISPLAYS OF CONTROL BLOCKS, ENTRY POINTS, AND SYSTEM RESOURCES SUCH AS CPU UTILIZATION, CHANNEL UTILIZATION, AND DEVICE ACTIVITY. A TEXT EDITING CAPABILITY AND ON-LINE, MULTI-LEVEL ZAPS ARE ALSO INCLUDED. SMT ENABLES USERS TO FINE-TUNE JOB SCHEDULES TO ENSURE THAT HIGH-PRIORITY JOBS GET THE PROPER PRIORITY WITHIN THE

SYSTEM. JOBS ARE SUBMITTED THROUGH AN INTERNAL READER. DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
DEVELOPER: VALUE COMPUTING INC.

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SNOOP, TITLE: SNOOP

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: DATA FLOW ANALYSIS, CROSS REFERENCE, DOCUMENTATION GENERATION, GLOBAL DATA MANAGEMENT, DATA BASE ANALYSIS, FLOW CHART GENERATION, DESIGN ANALYSIS, HIPO GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: DESIGN

IMPLEMENTATION LANGUAGE: COBOL

COMPUTER (OTHER HARDWARE): UNIVAC 1100

TOOL SUMMARY: SNOOP ACCEPTS AS INPUT UNIVAC DEFENSE SYSTEMS DIVISION'S SOFTWARE DESIGN LANGUAGE. DEPENDING ON COMMAND INPUT BY THE USER, SNOOP GENERATES AN INDENTED LISTING OF THE DESIGN LANGUAGE FOR INPUT TO OTHER GRAPHICS TOOLS. THE GRAPHICS TOOLS INCLUDE FLOWCHART AND HIPO DIAGRAM GENERATION. THE DESIGN LANGUAGE PERMITS DESCRIPTION OF PROPERTIES (E.G. SIZE, STATUS), TEXT (E.G. PURPOSE, DESCRIPTION), RELATIONSHIPS (E.G. USES, INVOKES) AND BEHAVIOR (STRUCTURED NARRATIVES). THE STRUCTURED NARRATIVES CONSIST OF KEYWORDS (LIKE IF, DO AND CASE), ENGLISH AND NAMES OF OTHER PARTS OF THE SOFTWARE. THE STRUCTURED NARRATIVE IS ANALYZED TO GENERATE THE LISTINGS AND GRAPHICS INPUTS. SINCE ITS INTRODUCTION IN THE FALL OF 1978, SNOOP HAS EXECUTED OVER 10,000 COMMAND

DOCUMENTATION: INTERNAL REPORT (52)

INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: SOWSEAR, TITLE: SOWSEAR

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: PROGRAM RESTRUCTURING

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: COBOL

IMPLEMENTATION LANGUAGE: COBOL ANS

TOOL PORTABLE: YES

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABLE AS A SERVICE, ON A CONTRACTUAL BASIS FROM CATALYST CORP

TOOL SUPPORTED: YES, TOOL SUPPORT: CATALYST CORP

TOOL SUMMARY: FULL FUNCTION COBOL STRUCTURING ENGINE. PROCEDURE STRUCTURED COBOL FORM PROGRAMS OF INDETERMINATE STRUCTURE. REMOVES ALTERS, ELIMINATES OVERLAPPING PERFORMS (THRU), REDUCES GO TOS, CONVERTS NOTES TO COMMENTS, PHYSICALLY GROUPS AND STANDARDIZES ALL I/O, PHYSICALLY GROUPS ALL PROGRAM ENTRY POINTS, CONSOLIDATES ALL PROGRAM TERMINATIONS TO A SINGLE GOBACK, BOUNDS FUNCTIONS, HIGHLIGHTS LOGOS, MAKES IMPLICIT REFERENCES EXPLICIT, REMOVES DEAD CODE, DOES NOT REMOVE LOGIC ERRORS, ENHANCES READABILITY (I.E., DATA REVEALING INDENTATION, PARAGRAPH PREFIXING). SOWSEAR DRASTICALLY CUTS COMPLEXITY IN THE COBOL MAINTENANCE ENVIRONMENT. IT ENHANCES NOT ONLY

READABILITY, BUT VISIBILITY OF LOGIC FLOW WHICH IS THE CRITICAL ELEMENT IN HUMAN MAINTAINABILITY. "SPAGHETTI" CODE IS TRANSFORMED INTO WELL STRUCTURED MODULAR CODE, WHERE EACH MODULE HAS ONLY ONE ENTRY POINT AND ONE EXIT POINT, AND WHERE HIERARCHY IS INTRODUCED THROUGH A FACTORING OF CONTROL FROM ACTION.

DOCUMENTATION: TECHNICAL PAPER
REFERENCES: [MILLJ, CRIS MILLER, "STRUCTURED RETROFIT IN THE BOOK "TECHNIQUES OF PROGRAM AND SYS MAINT"", ETHNOTECH, LINCOLN, NEB, 0
DEVELOPER: CATALYST CORPORATION
CONTACT: JON CRIS MILLER, CATALYST CORPORATION, 5827 WEST RACE, CHICAGO, IL, 60644, USA, 312-352-3802
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: SPC, TITLE: SYSTEM/3 PROJECT CONTROL
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE

IMPLEMENTATION LANGUAGE: RPG II
TOOL SIZE: CORE: 12K
COMPUTER (OTHER HARDWARE): IBM SYSTEM 3/MO, IBM SYS 3/MDL 6
OS (OTHER SOFTWARE): SCP

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: PROJECT CONTROL FOR THE SYSTEM/3 MODEL 6 (5798 ADJ) PROVIDES A BASIC TOOL TO AID MANAGEMENT IN THE PLANNING, SUPERVISING, AND CONTROLLING OF PROJECT-ORIENTED WORK BY THE CRITICAL PATH METHOD. THIS METHOD IS A TECHNIQUE TO PLAN, SCHEDULE, SUPERVISE, AND CONTROL ANY PROJECT WHICH IS COMPOSED OF A SERIES OF TIME-RELATED EVENTS. EACH EVENT HAS A TIME DURATION AND A RELATIONSHIP TO OTHER EVENTS WHICH MUST FINISH BEFORE IT CAN START AND TO EVENTS WHICH CANNOT START UNTIL IT IS FINISHED. A START DATE IS ASSIGNED TO THE FIRST EVENT, PERMITTING START DATES TO BE CALCULATED FOR ALL THE OTHER EVENTS. IN ADDITION TO CRITICAL PATH ANALYSIS, THE SYSTEM PROVIDES THE CAPABILITY FOR SUMMARIZING PREPARED RESOURCE INFORMATION. RESOURCE REPORTING ALLOWS USERS TO DISPLAY THE STATUS OF UP TO FOUR DIFFERENT RESOURCES PER WORK ITEM, COMPARING THE ESTIMATED RESOURCES AGAINST ACTUAL RESOURCES USED. A PROGRESS REPORT SHOWS THE CURRENT STATUS OF ALL WORK ITEMS, DISPLAYING THOSE THAT ARE ON OR BEHIND SCHEDULE.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: IBM
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SPEAR, TITLE: STRUCTURED PROGRAMMING EVALUATION AND AUTOFLOW ROUTINE
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

SPEAR

FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: JOVIAL J3B-2
IMPLEMENTATION LANGUAGE: PL/1
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS/MVS

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
TOOL SUMMARY: PROCESSES THE JOVIAL J3B-2 LANGUAGE TO PRODUCE FLOW-CHARTS DIRECTLY FROM THE CONTROL STRUCTURES OF THE LANGUAGE. J3B-2 HAS TWO TYPES OF COMMENTS, ONE OF WHICH FLOWCHARTS AND ONE OF WHICH DOES NOT RESULTING IN CORRECT AND READABLE LINE PRINTER PRODUCED FLOWCHARTS. ALSO PROVIDES LIMITED CHECKING FOR STRUCTURED PROGRAMMING CONSTRUCTS.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL
DEVELOPER: GENERAL DYNAMICS
CONTACT: L. C. KLOS, GENERAL DYNAMICS, P.O. BOX 748, FORT WORTH, TX, 76101, USA, 817-732-4811
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SPELL, TITLE: SPELLING CORRECTOR PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC

TOOL SUMMARY: SPELL LOCATES POSSIBLE MISSPELLINGS OF VARIABLE NAMES IN THE USER'S SOURCE CODE. SIMPLE ROUTINE LEVEL COMPARISONS ARE MADE OF VARIABLES, PRODUCING A CONCISE LISTING FOR THE QUICK LOCATION OF VARIABLES WHICH RESEMBLE EACH OTHER CLOSELY ENOUGH TO WARRANT EXAMINATION. EACH LOCAL VARIABLE IS COMPARED TO OTHER LOCAL VARIABLES IN THE SAME ROUTINE AND TO ALL GLOBAL VARIABLES IN THE PROGRAM. A POSSIBLE SPELLING ERROR IS ENCOUNTERED WHEN A LOCAL AND A GLOBAL ARE SPELLED IDENTICALLY OR WHEN TWO VARIABLES DIFFER BY THE ADDITION, DELETION, SUBSTITUTION OR TRANSPOSITION OF A CHARACTER. EACH DIFFERENCE IS NOTED AND A COMPLETE LISTING IS PRODUCED BY ROUTINE.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW SOFTWARE TECHNOLOGY DEPT
CONTACT: V. Z. SOTRIOU, TRW SOFTWARE TECHNOLOGY DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SPREAD, TITLE: SPREAD
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROJECT MANAGEMENT, COST ESTIMATION
STAGE OF DEVELOPMENT: IMPLEMENTED

SPRINT

APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6500
TOOL SUMMARY: SPREAD IS A COMPUTERIZED TECHNIQUE FOR ESTIMATING AND DISTRIBUTING SOFTWARE DESIGN AND DEVELOPMENT COSTS BASED ON THE NUMBER OF COMPUTER PROGRAM INSTRUCTIONS TO BE DEVELOPED AND THE ESTIMATED COST PER INSTRUCTION. BECAUSE THE INITIAL USE OF THIS TOOL ON A GIVEN PROJECT CORRESPONDS TO THE SIZING AND REQUIREMENTS ANALYSIS OF THE SOFTWARE ROUTINES, THE ASSOCIATED DATA BASE, AND THE SELECTION OF THE HARDWARE CONFIGURATION ON WHICH THE SOFTWARE IS TO BE IMPLEMENTED, SPREAD HELPS CONSIDERABLY IN GAINING CONSISTENCY BETWEEN SOFTWARE DESIGN AND SOFTWARE COSTS. SPREAD ALSO COMPUTES THE CORRESPONDING MANPOWER LEVELS REQUIRED TO ACCOMPLISH THE DEVELOPMENT EFFORT. TOTAL COSTS AND MANLOADING MAY BE BROKEN DOWN AND SEGREGATED EITHER BY INDIVIDUAL ROUTINES, DEVELOPMENT PHASE SEGMENTS, COSTS TO ACHIEVE A WORK MILESTONE, ACTIVITY, PRICING CATEGORY, WBS ACCOUNT, OR VIRTUALLY ANY COMBINATION THEREOF. ADDITIONALLY, OTHER COST FACTORS SUCH AS COMPUTED HOURS OR OTHER DIRECT COST EXPENDITURES MAY BE NOTED.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW
CONTACT: J. E. GREEN, TRW, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-4012
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SPRINT, TITLE: SPRINT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: TIMING ANALYSIS, CODE RESTRUCTURING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6500
TOOL SUMMARY: SPRINT PRESENTS A DISCIPLINED APPROACH TO SIZING AND STRUCTURING COMPUTE SOFTWARE SYSTEMS. IT IS DIVIDED INTO THREE FUNCTIONAL MODULES. THESE MODULES ARE: SOFTWARE STRUCTURING--PROCESSES THE SOFTWARE DESCRIPTION DATA TO PRODUCE TWO KINDS OF OUTPUT: USER REPORTS AND SPRINT DATA FILES; RESOURCE ALLOCATION .AND TIMING--PROCESSES THE SYSTEM DESCRIPTION DATA TO BUILD THE BASE COMPUTER MODEL. THE SOFTWARE DESCRIPTION DATA IS THEN PROCESSED TO OBTAIN MODULE RUNNING TIMES; SYSTEM LOADING--PRODUCES THE THROUGHPUT LOADING PROFILE BASED UPON THE RUNNING TIME OF EACH MODULE AN THE INPUT SCENARIO, WHICH SPECIFIES THE SCHEDULING OF EACH MODULE. THROUGH THE USE OF PARAMETERIZATION, TRADEOFF STUDIES CAN BE RUN TO FIND THE SENSITIVITY OF THE SYSTEM TO CERTAIN KEY PARAMETERS, THEREBY IDENTIFYING CRITICAL DESIGN PROBLEMS, AND ALSO FINDING THE SYSTEM SATURATION POINT.

DOCUMENTATION: USER'S MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW
CONTACT: J. E. GREEN, TRW, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-4012
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SPTRAN, TITLE: SPTRAN
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: STRUCTURED FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL PORTABLE: YES, TOOL SIZE: CORE: 15,000
TOOL SUPPORTED: YES, TOOL SUPPORT: HONEYWELL
TOOL SUMMARY: THE SPTRAN CONVERTER ALLOWS A USER TO APPLY STRUCTURED PROGRAMMING CONCEPTS BY CODING IN A LANGUAGE THAT HAS THE STRUCTURED AND FREE-FORMAT FEATURES OF PL/I, BUT IS OTHERWISE LIKE FORTRAN. THIS LANGUAGE, CALLED SPTRAN, WAS DESIGNED SUCH THAT IT COMBINES THOSE FEATURES OF FORTRAN AND PL/I MOST OFTEN USED FOR SCIENTIFIC PROGRAMMING APPLICATIONS. FREE-FORM SPTRAN INPUT IS TRANSLATED INTO ANSI FORTRAN AND THE ORIGINAL SPTRAN SOURCE CODE IS RETAINED AS FORTRAN REMARKS. SPTRAN ADVANTAGES ARE DESCRIBED AS FOLLOWS: (1) PROVIDES ACTUAL EXPERIENCE IN ENCODING AND EXECUTING STRUCTURED PROGRAMS, (2) ENABLES TIMELY CREATION OF FORTRAN PROGRAMS, (3) RESULTS IN ANNOTATED PROGRAM LISTINGS THAT ARE EASY TO READ AND CAN SUPPLEMENT DOCUMENTATION, AND (4) PROVIDES EARLY INTRODUCTION TO STRUCTURED CONSTRUCTS AND PRINCIPLES.

DOCUMENTATION: USER MANUAL, INSTALLATION MANUAL
REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[ELLI76], I. B. ELLIOTT, "SPTRAN: A FORTRAN-COMPATIBLE STRUCTURED PROGRAMMING LANGUAGE CONVERTER", PROCEEDINGS MRI SYM. ON COMP. SOFT. ENG., NY, NY, PP331-336, 760500
DEVELOPER: HONEYWELL
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: SREP, TITLE: SOFTWARE REQUIREMENTS ENGINEERING PROGRAM
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: DOCUMENTATION GENERATION, REQUIREMENTS SPECIFICATION, REQUIREMENTS TRACING, CONSISTENCY CHECKING, REQUIREMENTS SIMULATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: REQUIREMENTS

IMPLEMENTATION LANGUAGE: PASCAL
COMPUTER (OTHER HARDWARE): CDC 7600, TI
TOOL SUMMARY: SREP IS A SET OF TOOLS A TECHNIQUE FOR
DEFINING SPECIFYING SOFTWARE REQUIREMENTS. THE TECHNIQUE
IS BUILT UPON A LANGUAGE, REQUIREMENTS STATEMENT LANGUAGE
(RSL), READABLE BOTH BY A COMPUTER BY MAN, AND A SET OF
TOOLS TERMED COLLECTIVELY THE REQUIREMENTS ENGINEERING AND
VALIDATION SYSTEM (REVS). THE TOOLS PROVIDE FOR RETENTION
OF ALL REQUIREMENTS IN A RELATIONAL DATA BASE FROM WHICH
DOCUMENTATION, CONSISTENCY ANALYSES, AND SIMULATIONS MAY BE
CONSTRUCTED AUTOMATICALLY. THE METHODOLOGY SYSTEMATICALLY
DEVELOPS THE SPECIFICATION FROM SOURCE DOCUMENTATION AT THE
SYSTEM LEVEL, DOCUMENTING OMISSIONS AND ERRORS OF THE
SOURCE MATERIALS IN THE PROCESS. THE PRODUCED REQUIREMENTS
ARE PROVABLY CONSISTENT, AND MAY BE VALIDATED AGAINST
SYSTEM OBJECTIVES THROUGH THE GENERATED SIMULATION. THE
ENTIRE PROCESS IS SUBJECT TO SYSTEMATIC MANAGEMENT THROUGH
DEFINABLE AND VERIFIABLE MILESTONES SUPPORTED BY REVS.

DOCUMENTATION: SYSTEM DESCRIPTION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100

DEVELOPER: TRW
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SSA, TITLE: SNEAK SOFTWARE ANALYSIS
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: DESIGN
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: PL/1
TOOL SIZE: CORE: 300KB
COMPUTER (OTHER HARDWARE): IBM 360/370 (DISK: 19.8KB, TAPE
(1) 9 TRACK)
OS (OTHER SOFTWARE): VS
TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO
TOOL SUMMARY: A COMPUTERIZED TECHNIQUE FOR IMPROVING THE
EFFICIENCY AND RELIABILITY OF COMPUTER PROGRAMS. THE
PROCESS INVOLVES THE USAGE OF MATHEMATICAL GRAPH THEORY,
ELECTRICAL SNEAK THEORY, AND COMPUTERIZED SEARCH ALGORITHMS
ON A COMPUTER PROGRAM TO IDENTIFY SOFTWARE PROBLEMS THAT
MAY NOT BE FOUND IN TESTING. THESE TYPES OF PROBLEMS ARE
CALLED SOFTWARE SNEAKS.

DOCUMENTATION: TECHNICAL PAPER
REFERENCES: [GOD076], SYLVIA G. GODOY, "SOFTWARE SNEAK
CIRCUIT ANALYSIS", AFWL-TR-75-254, 760400
[GOD076A], S.G. GODOY, "APPL OF SOF SNEAK ANALYSIS TO THE
TERMINAL CONFIGURED VEHICLE SYSTEM", D2-118594-1, 760830
[GOD078], S.G. GODOY, "SNEAK ANALYSIS OF THE DIGITAC I
MULTIMODE FLIGHT CONTROL SYSTEM", D2-118533-1, 780100
[GOD078A], S.G. GODOY, "SNEAK CIRCUIT AND SOFTWARE SNEAK
ANALYSIS", JOURNAL OF AIRCRAFT (VOL. 15, PP. 509-513),
780800

SSA

DEVELOPER: BOEING AEROSPACE COMPANY
CONTACT: SYLVIA G. GODOY, BOEING AEROSPACE COMPANY, P. O.
BOX 58747, HOUSTON, TX, 77058, USA, 713-488-0910
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: STAG/TEMS, TITLE: SPECIFICATION TRACEABILITY AND
ANALYSIS USING GIM
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: REQUIREMENTS TRACING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: REQUIREMENTS
IMPLEMENTATION LANGUAGE: GIM
COMPUTER (OTHER HARDWARE): UNIVAC 1110, IBM 370

TOOL SUMMARY: SPECIFICATION TRACEABILITY AND ANALYSIS USING
GIM (STAG) IS USED TO TRACK SPECIFICATIONS. THE TOOL IS A
SUPPORTIVE MANAGEMENT FUNCTION THAT GIVES VISIBILITY TO THE
REQUIREMENTS LEVEL IN A CLEAR, CONCISE FORMAT.
CAPABILITIES INCLUDE TRACKING MULTIPLE SPEC'S AND THEIR
CROSS REFERENCE, COUPLED WITH THE ABILITY TO MAKE SPECIAL
EXTRACTS BASED ON KEYWORD IDENTIFICATION. THERE IS AN
ON-LINE CAPABILITY THAT ALLOWS THE USER TO DO COUNTS,
UPDATES, BASIC STATISTICS AND SIMPLE LISTS. BATCH REQUESTS
ARE USED FOR MOST UPDATING AND GENERATION REPORTS.
STAG/TEMS PROVIDES IMMEDIATE VISIBILITY OF GAPS IN EFFORT
AND ALSO OVERLAPPING EFFORTS. REQUIREMENTS CAN BE TRACED
THROUGH CHANGE CYCLE AND CURRENT STATUS REPORTED. AN
EFFECTIVE ONE TO ONE VISIBILITY OF REQUIREMENTS TO
DESIGNS/TESTING IS ATTAINED. CHANGE TRAFFIC CAN BE TRACED
EFFECTS ON OTHER ITEMS IN ADDITION TO THE ONE CHANGED CAN
BE PRESENTED FOR EVALUATION. THE SYSTEMS TECHNOLOGY
PROGRAM USES STAG TO TRACE REQUIREMENTS FROM DESIGN
DEVELOPMENT THROUGH TESTING INSTALLATION.
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW
DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS:
CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE
TOOLS SERIES, 790100

DEVELOPER: TRW SOFTWARE ANAL EVAL DEPT
CONTACT: JOE DALVEN, TRW SOFTWARE ANAL EVAL DEPT, ONE SPACE
PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3676
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: STRUCI/STRUC2, TITLE: STRUCTRAN I, STRUCTRAN II
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS,
AND PROGRAM GENERATION
FEATURES: CODE RESTRUCTURING, PROGRAM FORMATTING, STRUCTURED
LANGUAGE PROCESSING, LANGUAGE PROCESSING
STAGE OF DEVELOPMENT: IMPLEMENTED, DATE (YYMMDD): 750000
APPLICABILITY: FORTRAN, DWATRAN
IMPLEMENTATION LANGUAGE: STRUCTURED FORTRAN
COMPUTER (OTHER HARDWARE): H6000
OS (OTHER SOFTWARE): GCOS

RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): AVAILABILITY ACCORDING TO AIR FORCE MANUAL (AFM) 300-6, PARAGRAPH 11-7A. TOOL SUPPORTED: YES, TOOL SUPPORT: RADC/ISIS
TOOL SUMMARY: THESE TRANSLATORS ARE TOOLS WHICH FACILITATE STRUCTURED PROGRAMMING USING THE FORTRAN LANGUAGE. STRUCTURAN-1 IS A PRECOMPILER WHICH ACCEPTS A STRUCTURED LANGUAGE, DMATRAN. DMATRAN CONTAINS FILE STRUCTURED STATEMENT FORMS WHICH CAN BE MIXED WITH ORDINARY FORTRAN CONSTRUCTS IN THE INPUT TEXT STREAM. TO ENHANCE READABILITY OF THE PROCESSED SOURCE CODE, STRUCTURAN AUTOMATICALLY INDENTS THE LISTING PRODUCED FOR THE SOURCE CODE ACCORDING TO CONTROL NESTING LEVEL. STRUCTURAN-2 WAS DEVELOPED TO FACILITATE THE TRANSLATION OF EXISTING SOURCE FORTRAN V PROGRAMS INTO STRUCTURED PROGRAM FORM. STRUCTURAN-2 PROVIDES THE ABILITY TO TRANSLATE UNSTRUCTURED CONTROL FORMS INTO LOGICALLY EQUIVALENT STRUCTURED CONTROL FORMS. DMA REPLACES FORTRAN CONTROL STATEMENTS WITH FIVE STRUCTURED CONSTRUCTS. (1) IF... THEN...ELSE...END IF. (2) DO WHILE...END WHILE. (3) DO UNTIL...END UNTIL. (4) CASE OF...CASE...CASE ELSE...END CASE. (5) BLOCK (NAME)...END BLOCK.

DOCUMENTATION: FINAL TECH REPORT (28), STRUCTURAN I USERS MANUAL (21), STRUCTURAN I DESIGN IMP (14), STRUCTURAN II USERS MANUAL (16), STRUCTURAN II SYSTEM DESIGN IMP MANUAL (55)

DEVELOPER: GENERAL RESEARCH CORPORATION
INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: STRUCT, TITLE: STRUCT
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CODE AUDITING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE, DATA
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 7600, CDC 6500
TOOL SUMMARY: STRUCT AUDITS SOURCE CODE TRANSFER TABLE FOR ADHERENCE TO STRUCTURED PROGRAMMING STANDARDS. ALLOWABLE SEGMENT STRUCTURES INCLUDE: SEQUENCE, IF - THEN - ELSE, DO UNTIL, DO WHILE, CASE AND ESCAPE. OUTPUTS INCLUDE THE PACE SEGMENT TRANSFER TABLE FOR EACH SUBROUTINE, AND MANAGEMENT SUMMARY OF ALL ROUTINES FOR THE WHOLE PROGRAM. INPUT FOR THIS PROGRAM IS NOT SOURCE CODE, BUT A SEGMENT TRANSFER TABLE GENERATED BY PACE. INPUT IS A SEGMENT TRANSFER TABLE PRODUCED BY THE PACE PROGRAM. NO MORE THAN 1000 TRANSFERS PER SUBROUTINE.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140

STRUCT

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: STRUCTURING ENG, TITLE: STRUCTURING ENGINE
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: LANGUAGE PROCESSING, LANGUAGE STRUCTURING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN ANSI
IMPLEMENTATION LANGUAGE: PL/1
COMPUTER (OTHER HARDWARE): IBM 350/370

TOOL SUMMARY: THE STRUCTURING ENGINE IS A SET OF SOFTWARE TOOLS CAPABLE OF AUTOMATICALLY TRANSFORMING UNSTRUCTURED PROGRAMS INTO EQUIVALENT STRUCTURED PROGRAMS. THIS TRANSFORMATION ENHANCES THE CAPABILITIES OF PROGRAMMING TEAMS BY PROVIDING PROGRAMS THAT ARE EASIER TO UNDERSTAND, SAFER TO MODIFY, AND LESS COSTLY TO MAINTAIN. PROGRAMS OF ARBITRARY COMPLEXITY AND SIZE CAN BE PROCESSED PROVIDED THAT THEY CAN BE COMPILED WITHOUT ERRORS BY THE COMPILER FOR WHICH THEY WERE WRITTEN. THE RESTRUCTURED PROGRAMS ARE WRITTEN IN S-FORTRAN, AN EXTENSION AND IMPROVEMENT OF THE FORTRAN LANGUAGE DEVELOPED BY CFG, INC. TO SUPPORT STRUCTURED CODING IN FORTRAN.

DOCUMENTATION: GENERAL INFORMATION MANUAL
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: CAINE, FARBER GORDON, INC.
CONTACT: KENT GORDON, CAINE, FARBER GORDON, INC., USA, 213-449-3070

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SUBCRS, TITLE: SUBROUTINE CROSS REFERENCE PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 350/370, CDC 6000, CDC 7000

TOOL SUMMARY: THIS PROGRAM PROVIDES A COMPREHENSIVE PICTORIAL DISPLAY OF FORTRAN PROGRAM LINKAGE, INCLUDING A TABLE OF SUBROUTINE CALLED BY REFERENCES.
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

SUS

ACRONYM: SURVAYOR, TITLE: SET AND USE OF ROUTINE VARIABLES ANALYSIS PROGRAM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: DATA FLOW ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6X00
TOOL SUMMARY: THE SURVAYOR PROGRAM IS AN AUTOMATED SOFTWARE VERIFICATION TOOL WHICH WILL PERFORM THE NECESSARY STRUCTURAL PATH ANALYSIS TO IDENTIFY: ALL POSSIBLE PATHS IN A ROUTINE, AND WHERE IN A ROUTINE VARIABLES ARE COMPUTED AND USED. BASED ON PATH AND USAGE DATA COLLECTED, THE SURVAYOR PROGRAM WILL: EVALUATE EACH LOCAL VARIABLE TO IDENTIFY WHICH ARE COMPUTED AND NOT USED, WHICH ARE PRESET AND NOT USED, WHICH ARE USED IN COMPUTATIONS WITHOUT BEING GIVEN A VALUE, THE PATH FOR WHICH A VARIABLE MAY BE USED WITHOUT BEING GIVEN A VALUE; EVALUATE EACH GLOBAL VARIABLE TO IDENTIFY EQUIVALENCES NOT REQUIRED, COMMON BLOCKS NOT REQUIRED, AND SUBROUTINE PARAMETER VARIABLES NOT REQUIRED; AND PROVIDE DETAILED INFORMATION ON THE QUANTITY AND TYPE OF SOFTWARE PROCESSED.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SOFTWARE TECHNOLOGY DEPARTMENT
CONTACT: R. L. MAITLEN, TRW, SOFTWARE TECHNOLOGY DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: SUS, TITLE: SEMANTIC UPDATE SYSTEM
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: CONFIGURATION MANAGEMENT, MODIFICATION VALIDATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
TOOL SUPPORTED: YES

TOOL SUMMARY: SEMANTIC UPDATE IS DESCRIBED AS "A TOOL THAT ASSISTS IN THE INCREMENTAL MODIFICATION OF SOFTWARE SYSTEMS TREATED AS SYSTEMS". IT CAN BE APPLIED TO A PROGRAM PART, AN ENTIRE MODULE, A SOFTWARE SUBSYSTEM, OR AN ENTIRE SOFTWARE SYSTEM. THE SYSTEM IS LANGUAGE DEPENDENT AND IS NOT CAPABLE OF HANDLING DATA FILES. HOWEVER, IT CAN DETERMINE THE EXTENT OF SIDE EFFECTS TO PROPOSED OR DIRECTED CHANGES AND PROVIDE TRIAL UPDATES TO DETERMINE THE EXTENT OF SIDE EFFECTS.

REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
[HIRS79], M. A. HIRSCHBERG, "A SEMANTIC UPDATE SYSTEM FOR SOFTWARE MAINTENANCE", PROCEEDINGS COMPCON, SAN FRANCISCO, CA, PP 307-309, 0

DEVELOPER: SOFTWARE RESEARCH ASSOCIATES, SAN FRANCISCO, CA.
INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: SYDIM, TITLE: SYSTEMS DEVELOPMENT INTERFACE MANAGER
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
FEATURES: INTERFACE ANALYSIS
STAGE OF DEVELOPMENT: DESIGN
APPLICABILITY: DATA

IMPLEMENTATION LANGUAGE: COBOL
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, MVS
TOOL AVAILABLE: NO, PUBLIC DOMAIN: NO

TOOL SUMMARY: SYDIM PROVIDES INTERFACE MANAGEMENT SUPPORT FOR SOFTWARE DEVELOPMENT AND MAINTENANCE. INPUT, OUTPUT, AND LOCAL DATA FROM PROGRAM UNITS ARE LISTED DURING THE DESIGN PHASE IN A LANGUAGE INDEPENDENT FORMAT. SYDIM PROVIDES EASY ADDITION, DELETION OR MODIFICATION CAPABILITIES. THE DATA BASE PROVIDES EXCELLENT PROGRAM DOCUMENTATION. SYDIM PROCESSED THE INTERFACE DATA TO GENERATE THE COMMON DATA AREA DECLARATIONS FOR THE DESIRED LANGUAGE.

DOCUMENTATION: TECHNICAL PAPER, DEVELOPMENT SPECIFICATION
DEVELOPER: GENERAL DYNAMICS
CONTACT: L. C. KLOS, GENERAL DYNAMICS, P.O. BOX 748, FORT WORTH, TX, 75101, USA, 817-732-4811
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: SYMCRS, TITLE: SYMBOL CROSS REFERENCE PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: CROSS REFERENCE, GLOBAL DATA MANAGEMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC
TOOL SUMMARY: SYMCRS OUTPUTS GLOBAL SYMBOLS AND IDENTIFIES THE ROUTINES WHERE THE SYMBOLS WERE REFERENCED. IT ALSO IDENTIFIES WHICH SYMBOLS SHOULD NOT BE IN COMMON, AND THEREFORE MAKES THE DATA BASE MORE EFFICIENT. SYMCRS OUTPUT IS VERY USEFUL IN THE MAINTENANCE AND DEVELOPMENT OF LARGE COMPUTER PROGRAMS. THE ALPHABETICALLY SORTED LISTING PROVIDES A CONVENIENT AND EFFICIENT WAY OF OBTAINING A SYMBOL CROSS REFERENCE, AND IS SUITABLE FOR DIRECT INCLUSION IN CONTRACTUALLY REQUIRED DOCUMENTATION.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW SOFTWARE TECHNOLOGY DEPT
CONTACT: V. Z. SOTIRIOU, TRW SOFTWARE TECHNOLOGY DEPT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

TAFIRM

ACRONYM: SYSTEM MONITOR, TITLE: SYSTEM MONITOR
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: EXECUTION MONITORING
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: SOURCE CODE
 TOOL AVAILABLE: YES
 TOOL SUMMARY: SYSTEM MONITOR IS A SOFTWARE SYSTEM WHICH HAS BEEN DEVELOPED TO PROVIDE ERROR DETECTION, ERROR CONTAINMENT, AND FUNCTIONAL RECOVERY SUPPORT TO APPLICATIONS SOFTWARE AT THE PROGRAM, MODULE, AND SYSTEM LEVELS. IT IS COMPRISED OF FIVE COMPONENTS: INTERNAL PROCESS SUPERVISOR, EXTERNAL PROCESS SUPERVISOR, INTERACTION SUPERVISOR, SYSTEM MONITOR KERNEL, AND MAINTENANCE PROGRAM.
 REFERENCES: [DONA80], JOHN D. DONAHOO AND DOROTHY SWEARINGER, "A REVIEW OF SOFTWARE MAINTENANCE TECHNOLOGY", RADC-TR-80-13, INTERIM REPORT, 800200
 [YAU76], S. S. YAU, "AN APPROACH TO ERROR-RESISTANT SOFTWARE DESIGN", PROCEEDINGS SECOND INTERNATIONAL CONFERENCE ON SOFTWARE ENG., 761000
 INFORMATION SOURCE: RADC-TR-80-13, INTERIM REPORT

ACRONYM: SYSXREF, TITLE: CDC/CYBER SYSTEM CROSS-REFERENCE
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: CROSS REFERENCE
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: LOADER MAP
 IMPLEMENTATION LANGUAGE: PASCAL 6000
 TOOL SIZE: 1800 STATEMENTS
 COMPUTER (OTHER HARDWARE): CDC 6000, CYBER-70
 OS (OTHER SOFTWARE): NOS/BE
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): PROPRIETARY PROPERTY OF BATTELLE LABS, PRICE INQUIRIES WELCOME
 TOOL SUMMARY: THE CDC/CYBER SYSTEM CROSS-REFERENCE PROGRAM PROVIDES A SORTED LISTING CONTAINING ALL ENTRY-POINT NAMES AND EACH ENTRY-POINT NAME ENTRY CONTAINS SUCH INFORMATION AS THE NAMES OF ALL THE MODULES THAT CALL THIS ENTRY AND A LIST OF ALL THE MODULES THAT ARE CALLED BY THIS ENTRY. OTHER INFORMATION INDICATES WHETHER THE ENTRY-POINT NAME IS A MAIN OR SECONDARY ENTRY POINT FOR A SUBROUTINE.
 DOCUMENTATION: USER INSTRUCTIONS
 DEVELOPER: BATTELLE COLUMBUS LABS
 CONTACT: CARY SCOFIELD, BATTELLE COLUMBUS LABS, 505 KING AVE, COLUMBUS, OH, 43201, USA, 614-424-5049
 INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS
 ACRONYM: TAFIRM, TITLE: TAFIRM
 CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
 FEATURES: PROGRAM FLOW ANALYSIS, TEST DATA MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: JOVIAL J4
 IMPLEMENTATION LANGUAGE: JOVIAL
 COMPUTER (OTHER HARDWARE): CDC 3800
 TOOL SUMMARY: TAFIRM IS AN AUTOMATED SOFTWARE DEVELOPMENT TOOL WHICH WAS DESIGNED TO SHORTEN THE SCHEDULE FOR SOFTWARE DEVELOPMENT AND ALSO TO REDUCE COSTS THROUGH EARLY IDENTIFICATION OF LOGIC AND COMPUTATIONAL ERRORS. TAFIRM AUTOMATICALLY PERFORMS AND EVALUATES A SET OF TESTS ON OTHER COMPUTER PROGRAMS DURING THE DEVELOPMENT PHASE. IT PERFORMS A LOGIC PATH ANALYSIS, EXECUTES ALL THE SOURCE STATEMENTS, AND CHECKS THE ACCURACY OF EVERY COMPUTATION. IT OPERATES EFFECTIVELY WITH DETAILED INPUT TEST DATA OR WITH NO TEST DATA SPECIFIED. TAFIRM CONSISTS OF THREE MODULES AND A DRIVER PROGRAM. THE TASKS WHICH ARE PERFORMED ARE: STRIP TESTDATA FROM THE SOURCE CODE TAPE; LOAD THE SPECIFIED CODING UNITS FROM THE MASTER TAPE AND EXECUTE THEM WITH THE CONTROLLED DATA FROM THE SOURCE CODE TAPE; PRINT REPORTS ON THE TEST RESULTS; AND OUTPUT A TABULATION OF ALL POSSIBLE LOGICAL PATHS INTO AND OUT OF THE TEST UNITS.

DOCUMENTATION: USER'S MANUAL
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TAPS/AM, TITLE: TERMINAL APPLICATION PROCESSING SYSTEM/APPLICATIONS MANAGER
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: VERSION CONTROL
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA
 TOOL PORTABLE: YES
 OS (OTHER SOFTWARE): OS, VS, DOS
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE, FOR SALE

TOOL SUMMARY: TAPS/AM (TERMINAL APPLICATION PROCESSING SYSTEM/APPLICATIONS MANAGER) IS A SUPPORT PRODUCT DESIGNED TO INCREASE PRODUCTIVITY IN DEVELOPING AND MAINTAINING ON-LINE SYSTEMS. THE SYSTEM PROVIDES ROUTINES TO PERFORM STANDARD FUNCTIONS COMMONLY PROGRAMMED INTO MOST ON-LINE APPLICATIONS. IT DRIVES THESE ROUTINES AND THE USER APPLICATION CODE THROUGH A GENERALIZED TABLE STRUCTURE CREATED FROM INFORMATION DERIVED FROM INPUT DATA SHEETS. TAPS FEATURES: MACRO LANGUAGE, DATA ELEMENT DICTIONARY, ON-LINE TESTING SIMULATOR FOR BATCH MODE, SCREEN AND FILE RECOVERY, AND AN ABILITY TO PROGRAM IN HIGHER-LEVEL LANGUAGES. STANDARDIZED FACILITIES INCLUDE: SIGN-ON/SIGN-OFF, APPLICATION SELECTION, TRANSACTION MENU SELECTION AND TERMINAL OPERATOR INTERRUPT. AUTOMATIC CAPABILITIES INCLUDE: DATA INQUIRY, COLLECTION, AND

TDBCOMP

PAGING; SCREEN PROCESSING; DATA FORMAT EDITING; AND DOCUMENTATION. THE TAPS/CM/IBM OPTION PROVIDES A COMBINATION COMMUNICATIONS MONITOR AND APPLICATIONS MANAGER FOR IBM SYSTEMS.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: DECISION STRATEGY CORP.
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: TATTLE, TITLE: TATTLE
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: JOVIAL
IMPLEMENTATION LANGUAGE: JOVIAL

COMPUTER (OTHER HARDWARE): CDC 3800
TOOL SUMMARY: TATTLE MONITORS SOURCE STATEMENT EXECUTIONS DURING FREE-RUNNING END-TO-END TESTS. IT MAINTAINS EITHER (DEPENDING ON USER OPTION) A YES/NO INDICATOR WHICH IS SET WHEN A STATEMENT IS FIRST EXECUTED, OR ELSE AN ACTUAL CUMULATIVE EXECUTION FREQUENCY COUNT, FOR EVERY SOURCE STATEMENT IN EVERY PROGRAM SUBJECT TO TATTLE MONITORING. UPON REQUEST, IT WILL DISPLAY CUMULATIVE EXECUTION FREQUENCIES (OR YES/NO INDICATORS) AT THE STATEMENT LEVEL, I.E., NEXT TO EACH STATEMENT, IN A RE-LISTING OF THE SOURCE CODE.

DOCUMENTATION: DETAILED DESIGN DOCUMENTATION
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TDBCOMP, TITLE: TDBCOMP PROGRAM
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: COMPARISON
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: JOVIAL J4
COMPUTER (OTHER HARDWARE): CDC 3800
TOOL SUMMARY: TDBCOMP COMPARES AND SUMMARIZES THE DIFFERENCES BETWEEN TWO DATA BASES, WHERE ONE DATA BASE IS ON TAPE AND THE OTHER IS ACTIVE ON DISK. THE IMPORTANCE OF AUTOMATIC DATA COMPARISON IN EVALUATION OF THE EFFECT OF CHANGES (BOTH CODING CHANGES AND PARAMETRIC CHANGES) IS THAT IT SAVES MANY ENGINEERING MAN-HOURS OTHERWISE WASTED ON MANUAL DATA COMPARISONS. IT PROVIDES MORE ACCURATE COMPARISON THAN POSSIBLE MANUALLY, AND ENABLES THE ENGINEER TO FOCUS HIS TIME AND ATTENTION ON ANALYSIS OF THE DIFFERENCES REPORTED. THIS CAPABILITY IS NEEDED ON PRACTICALLY A DAILY BASIS DURING A SOFTWARE TEST PROCESS.
DOCUMENTATION: USER'S MANUAL

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, OPERATIONAL SOFTWARE OPERATIONS M
CONTACT: DAVID E. HEINE, TRW, OPERATIONAL SOFTWARE OPERATIONS M, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3400
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TEST PREDICTOR, TITLE: TEST PREDICTOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TEST DATA GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 7600

TOOL SUMMARY: TEST PREDICTOR IS A QUALITY ASSURANCE TOOL USED TO AUTOMATICALLY GENERATE TEST CASE INPUTS FOR FORTRAN COMPUTER PROGRAMS TO GUARANTEE THAT ALL BRANCHES WILL HAVE BEEN TESTED. IF A PARTICULAR BRANCH IS IMPOSSIBLE TO TEST, THE TEST PREDICTOR WILL SO INFORM THE USER. TEST PREDICTOR WILL AUTOMATICALLY GENERATE TEST INPUTS FOR A PARTICULAR PATH SELECTED BY THE USER, AND IT WILL IDENTIFY ALL NON-REPETITIVE PATHS THROUGH A BLOCK OF SOFTWARE. USING THIS TOOL, QUALITY ASSURANCE CAN INDEPENDENTLY TEST SELECTED ROUTINE, AND CAN ANALYZE SEQUENCES OF EVENTS LEADING TO HAZARDOUS OR ERRONEOUS CONDITIONS. INPUTS FOR TEST PREDICTOR ARE THE USER'S FORTRAN SOURCE CODE AND OPTIONALLY, ANY PRESPECIFIED VARIABLE DATA RANGES. OUTPUTS INCLUDE A LISTING OF THE USER'S SOURCE CODE ANNOTATED WITH SEGMENT NUMBERS, A LIST OF ALL NON-REPETITIVE PATHS THROUGH EACH ROUTINE, AND A LIST OF THE MINIMUM NUMBER OF TEST CASES NECESSARY TO EXECUTE ALL SEGMENTS AND THE ASSOCIATED DATA RANGE FOR EACH INPUT VARIABLE.

DOCUMENTATION: NONE
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TEVERE-1, TITLE: A SOFTWARE SYSTEM FOR PROGRAMS TESTING AND VERIFICATION
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: SYMBOLIC EVALUATION, PATH CONSTRAINT GENERATION, PATH CONSTRAINT SOLUTION
STAGE OF DEVELOPMENT: DESIGN

TIDY

APPLICABILITY: IFRAN
IMPLEMENTATION LANGUAGE: LISP 1.5
COMPUTER (OTHER HARDWARE): DEC PDP-11 (64K CORE MEMORY),
BURROUGHS B6700

TOOL SUMMARY: TEVERE-1 IS A SOFTWARE SYSTEM INTENDED TO BE
USED FOR VALIDATION OF WELL-STRUCTURED PROGRAMS WRITTEN IN
AN ALGOL-LIKE LANGUAGE WHICH ALLOWS THE USE OF ONLY THE
THREE BASIC CONSTRUCTS OF STRUCTURED PROGRAMMING
(ASSIGNMENT, WHILE-DO, IF-THEN-ELSE) PLUS INPUT-OUTPUT
STATEMENTS. BOTH THE PROGRAM USED TO DERIVE TEST CASES AND
THE PROGRAM USED TO AID PROGRAM PROOF ARE BASED ON THE
"WEAKEST PRECONDITION" THEORY APPLIED TO WELL-STRUCTURED
PROGRAMS IN ORDER TO DERIVE "PATH-PREDICATES", LOGICAL
REQUIREMENTS WHICH MUST BE FULFILLED BY TEST DATA IF THE
PROGRAM EXECUTION IS TO FOLLOW A PARTICULAR PATH. THE
SYSTEM IS INTENDED FOR USE AS PART OF THE TESTING AND
VERIFICATION OF THE SOFTWARE FOR A REACTOR SAFETY SYSTEM.

DOCUMENTATION: SYSTEM DESCRIPTION (8)
REFERENCES: [BOLO79], S. BOLOGNA, "TEVERE-1: A SOFTWARE
SYSTEM FOR PROGRAMS TESTING AND VERIFICATION", CONGRESSO
AICA '79, 791000

DEVELOPER: CNEN CSN-CASACCIA (ITALY)
CONTACT: S. BOLOGNA, CNEN CSN-CASACCIA (ITALY), AND RISO
NATIONAL LABORATORY (DENMARK), 6948
INFORMATION SOURCE: CONGRESSO AICA '79

ACRONYM: TFA, TITLE: TRACE FREQUENCY ANALYZER
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: COVERAGE ANALYSIS, TIMING ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: COBOL
IMPLEMENTATION LANGUAGE: COBOL
TOOL SIZE: CORE: 60000
COMPUTER (OTHER HARDWARE): CDC CYBER-73
OS (OTHER SOFTWARE): SCOPE 3.4
TOOL AVAILABLE: YES

TOOL SUMMARY: THIS PROGRAM USES THE COBOL TRACE FILE TO
ANALYZE EACH PARAGRAPH SHOWING THE NUMBER OF TIMES IT WAS
ENTERED AND THE EXECUTION TIME OF THE PARAGRAPH. THE TRACE
FILE IS PRODUCED WHEN THE TRACE OPTION IS USED AT COMPILE
TIME OF THE PROGRAM TO BE ANALYZED. KNOWING THOSE
PARAGRAPHS WHICH ARE HIGH IN FREQUENCY AND TIME
ACCUMULATION WILL ENABLE THE PROGRAMMER TO DIRECT
OPTIMIZING EFFORTS TO THOSE PARAGRAPHS THAT MIGHT NEED IT
THE MOST.

DOCUMENTATION: TECHNICAL PAPER
DEVELOPER: USAF/ALC
CONTACT: BILL SHIRLEY, USAF/ALC, SM-ALC/ACDAB, BLDG 269B,
MCCLELLAN AFB, CA, 95552, USA, 916-643-3642
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: TIDY, TITLE: TIDY

CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: PROGRAM FORMATTING
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): IBM 352/370, CDC 6000
TOOL AVAILABLE: YES, PUBLIC DOMAIN: YES
TOOL SUMMARY: THIS PROGRAM PROVIDES A SIMPLE WAY TO CLEAN UP
FORTRAN PROGRAMS BY MAKING ALL STATEMENT NUMBERS
SEQUENTIAL, LABELING AND SEQUENCING THE CARDS.

DOCUMENTATION: USER'S MANUAL
DEVELOPER: BRUNSWICK DEFENSE DIV.
CONTACT: JAMES N. CHURCHYARD, BRUNSWICK DEFENSE DIV., 3333
HARBOR BLVD., COSTA MESA, CA, 92626, USA, 714-545-8030
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: TIMECS, TITLE: TASK INTERNAL MICRO EXECUTION
CHRONOGRAPH SYSTEM

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: PERFORMANCE MEASUREMENT

STAGE OF DEVELOPMENT: IMPLEMENTED

APPLICABILITY: DATA

IMPLEMENTATION LANGUAGE: COBOL, COMPASS

TOOL SIZE: CORE: 5K

COMPUTER (OTHER HARDWARE): CDC 3170, 3300, 3, CDC 3000

OS (OTHER SOFTWARE): MASTER

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO

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TOOL SUMMARY: TIMECS (TASK INTERVAL MICRO EXECUTION
CHRONOGRAPH SYSTEM IS A JOB PERFORMANCE EVALUATION SYSTEM.

TIMECS IDENTIFIES INEFFICIENT TASKS WITHIN A JOB AND THE
INEFFICIENT ROUTINES WITHIN THAT TASK. A STATISTICS
EXTRACTION SYSTEM AND ANALYSIS/REPORT SYSTEM ARE THE 2

BASIC ELEMENTS OF TIMECS. THE STATISTICS EXTRACTION SYSTEM
IS A SOFTWARE MONITOR THAT COLLECTS WAIT STATUS, EXECUTIVE

REQUEST, TASK OVERLAY INITIATION, AND P-ADDRESS STATISTICS
FOR ALL TASKS DURING THE JOB SAMPLE PERIOD. THE

ANALYSIS/REPORT SYSTEM GENERATES 4 REPORT FORMATS FROM A
TAPE GENERATED BY THE STATISTICS SYSTEM. 2 JOB SUMMARY

REPORTS AND 2 TASK REPORTS FOR EACH TASK AND OVERLAY ARE
GENERATED.

DOCUMENTATION: USER'S MANUAL

DEVELOPER: TECHNICAL ANALYSIS CORPORATION

INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: TPT, TITLE: TESTING PROGRAM TESTING

CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: DATA FLOW ANALYSIS, COVERAGE ANALYSIS, TEST

EFFECTIVENESS MEASUREMENT, TRACE, TEST CASE GENERATION

STAGE OF DEVELOPMENT: DESIGN, DATE (YYMMDD): 840000

APPLICABILITY: FORTRAN

IMPLEMENTATION LANGUAGE: FORTRAN, PL/1

TREE-META

COMPUTER (OTHER HARDWARE): IBM 360/370, EC (IBM 350/370)
 TOOL SUMMARY: TPT CONSISTS OF THREE SUBSYSTEMS: (1) STATIC ANALYSIS - DETECTION OF ANOMALIES IN PROGRAMMING SYSTEM, USE OF ITERATIVE DATA FLOW ALGORITHMS, WILL ATTEMPT EXTENSIVE USE OF FINITE AUTOMATA DEFINED SEMANTICS; (2) DYNAMIC ANALYSIS - STATEMENT COUNTERS, TRACING OF EXECUTION HISTORY FOR CHOSEN PARTS OF PROGRAM, STATISTICAL MEASUREMENT OF TESTS, ETC.; (3) TEST CASE GENERATION - COMPLETE SETS OF TESTS FOR RESTRICTED LANGUAGES. IN THE FOCUS OF INTEREST IS THE ESTIMATION OF THE FEASIBILITY OF SOME TEST CASE GENERATION (THEORETICAL) ATTITUDES.
 DOCUMENTATION: DESIGN SPECIFICATION, "UVT UJEP"
 REFERENCES: [HORE79], J. HOREJS, "FINITE SEMANTICS: A TECHNIQUE FOR PROGRAM TESTING", PROC OF 4TH INT CONF ON SOFT ENG, 796900
 [MORA78], A. MORAVEC, "THE BASE OF CONTROL FLOW-GRAPH", SCRIPTA FAC., UNIV J. E. PURKYNE, BRNO, 780000
 [KRET79], M. KRETINSKY, "ON DETECTION OF DATA FLOW ANOMALIES", PROC SOFSEM 79 CONF, CZECHOSLOVAKIA, 790000
 DEVELOPER: UNIVERSITY J.E. PURKYNE
 INFORMATION SOURCE: COMPLETED SUBMISSION TO NBS

ACRONYM: TRANSFOR, TITLE: TRANSLATOR FOR STRUCTURED FORTRAN
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION
 FEATURES: STRUCTURED LANGUAGE PROCESSING
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: STRUCTURED FORTRAN
 IMPLEMENTATION LANGUAGE: FORTRAN
 TOOL SUMMARY: TRANSFOR (TRANSLATOR FOR STRUCTURED FORTRAN) IS A PRE-PROCESSOR THAT EXTENDS THE FORTRAN LANGUAGE FOR STRUCTURED PROGRAMMING. IT ALLOWS THE PROGRAMMER TO WRITE EFFICIENT, STRUCTURED CODE FREE OF GO TO STATEMENTS. THE USE OF STATEMENT NUMBERS IS ELIMINATED AND THE NESTING OF CONTROL STRUCTURES ENFORCED. TRANSFOR AND FORTRAN STATEMENTS ARE COMPLETELY COMPATIBLE AND CAN BE FREELY INTERMIXED. THE RESULTANT SOFTWARE IS MORE READABLE BECAUSE OF THE AUTOMATIC INDENTATION OF CONTROL STATEMENTS BY WHICH NESTING IS DEPICTED. SNEAK PATHS AND UNANTICIPATED EXECUTION SEQUENCES ARE RARE, SINCE THE PROGRAMMER IS ABLE TO SEE PRIMARILY STRAIGHTFORWARD LOGIC.
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: BCS, INC.
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TREE-META, TITLE: TREE-META
 CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: LANGUAGE PROCESSING, COMPILER GENERATION
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: HIGHER LEVEL LANGUAGE
 IMPLEMENTATION LANGUAGE: FORTRAN, ASSEMBLY
 COMPUTER (OTHER HARDWARE): CDC 6000, UNIVAC 1108, CDC 7000
 TOOL SUMMARY: TREE-META IS A COMPILER-COMPILER OR A COMPILER GENERATOR, WHOSE PURPOSE IS TO GENERATE A PROGRAM (COMPILER) THAT WILL TRANSLATE A DEFINED SOURCE LANGUAGE A TO A DEFINED OBJECT LANGUAGE B. GIVEN, AS INPUT, A DETAILED DESCRIPTION OF THE SOURCE LANGUAGE FOR WHICH A COMPILER IS DESIRED AND THE OBJECT LANGUAGE TO BE OUTPUT BY THAT COMPILER, TREE-META WILL AUTOMATICALLY GENERATE THIS A-TO-B COMPILER. THE LANGUAGE IN WHICH THIS GENERATED COMPILER IS CONSTRUCTED IS FORTRAN. TREE-META CAN BE USED TO EXTEND THE CAPABILITIES OF AN EXISTING COMPILER, TRANSLATE SOURCE LANGUAGES WRITTEN FOR ONE COMPUTER TO A SOURCE LANGUAGE WRITTEN FOR A DIFFERENT COMPUTER, GENERATE A COMPILER WHICH WILL ACCEPT SOURCE CODE WRITTEN FOR ONE COMPUTER AND DIRECTLY COMPILE IT TO OPERATE AN ANOTHER COMPUTER, AND GENERATE NODAL-TYPE CODE INSTRUMENTATION PROCESSORS.

DOCUMENTATION: USER'S GUIDE, PROGRAMMERS GUIDE
 REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
 DEVELOPER: TRW, COMPUTER NETWORK SYSTEMS DEPARTMENT
 CONTACT: BARRY PRESS, TRW, COMPUTER NETWORK SYSTEMS DEPARTMENT, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-535-3480
 INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TRMS, TITLE: TECHNICAL REQUIREMENTS MANAGEMENT SYSTEM
 CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
 FEATURES: PROJECT MANAGEMENT
 STAGE OF DEVELOPMENT: IMPLEMENTED
 APPLICABILITY: DATA
 IMPLEMENTATION LANGUAGE: COBOL
 TOOL SIZE: CORE: 56K
 COMPUTER (OTHER HARDWARE): IBM 360/370
 TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
 TOOL SUMMARY: TRMS IS DESIGNED TO MONITOR CRITICAL MILESTONES AND TO PROVIDE DOCUMENTATION AT THE PROJECT LEVEL. IT ALLOWS FOR TOP-DOWN EVENT/ACTIVITY IDENTIFICATION AND SCHEDULING, MAINTAINS DATA ON ALL CRITICAL DOCUMENTS, MONITORS INCORPORATION OF DESIGN CHANGES, AND PROVIDES AN "AS DESIGNED" PARTS LIST AS WELL AS A COMPARISON OF THE "AS DESIGNED - AS BUILT" PARTS LIST. THE SYSTEM IS COMPOSED OF SIX MODULES: REQUIREMENTS IDENTIFICATION, PLANNING AND SCHEDULING, DOCUMENT STATUS, PARTS DATA, CONFIGURATION VERIFICATION, AND AS DESIGNED - AS BUILT. EACH USES A SINGLE DATA BASE AND HAS THE

CAPABILITY OF STAND-ALONE OPERATION. THE MODULES ARE DESIGNED TO OPERATE IN AN ON-LINE MODE USING VIDEO DISPLAY EQUIPMENT, ARE CONFIGURED TO HAVE BATCH REPORTING AND BATCH BACK-UP CAPABILITIES, AND ARE CONSTRUCTED TO MEET THE APPLICABLE MILITARY SPECIFICATIONS REQUIRED OF DOD CONTRACTORS.

DOCUMENTATION: USER'S MANUAL, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: MARTIN MARIETTA DATA SYSTEMS
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: TRWPLT, TITLE: PROGRAM TRWPLT
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: DOCUMENTATION GENERATED
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: DATA
IMPLEMENTATION LANGUAGE: FORTRAN V
COMPUTER (OTHER HARDWARE): UNIVAC 1108
TOOL SUMMARY: TRWPLT IS A GENERAL PLOT PROGRAM -- EASY TO USE, ABLE TO RAPIDLY PLOT LARGE AMOUNTS OF DATA, ABLE TO PRODUCE HIGH QUALITY VERY READABLE CALCOMP OR MACHINE PLOTS. TRWPLT IS A REAL TIMESAVER. IT IS A VALUABLE AND POWERFUL TOOL FOR PROJECTS WHICH MUST EXHIBIT AND ANALYZE LARGE AMOUNTS OF DATA AND PREPARE PLOT-TYPE DISPLAYS FOR INCLUSION IN DOCUMENTATION.

REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100
DEVELOPER: TRW HOUSTON FACILITY
INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: TSA/PPE, TITLE: TOTAL SYSTEM ANALYZER/PROBLEM PROGRAM EVALUATOR
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING
FEATURES: PERFORMANCE MEASUREMENT
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: FORTRAN, ASSEMBLY
COMPUTER (OTHER HARDWARE): IBM 360/370
OS (OTHER SOFTWARE): OS, MVS, OS/VS
TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
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TOOL SUMMARY: TSA/PPE (TOTAL SYSTEM ANALYZER/PROBLEM PROGRAM EVALUATOR) PERFORMS SYSTEM ANALYSIS, WORKLOAD ANALYSIS, AND PROGRAM ANALYSIS TO IDENTIFY AREAS OF HIGH CPU UTILIZATION FOR SYSTEM AND PROGRAM MODULES. THE PACKAGE CONSISTS OF FIVE PROGRAMS: THE TSA EXTRACTOR, THE TSA ANALYZER, THE TSA WORKLOAD ANALYZER, THE PPE EXTRACTOR, AND THE PPE ANALYZER. THE TSA EXTRACTOR SAMPLES THE ACTIVITY OF SYSTEM AND PROGRAM MODULES SIMULTANEOUSLY. THE TSA ANALYZER TABULATES THE COLLECTED DATA INTO A MODULE USAGE SUMMARY REPORT

LISTING ALL THE MODULES MEASURED AND THEIR CORRESPONDING CPU USAGE AND ACTIVITY. THE PPE ANALYZER UTILIZES THE DATA COLLECTED BY THE EXTRACTOR AND PRODUCES A SET OF INSTRUCTION LOCATIONS HISTOGRAMS FOR ANY PROGRAM OR SYSTEM MODULES SPECIFIED BY THE USER.

DEVELOPER: BOOLE AND BARBAGE
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: UCA, TITLE: UNITS CONSISTENCY ANALYSIS
CLASSIFICATION: SOURCE PROGRAM ANALYSIS AND TESTING

FEATURES: UNITS ANALYSIS
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: FORTRAN
IMPLEMENTATION LANGUAGE: FORTRAN
COMPUTER (OTHER HARDWARE): CDC 6000, CDC 7000

TOOL SUMMARY: THE UNITS CONSISTENCY ANALYSIS PROGRAM IS A QUALITY ASSURANCE TOOL WHICH SCANS A FORTRAN PROGRAM AND ITS ASSOCIATED DATA BASE (FOR ACCESS TO VARIABLE UNITS DEFINITION) TO DETERMINE IF THE UNITS OF THE VARIABLES USED IN THE PROGRAM ARE CONSISTENT WITHIN THE SOURCE STATEMENTS. THE PROGRAM SYMBOLICALLY INTERPRETS THE EQUATIONS REFERENCING THE VARIABLES TO ASSURE THAT THE UNITS ARE CORRECT AND CONSISTENT WITHIN THE EQUATIONS. FOR EXAMPLE, IN THE C = A * B IF VARIABLES A AND B WERE DEFINED TO BE IN UNITS OF FEET, VARIABLE C OUGHT TO BE DEFINED IN UNITS OF SQUARE FEET, OR A DIAGNOSTIC WOULD BE PRINTED. OPTIONAL INPUTS ALLOW THE USER TO OVERRIDE THE UNITS SPECIFICATION IN THE DATA BASE, AND ADD UNITS DEFINITIONS FOR VARIABLES NOT FOUND IN THE DATA BASE.

DOCUMENTATION: USER'S MANUAL, REQUIREMENTS MANUAL, DESIGN MANUALS
REFERENCES: [ASDS79], APPLIED SYSTEMS DESIGN SECTION, TRW DEFENSE AND SPACE SYSTEMS GROUP, "SOFTWARE TOOLS: CATALOGUE AND RECOMMENDATIONS", TRW AUTOMATED SOFTWARE TOOLS SERIES, 790100

DEVELOPER: TRW, SEID SOFTWARE PRODUCT ASSURANCE
CONTACT: FRANK INGRASSIA, TRW, SEID SOFTWARE PRODUCT ASSURANCE, ONE SPACE PARK, REDONDO BEACH, CA, 90278, USA, 213-536-3140

INFORMATION SOURCE: TRW SOFTWARE TOOLS CATALOG

ACRONYM: UP, TITLE: UNIVERSAL FLOWCHARTER
CLASSIFICATION: SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE
FEATURES: FLOW CHART GENERATION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: PASCAL
TOOL SIZE: CORE: 100K
COMPUTER (OTHER HARDWARE): IBM 360/370, CDC 6000
TOOL AVAILABLE: YES
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR SALE
TOOL SUMMARY: THE UNIVERSAL FLOWCHARTER PRODUCES STRUCTURED DESIGN DIAGRAMS AND CONCORDANCES FOR SOURCE PROGRAMS. BY UNIVERSAL, WE MEAN PROGRAMMING LANGUAGE. A STRUCTURED

DESIGN DIAGRAM AS A FLOW CHART IN A CONCISE, TREE-LIKE FORMAT APPROPRIATE FOR REPRESENTING FLOW OF CONTROL IN A STRUCTURED PROGRAM. THE DIAGRAMS ARE NEATLY INDENTED, AND HAVE NO LINES THAT CROSS OTHERS, OR LOOP BACK UP THE PAGE AS TRADITIONAL FLOW CHARTS DO. IN ORDER TO USE THE FLOWCHARTS ON PROGRAMS WITHIN A PARTICULAR LANGUAGE, ONE MUST FIRST SPECIFY THE GRAMMAR OF THAT LANGUAGE. PREPARING THE GRAMMAR IS NON-TRIVIAL, BUT IT IS DONE ONLY ONCE; FROM THEN ON, ANY PROGRAM WRITTEN IN THAT LANGUAGE CAN BE FLOWCHARTED, WITHOUT ANY ADDITIONS TO THE SOURCE PROGRAM. PRODUCING A FLOWCHART AND CONCISENESS IS AS EASY AS ADDING A CARD TO A COMPILATION JOB. THE UNIVERSAL FLOWCHARTER WAS DEVELOPED AS PART OF THE MUST OF SUPPORT TOOLS, AND IS INSTALLED AT LANGLEY RESEARCH CENTER.

DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER, DEVELOPMENT SPECIFICATION

REFERENCES: [HAREW0], HAREL, D AND PARLEIIEWICZ, R., "A UNIVERSAL FLOWCHARTER", TECHNICAL NO. 16, 900
DEVELOPER: HIGHER ORDER SOFTWARE, INC.
CONTACT: PETER NORVING, HIGHER ORDER SOFTWARE, INC., 805 MASS AVE., CAMBRIDGE, MA, 02139, USA, 617-561-8900
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

ACRONYM: XAS8, TITLE: STRUCTURED MACROASSEMBLER FOR 8080
CLASSIFICATION: REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

FEATURES: MACRO EXPANSION
STAGE OF DEVELOPMENT: IMPLEMENTED
APPLICABILITY: SOURCE CODE
IMPLEMENTATION LANGUAGE: C

COMPUTER (OTHER HARDWARE): INTEL 8080/8085, DEC/PDP-11
OS (OTHER SOFTWARE): UNIX

TOOL AVAILABLE: YES, PUBLIC DOMAIN: NO
RESTRICTIONS (COPYRIGHTS, LICENSES, ETC.): FOR LEASE

TOOL SUMMARY: THIS MACRO ASSEMBLER RUNS ON DEC PDP-11'S OR 8085. THE SOURCE LANGUAGE FOR THE ASSEMBLER IS A COMPILER-LIKE LANGUAGE HAVING ASSEMBLY-TIME AS WELL AS RUN-TIME IF-THEN-ELSE AND LOOP CONSTRUCTS. THERE ARE A FULL PARAMETERIZED MACRO SUBSTITUTION AND INCLUDE FILE PRODUCING CORE IMAGE FILES. REHOSTING FOR OTHER PDP-11 OPERATING SYSTEMS IS POSSIBLE.

DOCUMENTATION: USER'S MANUAL, TECHNICAL PAPER, MAINTENANCE MANUAL, DEVELOPMENT SPECIFICATION, TEST PLAN
DEVELOPER: SOFTECH, INC.

CONTACT: VIC VOYDOCK, SOFTECH, INC., 460 TOTTEN POND ROAD, WALTHAM, MA, 02154, USA, 617-890-5900
INFORMATION SOURCE: AIAA SURVEY OF SOFT DEV TOOLS

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RADC-TR-80-13, Feb 80.
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Reduce Costs", Report No. FGMSD-80-38, Apr 80.
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Universitaet Hamburg, January 1980.

APPENDIX A

CROSS-REFERENCE BY TOOL CLASSIFICATION

SOFTWARE SUPPORT SYSTEM/PROGRAMMING ENVIRONMENT

ASSET MSEF

SOFTWARE MANAGEMENT, CONTROL, AND MAINTENANCE

ABS	ACT/1	ADS/CERL	AFS
ALIAS	ASA-PMS	ASEQ	AUTDOC
AUTOCOM	AUTOFLOW	AUTOFLOW-ADR	AUTOMATIC DOCUM
AUTORETEST	BLKGEN-BDD	BLKGEN/SPEC PN	BTPK
BUDGET VS ACTUA	CADMUS	CALLREF	CHECKSUM
COMDIM	COMGEN	COMGEN/TRW	COMLIST
COMLIST/TRW	COMPARATOR	COMPARE	COMSORT
COMSTAR	CONFIG	CONFIGURATION C	CPA
CPAL	CROREF	CUE	DA
DATAMACS	DCD	DEPCHT	DICTANL/LOCATE
DIRCOM	DOCGEN	DOCU/TEXT	DOCUMENT
DOCUMENTER A	DOCUMENTOR	DOSSIER	DPNDCY
EASYTROL	ESAP	FLOBOL	FLODIA
FLOWGEN	FORMAN	FORREF	FORTREF
FTNCODER	GIM/GIM II	GIRAFF	HARP
IBM/DG/FORTRAN	INFORM/REFORM	INSERT	INTERFACE DOCUM
JET	JOVIAL/VS	JSDD	LEXICON
LIBRARIAN	LOGIFLOW	LOGOS	MAGL
MODULE ORDERER	MPS	N-SQUARED	N5500
PAC II	PDS FLOW	PDSS	PFORT
PFS	PMCS	PMS IV	PPP
PROG COMP ANAL	PRONET	PSL	QCM
QCRT	QUICK-DRAW	RATCODER	REFER
REFORM	RENAME	SDP	SLIM
SNOOP	SPC	SPEAR	SPELL
SPREAD	SPRINT	SUBCRS	SYMCRS
TAPS/AM	TDBCMP	TIDY	TRMS
TRWPLT	UF		

REQUIREMENTS/DESIGN SPECIFICATION, ANALYSIS, AND PROGRAM GENERATION

AUTOIDEF0	CARA	COBOL/SPP	COGENT
CRISPFLOW	DATA STRUCTURES	DECA	FOCUS
FOSTRA	FST	IFTRAN-1	IFTRAN-2
IORL	IPDS	ISDS	JOCIT
MED-SYS	MEMORY MANAGEME	PDL	PDS
PERCAM	PREPROCESSOR GE	PROGRAM GENERAT	PSL/PSA
RATFOR	S-FORTRAN	SCG/DQM	SCOPE
SDDL	SFORT-1	SFTRAN3	SIGS
SMAL/80	SMMA	SREP	STAG/TEMS
STRUCI/STRUC2	STRUCTURING ENG	SYDIM	TRANSFOR
TREE-META	XAS8		

SOFTWARE MODELING AND SIMULATION

ASRP	DAS	DDPM	DPAD
SALSIM	SCERT	SDVS	

SOURCE PROGRAM TESTING AND ANALYSIS

ADS	AMPIC	ASSIST-I	ATA
ATDG	ATTEST	AUDIT	BSC
CA	CADA	CASEGEN	CAVS
CCA	CCREF	CCS	CENSUS
CGJA	CICS DUMP ANALY	COBOL/CP	COMSCAN
CORE	COTUNE II	CSPP	DAVE
DDT	DRIVER	DYNA	EAVS
EVP	EXPEDITER	FACES	FADEBUG-I
FAST	FAVS	FCA	FORAN
FORTRAN CHECKER	FORTRAN-77 ANAL	FTNXREF	GOTO-ANALYZER
HAWKEYE	INSTRUMENTER	ITDEM	JAVS
JIGSAW	JOVIAL TCA	JOVIAL/J3SC	JOYCE
LOGIC	METRAN	MONITOR	NASA-VATS
NBS ANALYZER	NODAL	OPTIMIZER II	OPTIMUS
OSTEST-II	PACE	PACE-C	PET
PPE	PREF HDR GEN	PROGLOOK	RADC/FCA
REFLECT II	REL MEAS MODEL	RISOS TOOLS	RXVP
SADAT	SAP	SAP/H	SARA-H
SARA-III	SARA-IV	SARA-U	SCMS
SEF	SELECT	SMT	SOWSEAR
SPTRAN	SSA	STRUCT	SURVAYOR
SUS	SYSTEM MONITOR	SYSXREF	TAFIRM
TATTLE	TEST PREDICTOR	TEVERE-1	TFA
TIMECS	TPT	TSA/PPE	UCA

APPENDIX B

CROSS-REFERENCE BY TOOL FEATURES

ABORT DIAGNOSIS		CICS DUMP ANALY
CORE		
ASSERTION CHECKING		ATA
CAVS	FORTRAN-77 ANAL	SELECT
AUTOMATED MODULE DRIVER		EXPEDITER
AUTOMATED MODULE SIMULATOR		EXPEDITER
BIT MANIPULATION		BTPK
BREAKPOINT CONTROL		ADS
DDT		
CODE AUDITING		ADS/CERL
AUDIT	CA	CCA
COMSCAN	FACES	FCA
FORTRAN CHECKER	GOTO-ANALYZER	HAWKEYE
JIGSAW	PET	PFORT
PSL	RADC/FCA	SCG/DQM
SCMS	SPELL	SSA
STRUCT		
CODE RESTRUCTURING		CAVS
FAVS	HAWKEYE	PREPROCESSOR GE
RXVP	SPRINT	STRUCI/STRUC2
COMPARISON		COMPARATOR
CCS	COMPARE	FADEBUG-I
PROG COMP ANAL	TDBCOMP	
COMPILER GENERATION		COGENT
TREE-META		
COMPILER VALIDATION		JOVIAL/VS
COMPLETENESS CHECKING		SIGS
COMPLEXITY MEASUREMENT		DDPM
SAP/H	SCG/DQM	SCMS
COMPONENT TESTING		EXPEDITER
CONFIGURATION CONTROL		AUTOIDEF0
BLKGEN/SPEC PN	COMGEN	CONFIGURATION C
CONFIGURATION MANAGEMENT		ABS
ASSET	CCS	CHECKSUM
CONFIG	CPAL	GIM/GIM II
MSEF	PROG COMP ANAL	SDP
SEF	SUS	
CONSISTENCY CHECKING		ASSET

CARA	DAS	FAST
FORAN	ISDS	SCG/DQM
SREP		
CONVERSION		COBOL/CP
FOSTRA	HAWKEYE	IBM/DG/FORTRAN
MAGL		
COST ESTIMATION		SLIM
SPREAD		
COVERAGE ANALYSIS		ATA
ATTEST	CADA	CAVS
COTUNE II	DYNA	FAVS
FORTRAN-77 ANAL	ITDEM	JIGSAW
NBS ANALYZER	NODAL	OSTEST-II
PACE	PACE-C	PET
RXVP	SADAT	SCMS
TATTLE	TEST PREDICTOR	TFA
TPT		
CROSS REFERENCE		ADS/CERL
CALLREF	CAVS	CCREF
COMGEN	COMLIST	COMLIST/TRW
COMSORT	CROREF	DA
DCD	DEPCHT	FAVS
FLOBOL	FORAN	FORREF
FORTREF	FST	FTNXREF
GIRAFF	INTERFACE DOCUM	JOYCE
LEXICON	LOGOS	PDL
QUICK-DRAW	REFER	RISOS TOOLS
SCG/DQM	SNOOP	SUBCRS
SYMCRS	SYSXREF	
DATA AUDITING		DAS
SADAT		
DATA BASE ANALYSIS		CAVS
CCREF	COMLIST	FAVS
RISOS TOOLS	SCG/DQM	SNOOP
FTNXREF		
DATA ENTRY		FOCUS
DATA FLOW ANALYSIS		AUDIT
CAVS	DAVE	DDPM
FACES	FAST	FAVS
PREF HDR GEN	SADAT	SNOOP
SURVAYOR	TPT	
DATA RANGE ANALYSIS		PET
DATA STRUCTURING		DATA STRUCTURES
DESIGN ANALYSIS		DAS
DDPM	SCG/DQM	SNOOP
DESIGN LANGUAGE PROCESSING		MED-SYS
PDL	PDS	PSL/PSA
SDDL		
DESIGN SIMULATION		SALSIM
DESIGN SPECIFICATION		AUTOIDEFØ
SIGS		
DOCUMENTATION GENERATION		ADS/CERL
ATTEST	AUTOIDEFØ	CADMUS
CAVS	COMSORT	CROREF
DCD	DECA	DEPCHT

DICTANL/LOCATE	DOCGEN	DOCUMENTER A
DOCUMENTOR	DPNDCY	ESAP
FAVS	FTNXREF	PSL
SCG/DQM	SEF	SIGS
SNOOP	SREP	TRWPLT
EDITING		RENAME
ENVIRONMENT SIMULATION		SCERT
SDVS		
ERROR ANALYSIS		ATDG
FAST	FORAN	
ERROR DETECTION		FORTRAN CHECKER
EXECUTION MONITORING		CAVS
FTNCODER	INSERT	MONITOR
RATCODER	SADAT	SYSTEM MONITOR
EXPRESSION ANALYSIS		ATTEST
EXPRESSION TESTING		ATTEST
FILE LAYOUT GENERATION		DCD
FILE MAINTENANCE		FOCUS
FILE MANAGEMENT		COMSTAR
LIBRARIAN	PDS	PSL
QCRT		
FILE STRUCTURE TESTING		DATAMACS
FINANCIAL MODELLING		FOCUS
FLOW CHART GENERATION		AFS
AMPIC	AUTOFLOW	AUTOFLOW-ADR
CRISPFLOW	DCD	ESAP
FLOBOL	FLODIA	FLOWGEN
JOYCE	JSDD	LOGIFLOW
PDS FLOW	QUICK-DRAW	RISOS TOOLS
SCMS	SNOOP	SPEAR
UF		
GLOBAL DATA ANALYSIS		AUTDOC
GLOBAL DATA MANAGEMENT		ALIAS
AUTOCOM	BLKGEN-BDD	BLKGEN/SPEC PN
COMDIM	COMGEN	COMGEN/TRW
COMLIST	COMSORT	DIRCOM
DPNDCY	EVP	FORMAN
FTNXREF	SEF	SNOOP
SYMCRS		
GRAPHICAL REPRESENTATION		AUTOIDEF0
SIGS		
GRAPHING		FOCUS
HIERARCHICAL FILE STRUCTURES		FOCUS
HIPO GENERATION		SNOOP
INTERFACE ANALYSIS		INFORM/REFORM
JAVS	PREF HDR GEN	SYDIM
FAST	FORAN	SEF
LABEL RESEQUENCING		ASEQ
LANGUAGE PROCESSING		COBOL/SPP
CSPP	FAVS	IFTRAN-1
IFTRAN-2	JOCIT	SPTRAN
STRUCI/STRUC2	STRUCTURING ENG	TREE-META
LANGUAGE STRUCTURING		STRUCTURING ENG
LIBRARY MANAGEMENT		ABS
ASSET	COMSTAR	CPA

DOSSIER	LIBRARIAN	PSL
SEF		
MACRO EXPANSION		JOCIT
SMAL/80	SMMA	XAS8
MEAN-TIME-BETWEEN - FAILURE ANALYSIS		REL MEAS MODEL
MEMORY MANAGEMENT		MEMORY MANAGEME
MODIFICATION VALIDATION		CCS
COMLIST	DAS	DDPM
FTNXREF	SCG/DQM	SUS
MODULE ORDERING		MODULE ORDERER
ONLINE APPLICATION DESIGN		ACT/1
ONLINE APPLICATION DEVELOPMENT		ACT/1
PATH CONSTRAINT GENERATION		AMPIC
ATTEST	CASEGEN	SADAT
TEVERE-1		
PATH CONSTRAINT SOLUTION		ATTEST
CASEGEN	TEVERE-1	
PATH STRUCTURE ANALYSIS		FADEBUG-I
SELECT		
PERFORMANCE MEASUREMENT		CUE
INSTRUMENTER	JAVS	OPTIMUS
PROGLOOK	QCM	SARA-H
SARA-III	SARA-IV	SARA-U
SMT	TIMECS	TSA/PPE
PREPROCESSOR GENERATION		PREPROCESSOR GE
PROFILE GENERATION		CAVS
CENSUS	FORTRAN-77 ANAL	JOVIAL/J3SC
NBS ANALYZER	NODAL	PET
RISOS TOOLS	SADAT	SAP
PROGRAM FLOW ANALYSIS		EAVS
INSERT	JAVS	LOGIC
MCNITOR	SADAT	TAFIRM
PROGRAM FORMATTING		AUTOMATIC DOCUM
CAVS	COBOL/SPP	FAVS
HAWKEYE	JAVS	JET
PDL	PDS	PSL
STRUCI/STRUC2	TIDY	
PROGRAM GENERATION		SCOPE
PROGRAM MAINTENANCE		CONFIGURATION C
DOCUMENTER A	INTERFACE DOCUM	
PROGRAM OPTIMIZATION		OPTIMIZER II
PROGRAM REFORMATTING		REFORM
PROGRAM RESTRUCTURING		SOWSEAR
PROGRAM STRUCTURE CHECKING		CAVS
FAVS	FCA	SADAT
SCG/DQM		
PROJECT MANAGEMENT		ASA-PMS
BUDGET VS ACTUA	EASYTROL	HARP
N-SQUARED	N5500	PAC II
PDSS	PFS	PMCS
PMS IV	PPP	SLIM
SPC	SPREAD	TRMS
PROOF OF CORRECTNESS		IPDS
REAL-TIME SOFTWARE DESIGN		SALSIM
REFERENCE ANALYSIS		DDPM

SCG/DQM		
RELATIONAL FILE STRUCTURES		FOCUS
REPORT GENERATION		CADMUS
DA	DAS	DOCGEN
DOCU/TEXT	DOCUMENT	DOCUMENTOR
FOCUS	IORL	MPS
PDL	PSL	SADAT
SCG/DQM	SEP	
REQUIREMENTS ANALYSIS		CARA
DAS	DDPM	
REQUIREMENTS LANGUAGE PROCESSING		CARA
IORL	MED-SYS	PSL/PSA
SIGS		
REQUIREMENTS SIMULATION		SREP
REQUIREMENTS SPECIFICATION		AUTOIDEF0
SREP		
REQUIREMENTS TRACING		ASSET
CARA	DAS	SREP
STAG/TEMS		
RESOURCE MONITORING		DDPM
PPE	PRONET	REFLECT II
SARA-H	SARA-III	SARA-IV
SARA-U		
RUN TIME ANALYSIS		FAVS
FTNCODER	MONITOR	RATCODER
SCREEN LAYOUT DESIGN		ACT/1
SIMULATION		DDPM
DPAD	PERCAM	
SOFTWARE QUALITY EVALUATION		ASRP
SCG/DQM		
SPECIFICATION REFINEMENT		IPDS
STANDARDS ENFORCEMENT		FTNCODER
PSL	RADC/FCA	RATCODER
SCG/DQM		
STRUCTURED LANGUAGE PROCESSING		COBOL/SPP
FST	JIGSAW	METRAN
RATFOR	RXVP	S-FORTRAN
SFORT-1	SFTRAN3	STRUCI/STRUC2
TRANSFOR		
SYMBOLIC EVALUATION		ASSIST-I
ATTEST	NASA-VATS	SADAT
TEVERE-1		
SYMBOLIC EXECUTION		AMPIC
CASEGEN	SELECT	
TEST CASE GENERATION		TPT
ATDG	CASEGEN	DATAMACS
SCG/DQM	SELECT	TEST PREDICTOR
TEST DATA MANAGEMENT		ABS
ASSET	AUTORETEST	DRIVER
MSEF	NODAL	PDS
SEF	TAFIRM	
TEST EFFECTIVENESS MEASUREMENT		ATA
ATTEST	CAVS	CGJA
DYNA	EAVS	FAVS
FORTRAN-77 ANAL	INSTRUMENTER	JAVS

JIGSAW	JOVIAL TCA	LOGIC
NBS ANALYZER	NODAL	OSTEST-II
PACE	PACE-C	PDS
PET	REL MEAS MODEL	RXVP
TPT		
TEST HARNESS		AUTORETEST
SEF		
TIMING ANALYSIS		CADA
COTUNE II	DDPM	LOGIC
MONITOR	PPE	SPRINT
TFA		
TOP-DOWN DESIGN		DECA
TRACE		ATA
EXPEDITER	FORTRAN-77 ANAL	FTNCODER
INSERT	OSTEST-II	RATCODER
TPT		
TRANSLATE		PROGRAM GENERAT
TRANSLATION		COBOL/CP
TUNING		FAVS
FORTRAN-77 ANAL	NBS ANALYZER	
TYPE ANALYSIS		FAVS
UNITS ANALYSIS		UCA
VERSION CONTROL		ASSET
BLKGEN/SPEC PN	CHECKSUM	LIBRARIAN
MSEF	SDP	TAPS/AM

APPENDIX C

CROSS-REFERENCE BY TOOL APPLICABILITY

APL			DATAMACS
ASSEMBLY			AMPIC
	ASSIST-I	AUTOFLOW-ADR	CONFIG
	DDT	MAGL	OSTEST-II
	QUICK-DRAW	RISOS TOOLS	
AUTOCODER			AUTOFLOW-ADR
BASIC			BSC
CICS			ADS
	CICS DUMP ANALY	CORE	SCOPE
COBOL			AUTOFLOW-ADR
	CADA	CAVS	COBOL/CP
	COBOL/SPP	COTUNE II	CPA
	CSPP	DATAMACS	DCD
	FLOBOL	HAWKEYE	OPTIMIZER II
	PREPROCESSOR GE	PSL	QUICK-DRAW
	SOWSEAR	TFA	
COMPASS			CCA
	PACE-C		
DATA			ABS
	BUDGET VS ACTUA	CADMUS	CHECKSUM
	COMPARATOR	COMPARE	COMSTAR
	CRISPFLOW	DA	DECA
	DICTANL/LOCATE	DOCU/TEXT	DOCUMENT
	DOSSIER	DPAD	EASYTROL
	ESAP	HARP	N-SQUARED
	PAC II	PDSS	PERCAM
	PFS	PPP	QCM
	QCRT	SARA-H	SARA-III
	SARA-IV	SARA-U	SCERT
	SLIM	SMT	SPREAD
	STRUCT	SYDIM	TAPS/AM
	TIMECS	TRMS	TRWPLT
DESIGN			AUTOIDEFØ
	IPDS	ISDS	PDL
	SDDL	SIGS	SNOOP
DMATRAN			FAVS
	STRUC I/STRUC2		
FORTRAN			ADS/CERL

ALIAS	AMPIC	ASEQ
ATA	ATDG	ATTEST
AUDIT	AUTDOC	AUTOCOM
AUTOFLOW	AUTOFLOW-ADR	AUTORETEST
BLKGEN-BDD	BLKGEN/SPEC PN	BTPK
CA	CASEGEN	CCREF
CENSUS	COMDIM	COMGEN
COMGEN/TRW	COMLIST	COMLIST/TRW
COMSCAN	COMSORT	CONFIG
CPAL	CROREF	DATA STRUCTURES
DATAMACS	DAVE	DEPCHT
DIRCOM	DOCGEN	DOCUMENTOR
DPNDCY	DRIVER	DYNA
EAVS	EVP	FACES
FAST	FAVS	FCA
FLODIA	FLOWGEN	FORAN
FORMAN	FORREF	FORTRAN CHECKER
FORTRAN-77 ANAL	FORTREF	FOSTRA
FTNCODER	FTNXREF	GIRAFF
GOTO-ANALYZER	IBM/DG/FORTRAN	INFORM/REFORM
INSERT	INSTRUMENTER	ITDEM
JOYCE	LOGIC	MEMORY MANAGEME
MONITOR	NBS ANALYZER	NODAL
PACE	PDS	PET
PFORT	PREF HDR GEN	PREPROCESSOR GE
PSL	QUICK-DRAW	RADC/FCA
REFORM	RENAME	RXVP
SADAT	SAP	SAP/H
SCMS	SPELL	STRUCI/STRUC2
STRUCTURING ENG	SUBCRS	SURVAYOR
SUS	SYMCRS	TEST PREDICTOR
TIDY	TPT	UCA
GENESIS		JOCIT
GMAP		JOCIT
HAL/S		NASA-VATS
HIGHER LEVEL LANGUAGE		CADMUS
CONFIGURATION C	DOCUMENTER A	INTERFACE DOCUM
MODULE ORDERER	TREE-META	
IFTRAN		IFTRAN-1
IFTRAN-2	RXVP	TEVERE-1
JCVS		JOVIAL/VS
JOVIAL		CGJA
EAVS	JAVS	JET
JIGSAW	JOCIT	JOVIAL TCA
JOVIAL/J3SC	JSDD	PSL
SPEAR	TAFIRM	TATTLE
LISP		SELECT
LOADER MAP		SYXREF
OBJECT CODE		CALLREF
PROG COMP ANAL		
PASCAL		SCMS
PCL		CA
PL/1		AUTOFLOW-ADR
DATAMACS	QUICK-DRAW	
PROGRAM SPECIFICATION		PROGRAM GENERAT

RATFOR			RATCODER
REQUIREMENTS	RATFOR		AUTOIDEF0
	PSL/PSA	SIGS	SREP
	STAG/TEMS		
SMAL/80			SMAL/80
SOURCE CODE			AFS
	ASA-PMS	ASRP	ASSET
	CCS	COGENT	CUE
	DAS	DDPM	ESAP
	EXPEDITER	FADEBUG-I	LIBRARIAN
	MED-SYS	METRAN	MSEF
	N5500	OPTIMUS	PMCS
	PMS IV	PPE	PROG COMP ANAL
	PROGLOOK	PRONET	REFER
	REFLECT II	REL MEAS MODEL	SCG/DQM
	SDP	SDVS	SEF
	SMMA	SPC	SPRINT
	SSA	STRUCT	SYSTEM MONITOR
	TDBCOMP	TSA/PPE	UF
	XAS8		
STRUCTURED FORTRAN			FST
	LOGOS	PDS	PDS FLOW
	RATFOR	S-FORTRAN	SFORT-1
	SFTRAN3	SPTRAN	
TEXT			ACT/1
	AUTOMATIC DOCUM	FOCUS	IORL
	LEXICON	MPS	PDL
	PDS		
URL			CARA

APPENDIX D

CROSS-REFERENCE BY TOOL SOURCE LANGUAGE

ALC			COTUNE II
ASSEMBLY			ASSIST-I
	AUTORETEST	CORE	CUE
	DDT	FADEBUG-I	LIBRARIAN
	LOGIFLOW	OPTIMIZER II	OPTIMUS
	PMS IV	PPE	PROGLOOK
	QCM	REFLECT II	SDVS
	SMAL/80	SMMA	SMT
	TREE-META	TSA/PPE	
BAL			CALLREF
	COMSCAN	DA	DATAMACS
	DOSSIER	EXPEDITER	
BASIC			CRISPFLOW
	PROGRAM GENERAT		
C			MSEF
	XAS8		
COBOL			CADA
	CAVS	COBOL/SPP	COMSCAN
	COTUNE II	CPA	CSPP
	CUE	DCD	DOCU/TEXT
	EASYTROL	FLOBOL	HAWKEYE
	N5500	OSTEST-II	PAC II
	PPE	PSL	QCRT
	QUICK-DRAW	SCERT	SCOPE
	SDVS	SNOOP	SOWSEAR
	SYDIM	TFA	TIMECS
	TRMS		
COMPASS			ABS
	BTPK	COMSTAR	MPS
	PACE-C	PMCS	TIMECS
FORTTRAN			ABS
	ADS/CERL	AFS	ALIAS
	ASA-PMS	ASEQ	ASRP
	ATA	ATDG	ATTEST
	AUDIT	AUDOC	AUTOCOM
	AUTOFLOW	AUTOIDEF0	AUTOMATIC DOCUM
	AUTORETEST	BLKGEN-BDD	BLKGEN/SPEC PN
	BUDGET VS ACTUA	CA	CADMUS

CALLREF	CARA	CASEGEN
CCA	CCREF	CENSUS
CHECKSUM	COMDIM	COMGEN
COMGEN/TRW	COMLIST	COMLIST/TRW
COMPARATOR	COMPARE	COMSCAN
COMSORT	COMSTAR	CONFIG
CPAL	CRISPFLOW	CROREF
DAS	DAVE	DECA
DEPCHT	DICTANL/LOCATE	DIRCOM
DOCGEN	DOCUMENTOR	DPAD
DPNDCY	DRIVER	DYNA
ESAP	EVP	FACES
FAST	FCA	FLODIA
FLOWGEN	FOCUS	FORAN
FORMAN	FORREF	FORTRAN-77 ANAL
FORTREF	FOSTRA	FST
GIRAFF	GOTO-ANALYZER	HARP
IFTRAN-1	IFTRAN-2	INFORM/REFORM
ITDEM	JIGSAW	JOYCE
LOGIC	LOGIFLOW	MAGL
MED-SYS	METRAN	N-SQUARED
NBS ANALYZER	NODAL	PACE
PACE-C	PDS	PDS FLOW
PDSS	PERCAM	PET
PFORT	PFS	PMCS
PREF HDR GEN	PROG COMP ANAL	PROGLOOK
PSL/PSA	RADC/FCA	RATFOR
REFER	REFORM	RENAME
RISOS TOOLS	RXVP	SALSIM
SARA-H	SARA-III	SARA-IV
SARA-U	SCG/DQM	SCMS
SDP	SDVS	SFORT-1
SFTRAN3	SIGS	SLIM
SPELL	SPREAD	SPRINT
SPTRAN	STRUCT	SUBCRS
SURVAYOR	SUS	SYMCRS
TEST PREDICTOR	TIDY	TPT
TRANSFOR	TREE-META	TRWPLT
TSA/PPE	UCA	
GIM		STAG/TEMS
IFTRAN		EAVS
ISDS	RXVP	
JOVIAL	JOVIAL TCA	CGJA
JAVS	JSDD	JOVIAL/J3SC
JOVIAL/VS	TATTLE	SDVS
TAFIRM		TDBCOMP
LISP		SELECT
TEVERE-1		
MACRO-11		IORL
OBJECT		GIM/GIM II
QUICK-DRAW		
PASCAL	NASA-VATS	FTNCODER
FTNXREF	SYSXREF	RATCODER
SREP		UF
PL/1		BSC

	JET	PPP	SADAT
	SPEAR	SSA	STRUCTURING ENG
	TPT		
PLS			DDPM
PWS			GIM/GIM II
RATFOR			INSERT
	MONITOR		
RPG			DOCU/TEXT
	SPC		
SALSIM			DPAD
SIMSCRIPT			DAS
	SDDL		
SLEUTH			CADMUS
	CROREF	DEPCHT	FORREF
SMAL/80			SMAL/80
SNOBAL			AMPIC
STRUCTURED FORTRAN			DOCUMENT
	FAVS	FOSTRA	FST
	LEXICON	LOGOS	PDL
	S-FORTRAN	SAP	SAP/H
	SFTRAN3	STRUC1/STRUC2	
SYMPL			JOCIT

APPENDIX E

PUBLIC DOMAIN TOOLS

ADS/CERL	ASRP	ATA	ATTEST
AUDIT	BLKGEN-BDD	CENSUS	CGJA
COMPARATOR	COMPARE	CRISPFLOW	DAVE
DDT	DIRCOM	DOCUMENT	FORTRAN-77 ANAL
FOSTRA	FST	JOVIAL TCA	JSDD
LEXICON	LOGOS	MAGL	NBS ANALYZER
NODAL	OSTEST-II	PFORT	PREF HDR GEN
PROG COMP ANAL	RENAME	RISOS TOOLS	SAP
SAP/H	SCMS	SDDL	SFORT-1
SFTRAN3	SMMA	TIDY	

APPENDIX F
PORTABLE TOOLS

ASA-PMS	CAVS	COBOL/CP	COGENT
COMPARATOR	CSPP	DAVE	DYNA
EXPEDITER	FORTRAN-77 ANAL	GOTO-ANALYZER	HAWKEYE
MAGL	METRAN	N5500	NBS ANALYZER
NODAL	PRONET	PSL/PSA	RATFOR
REL MEAS MODEL	SCMS	SFTRAN3	SOWSEAR
SPTRAN	TAPS/AM		

APPENDIX G

TOOLS IN DEVELOPMENT

IPDS	SSA	SYDIM	TPT
TEVERE-1	AFS	ASSET	DYNA
FORTRAN-77 ANAL	FST	PRONET	PPP
NASA-VATS	ISDS	SMMA	SFTRAN3

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10. SUPPLEMENTARY NOTES <input checked="" type="checkbox"/> Document describes a computer program; SF-185, FIPS Software Summary, is attached.			
11. ABSTRACT <i>(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)</i> <i>A listing of information on the software tools contained in the NBS Software Tools Database is provided for review.</i>			
12. KEY WORDS <i>(Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons)</i> <i>Dynamic analysis; programming aids; software development; software management; software tools; static analysis</i>			
13. AVAILABILITY <input checked="" type="checkbox"/> Unlimited <input type="checkbox"/> For Official Distribution. Do Not Release to NTIS <input type="checkbox"/> Order From Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. <input checked="" type="checkbox"/> Order From National Technical Information Service (NTIS), Springfield, VA. 22161		14. NO. OF PRINTED PAGES 104	15. Price \$9.00



