

Systems Management

Systems Management Bibliography

This bibliography lists and categorizes selected IBM publications on the management of data processing, including audidability, data security, systems management, and generally useful application development techniques and includes texts, manuals, briefs, bulletins, and papers as well as certain forms, templates, bibliographies, and indexes. In most cases, the publications are applicable to various IBM data processing systems; publications applicable to a specific data processing system can be found in that system's bibliography.



Preface

This bibliography lists and categorizes selected IBM publications on the management of data processing including auditability, data security, systems management and generally useful application development techniques. In most cases the publications are applicable to various IBM data processing systems and include texts, manuals, briefs, bulletins, and papers as well as certain forms, templates, bibliographies, and indexes.

Systems management briefs and systems management manuals are two types of publications found in this bibliography. The briefs describe a technique or procedure that helped make a particular data processing installation more effective. The manuals discuss in more detail – and usually without reference to a particular installation – data processing techniques and procedures and other subjects concerning the management of data processing.

Organization

This special bibliography has two parts:

- Part 1 lists the publications in six different categories; a publication may appear in more than one category.
- Part 2 contains an abstract of each publication in order number sequence so that its usefulness to an installation can be determined. Part 2 also shows the type of publication, the number of pages and the availability under SLSS (System Library Subscription Service).

Note: *Order numbers are in sequence by the second character.* The first character is the *use key*, which governs the availability of the document. Use key G means that the item is available to customers, through the IBM representative, without charge for quantities that meet normal requirements. Use key S means that the item is for sale through IBM branch offices.

Bill of Forms

An order number in the form of GBOF-1234 is a **Bill Of Forms** – a single order number for a package of separately available documents.

Flags on Order Numbers

Maximum case: **GC20-0001-5#

A double asterisk preceding the order number indicates either a change in the publication (such as a new edition) or a new item.

When more than one edition of a publication is current, the order-number suffix is followed by a number sign (#).

Sixteenth Edition (August 1980)

This is a major revision of, and supersedes, GF20-8172-14.

Publications are not stocked at the address given below; requests for IBM publications should be made to your IBM representative or to the IBM branch office serving your locality.

A form for readers' comments is provided at the back of this bibliography. If the form has been removed, comments may be addressed to: IBM Corporation, Technical Publications, Department 824, 1133 Westchester Avenue, White Plains, New York 10604. IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

Part 1. Classified Listings

Systems Management

- G320-5829 Auditability and Productivity Information Catalog
- GC20-1853 An Introduction to 3790 Network Management
- ** GG22-9001 Capacity Planning - An Introduction
- ** GG22-9015 Capacity Planning Implementation
- ** G321-5114 A Capacity Planning Methodology
- ** G321-5113 Overview of the Capacity Planning Process for
Production Data Processing
- GE20-0612 Capacity System Planning - Executive Overview
- G320-5840 Communications Systems Management Basic Concepts
- GK20-0931 Component Failure Impact Analysis at Caterpillar
- GC20-1865 Component Failure Impact Analysis - An Availability
Management Technique
- GX20-2336 Component Failure Impact Analysis Grid and Grid
Expansion Worksheets
- GK20-0775 A DP Cost Allocation System: Prudential Insurance
- GK20-0776 Data Processing Quality Assurance - Martin Marietta
Data Systems - Orlando Data Center
- ** GC20-1772 Energy Conservation and Management in Data Processing
- ** G321-5106 An Integrated Approach to Centralized Communications
Network Management
- GF20-0006 Management Controls for Data Processing
- GC20-1670 Management Planning Guide for a Manual of Data
Processing Standards
- GK10-6104 Management Reporting and Controls in Data Processing,
National Westminster Bank
- GK20-0750 Management Services - Frito Lay
- ** GE20-0662 An Architecture for Managing the Information Systems
Business - Volume 1, Management Overview
- GE19-5208 Managing the Data Processing Organization
- ** GK20-1305 Managing the Move of Comptroller's Data Processing
- State of Iowa
- GK20-0732 Managing Systems Development - Montgomery Ward
- GK20-0864 McAuto Hierarchical Communications in DP Management
- G321-5063 Measuring Programming Quality and Productivity
- ** G226-3551 Network Control Center Guide
- ** GG22-9003 A Perspective on Networking
- ** GB21-2521 Account Network Management Program Availability Notice
- ** SB21-2524 Account Network Management Program (DOS) Description and
Operations Manual
- ** SB21-2522 Account Network Management Program (OS) Description and
Operations Manual
- ** GC27-0429 Network Communications Control Facility General
Information Manual
- ** GB21-2478 Network Performance Analyzer Availability Notice
- ** SB21-2479 Network Performance Analyzer Description and Operations
Manual
- ** GC34-2010 Network Problem Determination Application: General
Information Manual
- GK20-0882 Operations Management Extension (OME) Computer Program
Control of the DP Operation at SMUD
- GC20-1622 Organizing the Data Processing Activity
- G321-5077 Performance Tuning in OS/VS2 MVS
- GK20-1073 Problem and Change Control at the State of Washington
Data Processing Service Center
- GE19-5201 Problem and Change Management in Data Processing,
A Survey and Guide
- GC20-1862 A Project Management System IV Primer
- GK20-1120 Recovery Structured Walk-through at Marine Midland Bank
- G321-5040 Service Levels: A Concept for the User and the
Computer Center
- ** G321-5115 System Capacity and Performance Evaluation
- ** G321-5120 Systems Management
- ** G229-0282 Systems Management - A Network Perspective
- ** G520-3526 Systems Management Assessment Questionnaire
- Supplement
- GC20-1871 System Outage Analysis - An Availability Management
Technique
- ** GK20-1297 System Outage Analysis - Association of American
Railroads
- GG22-9000 Tracking and Resolving Problems and Coordinating Changes

Application Development

- GH20-1628 A Guide to Testing in a Complex System Environment
- GF20-0007 Analysis of Some Queuing Models in Real-time Systems
- G321-5055 Automated Logical Data Base Design
- GE20-0593 Basic Systems Analysis and Design Techniques

GE20-0527 Business Systems Planning, Information Systems Planning Guide

GE19-5200 Code Reading, Structured Walk-throughs, and Inspections - Improved Programming Technologies

GF20-8093 Coding Methods

G321-5042 A User-Oriented Data Base Retrieval System

G321-5053 Data Bases: Past, Present, and Future

GF20-8102 Decision Tables - A Systems Analysis and Documentation Technique

G321-5033 Design and Code Inspections to Reduce Errors in Program Development

G321-5057 Design Techniques for a User-Controlled DB/DC System

G321-5009 Elements of Queuing Theory for System Design

GC20-8152 Flowcharting Techniques

GC20-8078 Form and Card Design

GA24-3488 Form Design Reference Guide for Printers

GC28-6794 Guide to PL/S II

GC20-1851 HIPO - A Design Aid and Documentation Technique

GC20-1707 Identification Techniques

GC20-1850# Improved Programming Technologies - An Overview

GC20-8062 Index Organization for Information Retrieval

GC20-2000 Inspections in Application Development - Introduction and Implementation Guidelines

GN20-3814

GC20-8096 Introduction to Data Management Student Text

GE20-0348 An Introduction to Information Retrieval

GE20-8171 An Introduction to Linear Programming

GC20-1776 An Introduction to Structured Programming in COBOL

GC20-1790 An Introduction to Structured Programming in FORTRAN

GC20-1777 An Introduction to Structured Programming in PL/I

GE20-8091 Keyword-in-Context (KWIK) Indexing

GF20-0006 Management Controls for Data Processing

GF20-6088 Planning for an IBM Data Processing System

G321-5045 A Method of Programming Measurement and Estimation

GE20-0090 Principles of Data Acquisition Systems

GE20-8067 PERT - A Dynamic Project Control Method

GC20-8011 Random Number Generation and Testing

GE20-0396 Statistics-Based System Techniques, Concepts, Examples, Applications

G320-5323 Structured Design

GE19-5095 Structured Programming Foil Presentation Script

GG22-9011 A Structured Requirements Process Using the Improved Programming Technologies

** SH20-2116 3800 System Design and Documentation Aid, IUP 5796-AT

G321-5032 Top-Down Development Using a Program Design Language

Auditability

G320-5829 Auditability and Productivity Information Catalog

** G320-5532 Audit-Source Code Compare for S/370 DOS/VS, OS/VS Availability Notice

G520-3332 An Auditor's Perspective of the IBM 8100 Information System

G321-5070 Data Processing Spheres of Control

G321-5012 Generalized Audit Trail Requirements and Concepts for Data Base Applications

GF20-0006 Management Controls for Data Processing

** G320-6163 Source Compare/Audit Utility Availability Notice

** SH20-2361 Source Compare/Audit Utility Program Description and Operations Manual

G320-5790 Systems Auditability and Control, Audit Practices

G320-5791 Systems Auditability and Control, Executive Report

G320-5792 Systems Auditability and Control, Control Practices

Data Security

G321-5069 Administrative Control of Computing Service

G321-5011 An Access Control Mechanism for Computing Resources

G320-2683 Architectural Support for System Protection and Data

G320-5829 Auditability and Productivity Information Catalog

G321-5066 A Cryptographic Key Management Scheme for Implementing the Data Encryption Standard (DES)

G321-5068 Cryptography Architecture for Information Security

G321-5070 Data Processing Spheres of Control

G320-5647 An Executive's Guide to Data Security - A Translation From an IBM Svenska AB Publication

G320-5646 Data Security - Threats and Deficiencies in Computer Operations - A Report on a Completed Study - A Translation from an IBM Svenska Publication

G320-1379 Data Security and Data Processing: Session Leader's Guide (State of Illinois Videotapes)

G320-1370 Data Security and Data Processing: Volume 1 - Introduction and Overview

G320-1371 Data Security and Data Processing: Volume 2 - Study Summary

G320-1372 Data Security and Data Processing: Volume 3, Part I - State of Illinois Executive Overview

G320-1373 Data Security and Data Processing: Volume 3, Part II -

State of Illinois Study Results
 G320-1374 Data Security and Data Processing: Volume 4 - Massachusetts
 Institute of Technology Study Results
 G320-1375 Data Security and Data Processing: Volume 5 - TRW Systems,
 Inc., Study Results
 G320-1376 Data Security and Data Processing: Volume 6 - Evaluations
 and Installation Experiences: Resource Security System
 G320-5649 Data Security Controls and Procedures - A Philosophy for
 DP Installations
 G520-2882 Data Security Seminars: IBM Education Course X8851 Brochure
 GC22-9062 Data Security Through Cryptography
 G321-5012 Generalized Audit Trail Requirements and Concepts for
 Data Base Applications
 G321-5067 Generation, Distribution, and Installation of
 Cryptographic Keys
 G321-5010 Hierarchical Approach to Computer System Integrity
 GC22-9063 IBM Cryptographic Subsystem Concepts and Facilities
 G520-2965 IBM Data Security Forum: Denver, Colorado, September 1974
 G520-2838 IBM Data Security Symposium, April 1973
 GA27-2865 IBM 3845/3846 Data Encryption Device -
 General Information Manual
 GF20-0006 Management Controls for Data Processing
 G320-5650 Management Memorandum: Security Features of IBM System/370
 G320-5522 Operating System Integrity in OS/VS2
 GC28-0942 OS/VS1 and OS/VS2 MVS Cryptographic Facility -
 General Information Manual
 GBOF-1200 Report of IBM Joint Data Security Studies
 GC28-0722 RACF General Information Manual
 G520-2881 Security...The Right Thing for Your Computer,
 The Best Thing for Your Information
 G520-2169 The Considerations of Data Security in a Computer
 Environment
 G520-2700 The Considerations of Physical Security in a Computer
 Environment
 G520-2741 The Fire After the Fire
 G520-2797 42 Suggestions for Improving Security in Data Processing
 Operations

Forms and Templates

GX20-2336 Component Failure Impact Analysis Grid and Grid
 Expansion Worksheets
 GX28-1630 Decision Table Worksheet
 GX20-8020 Flowcharting Template
 GX20-8047 Hexadecimal and Decimal Integer Conversion Table
 GX20-1971 HIPO Template
 GX20-1970 HIPO Worksheet
 GX20-1702 Proportional Record Layout Form
 GX20-1818 150/10/8 Print Chart
 ** GX20-2353 Systems Management Assessment Questionnaire

Bibliographies and Indexes

GC20-1764 Atlas of Applications: Volume I - An Alphabetic
 Bibliography of Quantitative Methods Applied to Business, Industry,
 Science, and Engineering (1961 to 1972)
 GC20-1768 Atlas of Applications: Volume II - Bibliography of
 Quantitative Methods in Business, Industry, Science, and
 Engineering (1972 to 1974)
 GC20-1783 Atlas of Applications: Volume III - Bibliography of
 Quantitative Methods in Business, Industry, Science, and Engineering
 GC20-1741 Management Science at Work - A Bibliography Covering
 All Enterprises, All Functions, and All Techniques
 G321-5036 Selected Readings: Data Base Systems
 GC20-8071 10,000 Division Codes for Proper Names

GA24-3488

FORM DESIGN REFERENCE GUIDE FOR PRINTERS

This publication contains information to be considered by personnel designing, ordering, or using forms for the system printers listed below.

This manual has two sections: general forms-design information applicable to system printers, and specific information (Appendix) for particular printers. The general information relates to items such as form length, width, weight, fastenings, and other forms-related items that must be considered and/or met when forms are designed for system printers. The specifications are not intended to be restrictive, but to permit the customer to purchase continuous forms from the manufacturers of his choice.

For detailed information on forms feeding and operating procedures, see the appropriate component description and operating procedures manuals for the particular printer or system.

- o Companion publications useful in designing forms are:
 - o OCR Input Preparation Guide, Order No. GC20-1686
 - o Print Chart (Six Lines per Inch), GX20-1816
 - o Print Chart (Eight Lines per Inch), GX20-1818

Another publication which is not an IBM publication but may be helpful in designing forms and for comparison purposes is International Standard ISO, 2784. Dimensions in this manual are to this standard. IBM printers included are:

1132	3211	3618
1403	3213	3713
1404	3215	3715
1443	3284	3717
2203	3286	3791 Line Printer Feature
2213	3288	3792 Line Printer Feature
2222	3610	5203
3203	3612	5213
3210		

Manual. 32 pages

GA27-2865

IBM 3845 DATA ENCRYPTION DEVICE, IBM 3846 DATA ENCRYPTION DEVICE, GENERAL INFORMATION

This manual describes the IBM 3845 and 3846 Data Encryption Device in sufficient detail to enable prospective users to decide whether to use this type of data protection. Physical planning diagrams and specifications are included, as are general guidelines for the selection and distribution of key-variables.

Manual, 8 1/2 x 11 inches, 44 pgs, 10/77

GROF-1200

REPORT OF IBM JOINT DATA SECURITY STUDIES

Over two years ago, IBM announced that it was initiating a program in long range data security research, technology and documentation. Part of that program involved a two year joint study with three IBM customers: The State of Illinois; TRW Systems, Inc.; and Massachusetts Institute of Technology. An IBM installation at our Federal Systems Division in Gaithersburg, Md. served as a fourth study site. Each focused on a particular aspect of data security. The groups completed their work this spring, and the results are included in this BOF:

- Data Security and Data Processing...
 - Volume 1, Introduction and Overview (G320-1370)
 - Volume 2, Study Summary (G320-1371)
 - Volume 3, Part 1, State of Illinois: Executive Overview (G320-1372)
 - Volume 4, Study Results: Massachusetts Institute of Technology (G320-1374)
 - Volume 5, Study Results: TRW Systems, Inc. (G320-1375)
 - Volume 6, Evaluations and Study Experiences: Resource Security System (G320-1376)

Volume 1, for executive, contains an introduction to the data security and privacy issues and an overview of the findings of the data security studies.

Volume 2, a more detailed summary of the data security study is for management and will be of special interest to those charged with implementation.

Volume 3, Part 1, an executive overview primarily concerning privacy was prepared by the State of Illinois study team. The remaining volumes provide a number of detailed technical papers that may be of interest to various other people within customer accounts.

A complete set of nine State of Illinois Videotapes on security and privacy for use by agencies within the State are additionally available.

These tapes will, however be applicable to a more general audience -- not just to those involved with state government.

A complete set of tapes is being sent to each region. The tapes may be loaned to branch offices for loan to customers for short periods of time (3-5 days). Customers may wish to borrow individual tapes to show them to an employee group or to determine whether they are interested in purchasing them.

A Session Leader's Guide, form no. G320-1379, will be distributed with the tapes. It is also available separately from Mechanicsburg for those who would like to understand the contents of the tapes before ordering them.

1. Whose Right to Know
2. Follow that Card
3. Implementing the Information Privacy and Security Program
4. Administering the Information Privacy and Security Program
5. Designing Privacy and Security Into Information Systems
6. Software Security and Terminal Access Control Concepts
7. Physical Plant Security
8. Contingency Planning and Backup Systems
9. What Every Executive Should Know About Privacy In Information Systems

Customer purchase orders should be sent directly to:
S/T VIDEOCASSETTE Duplicating Corp.

500 Willow Tree Road
Leonia, New Jersey 07605
Tel. (201) 947-6450 or N.Y.C. (212) 239-4653
Ncs. 1, 5, 6, 8 or 9 21.95
Ncs. 2, 3, 4 or 7 23.30

Playback Machine Required: SONY U-MATIC 3/4 inch VIDEOCASSETTE, or equivalent.
Bill of Material
NOT AVAILABLE UNDER SLSS

GB21-2478

NETWORK PERFORMANCE ANALYZER - HOST, FDP 5798-CZR, NETWORK PERFORMANCE ANALYZER - CONTROLLER, FDP 5798-CZT, NOTICE

This Availability Notice contains complete ordering information for the Program and all its related documentation, for management and data processing personnel who are prospective users of the program and others who require information concerning it.

Written in ALC, the Network Performance Analyzer (NPA) collects communications network operating data for analysis.

NPA data may be helpful in highlighting the causes of performance degradation, such as excessive traffic at certain periods, or insufficient line capacity. It may also aid in isolating performance problems induced by high line or cluster error rates caused by temporary errors, or wide fluctuations in message rates.

With NPA data, networks may be tuned for greater efficiency, and potentially improved response times. Elements such as polling rates, network parameters, and line loading, may be modified and performance improved. Tuning may also free up capacity.

NPA information may also be helpful in capacity planning. Information such as 3705 utilization, message flow rates, and line usage rates, may help determine how much unused capacity exists for network growth.

The data may be displayed online as collected, or reviewed later at a terminal. Data of particular interest may be monitored on or offline for exceptions to user defined limits. The capability of displaying realtime information may be especially valuable during periods of poor performance. The data gathered is also available for formatting into reports for study, and comparison with previous periods. This allows modification of systems parameters, and observance of subsequent results.

NPA consists of a host application program and one or more modified NCP programs. It runs under VS1 or MVS, with VTAM and/or TCAM. NPA can coexist with subsystems such as CICS, IMS, or TSO, but operates independently of them.

Flyer, 8 1/2 x 11 inches, 4 pages, 6/79

SB21-2479

NETWORK PERFORMANCE ANALYZER - HOST, FDP 5798-CZR, NETWORK PERFORMANCE ANALYZER - CONTROLLER, FDP 5798-CZT, DESCRIPTION/OPERATIONS

This Program Description/Operations Manual provides the user with sufficient information to understand, install and successfully use the program.

For further information about this publication, see abstract for GB21-2478.

Manual, 8 1/2 x 11 inches, 139 pages, 6/79

GB21-2521

ACCOUNT NETWORK MANAGEMENT PROGRAMS, FDP 5798-DAQ (OS/VS/CICS), FDP 5798-DAT, (DOS/VS/CICS), NOTICE

This Availability Notice contains complete ordering information for the Program and all its related documentation, for management and data processing personnel who are prospective users of the program and others who require information concerning it.

This FDP, written in ALC, is specifically designed to automate the core elements of systems management with an integrated set of interactive application programs and batch report programs as follows:

The problem management application provides preformatted screens to ensure consistent problem reporting, assignment and resolution of system or network incidents. It has create, update, display, and browse functions, allowing multiple assignments on problems and permits extensive comments. All fields except the comments are editable and searchable. History files can be created for batch reporting.

The change management application provides preformatted screens to enable planned, coordinated change activities including: equipment installation or relocation; new application programs; PUT and engineering changes, and feature changes. It likewise, has create, update, display and browse functions and includes an approver/reviewer facility. All fields are editable and searchable. History files can be created for batch reports.

The network configuration application provides an online data base of network components and the ability to create, update and display records containing component details. Detail may include: component name, id characteristics, location, phone numbers, vendor information, etc. The configuration file supports display of the physical connectivity of components. The batch report facility provides a network map, component detail listings and change activity.
Flyer, 8 1/2 x 11 inches, 4 pages, 8/79

SB21-2522

ACCOUNT NETWORK MANAGEMENT PROGRAMS OS/VS/CICS, FDP 5798-DAQ, DESCRIPTION/OPERATIONS

This Program Description/Operations Manual provides the user with sufficient information to understand, install and successfully use the program.

For further information about this program, see abstract for GB21-2521.

Manual, 8 1/2 x 11 inches, 360 pages, 8/79

SB21-2524

ACCOUNT MANAGEMENT NETWORK PROGRAMS, DOS/VS/CICS, T-DP 5798-DAT, DESCRIPTION/OPERATIONS

This Program Description/Operations Manual provides the user with sufficient information to understand, install and successfully use the program.

For information regarding this program, see abstract for GB21-2521.

Manual, 8 1/2 x 11 inches, 354 pages, 8/79

GC20-1622

ORGANIZING THE DATA PROCESSING ACTIVITY

This text is designed to help the organizational planner develop the data processing structure best suited to his own needs and environment. It is directed primarily to data processing managers, the executives to whom they report, and others responsible for organizational and personnel planning. The major topics discussed are: concepts applicable to organizing the data processing activity, possible locations of the data processing activity within the larger organization, data processing functions, grouping of functions into an organizational structure, and grouping of functions into job families and job positions. The Appendix provides some typical job descriptions.
Manual, 128 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1707

IDENTIFICATION TECHNIQUES

This manual explains and compares a survey of several types of coding techniques for individuals and non-individuals. An approach to improving coding methods involving a statistical approach is outlined. The publication is basically a state-of-the-art description of the identification techniques.

Data Processing Techniques Manual, 50 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1741

MANAGEMENT SCIENCE AT WORK
A BIBLIOGRAPHY COVERING ALL ENTERPRISES, ALL FUNCTIONS,
AND ALL TECHNIQUES

A great number of problems in industry, in science, and in engineering can be solved by the systematic methods of mathematics, statistics, and operations research-management science. This manual is a specially organized three-way index to almost 5000 journal articles and conference papers which have mentioned the application of analytic methods to various business, industrial, and scientific problems.

Manual, Special Bibliography, 112 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1764

ATLAS OF APPLICATIONS (I) AN ALPHABETIC BIBLIOGRAPHY OF QUANTITATIVE METHODS APPLIED TO BUSINESS, INDUSTRY, SCIENCE, AND ENGINEERING (1961 TO 1972)

This manual is a collection of references to applications of quantitative methods in business, industry, engineering, and science. The quantitative method may be from mathematics, statistics, operations research, or management science. The data on which the alphabetic index is based is a collection of 8,300 references to journal articles or to papers given at conferences. Some 350 journals and periodicals were scanned, covering the years 1961 to 1972

Manual, 293 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1768

ATLAS OF APPLICATIONS...VOLUME II BIBLIOGRAPHY OF QUANTITATIVE METHODS IN BUSINESS, INDUSTRY, SCIENCE, AND ENGINEERING (1972 TO 1974)

This manual is a follow-on volume to Atlas of Applications (GC20-1764). The older manual was based on 8,300 references covering the years 1961 to 1972 and gathered from 350 journals. Like the older manual, Atlas of Applications ... Volume II is a collection of references to applications of quantitative methods in business, industry, engineering, and science. The quantitative method may be from mathematics, statistics, operations research, or management science. The data on which the alphabetic index is based is a collection of 3,000 references to journal articles or to papers given at conferences. The journals and periodicals scanned cover the years 1972 to 1974.

Special Bibliography, 200 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1772

ENERGY CONSERVATION AND MANAGEMENT IN DATA PROCESSING

This manual examines several aspects of energy conservation and management that may be of value to installations using IBM data processing equipment, and presents some considerations involved in developing and implementing plans for controlling consumption and minimizing the impact of energy shortages on data processing operations.

Manual
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1776

AN INTRODUCTION TO STRUCTURED PROGRAMMING IN COBOL

This text, intended for programmers, describes and illustrates the use of structured programming. The technique and its supporting practices are generally described in one chapter. A reference chapter illustrates the implementation of the technique in COBOL and is followed by a chapter presenting two sample programs. A knowledge of COBOL is assumed.

Manual

GC20-1777

AN INTRODUCTION TO STRUCTURED PROGRAMMING IN PL/I

This text, intended for programmers, describes and illustrates the use of structured programming. The technique and its supporting practices are generally described in one chapter. A reference chapter illustrates the implementation of the technique in PL/I and is followed by a chapter presenting two sample programs. A knowledge of PL/I is assumed.

Manual

GC20-1783

ATLAS OF APPLICATIONS VOLUME III, BIBLIOGRAPHY OF QUANTITATIVE METHODS IN BUSINESS, INDUSTRY, SCIENCE, ENGINEERING

This manual is a follow-on volume to Atlas of Applications (GC20-1764) and Atlas of Applications Volume II (GC20-1768). The older manuals were based on 11,300 references covering the years 1961 to 1974 and gathered from 350 journals. Like the older manuals, Atlas of Applications Volume III is a collection of references to applications of quantitative methods in business, industry, engineering, and science. The quantitative method may be from mathematics, statistics, operations research, or management science. The data on which the alphabetic index is based is a collection of 2,500 references to journal articles or to papers given at conferences. The journals and periodicals scanned for this volume were mostly 1975 issues.

Bibliography, 185 pages, 3/76
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1790

AN INTRODUCTION TO STRUCTURED PROGRAMMING IN FORTRAN

This text, intended for programmers, describes and illustrates the use of structured programming. The technique and its supporting practices are generally described in one chapter. A second chapter illustrates the implementation of the technique in FORTRAN and is followed by a chapter presenting two sample programs. A knowledge of FORTRAN is assumed.

Manual, 8 1/2 x 11 inches, 48 pgs., 7/77

GC20-1850

IMPROVED PROGRAMMING TECHNOLOGIES - AN OVERVIEW

This document is intended to briefly describe six recently formalized techniques designed to improve the program development process: structured programming, top-down program development, chief programmer teams, HIFO (Hierarchy plus Input-Process-Output), and structured walk-throughs.

Manual
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1851

HIFO - A DESIGN AID AND DOCUMENTATION TECHNIQUE

The purpose of this manual is to describe a design aid and documentation technique called HIFO - Hierarchy plus Input-

Process-Output. The manual is intended for systems analysts and programmers and describes how to use HIPO as a design aid and documentation technique throughout the development cycle.
Manual
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1853

AN INTRODUCTION TO 3790 NETWORK MANAGEMENT

This text is intended for IBM systems engineers and for data processing installation management personnel responsible for installing 3790 networks.
Manual, 40 pgs, 4/77
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1862

A PROJECT MANAGEMENT SYSTEM IV PRIMER

This primer is intended for use as a learning tool by the person who will be responsible for creating input data to PMS IV from project data (CFM diagrams, task lists, dependency lists, etc.). It assumes only a limited knowledge of data processing concepts, and is written for those already familiar with network planning, resource allocation, and cost management concepts since these are summarized only briefly here. The primer illustrates the basic concepts of PMS IV through the development of a sample problem throughout the various chapters. Readers needing to use the other features of PMS IV (listed in an appendix) are directed to the PMS IV program description and operations publications.
Manual
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1865

COMPONENT FAILURE IMPACT ANALYSIS - AN AVAILABILITY MANAGEMENT TOOL

Component Failure Impact Analysis (CFIA) is a technique designed to raise the level of system availability by finding ways to shorten recovery times when a system component fails.
This manual describes the steps involved in setting up and using CFIA as part of an effort to improve system availability.
Manual, 32 pages, 5/78
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-1871

SYSTEM OUTAGE ANALYSIS, AN AVAILABILITY MANAGEMENT TECHNIQUE

System Outage Analysis is a technique designed to assist in data processing management in increasing system availability by reducing the number of outages and their impact on system availability. This manual describes the steps involved in This manual describes the steps involved in using SOA as part of an effort to improve system availability.
Manual, 8 1/2 x 11 inches, 40 pages, 12/78
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-2000

INSPECTIONS IN APPLICATION DEVELOPMENT - INTRODUCTION AND IMPLEMENTATION GUIDELINES

Application development inspections is a disciplined technique for technical project review held at the end of various application development phases to improve program quality and project manageability and to increase productivity. This manual is designed to provide enough information to the manager of the data processing activity and his technical staff to answer the question: "Should this activity use inspections?" The manual also provides guidance in preparing for and performing inspections. A case study is included.

This description of the inspections technique is made available by IBM with the objective of providing information that may assist others in improving their own application development procedures. It does not require the use of IBM products or services. However, IBM DP Services will, subject to the local availability of appropriate resources, respond to requests for assistance in implementing inspections.
Manual, 8 1/2 x 11 inches, 64 pgs, 7/77
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-8011

RANDOM NUMBER GENERATION AND TESTING

Random sampling, simulation studies, and Monte Carlo methods have been in use for many years. Papers describing various aspects of these topics have appeared in technical journals and textbooks available to a relatively small percentage of computer users. Meanwhile, applications requiring random numbers are becoming more important and more common in business and industry as well as purely scientific areas. Therefore, this manual has been prepared which gives the mathematical development of the power residue method, outlines computer techniques for implementing it and also offers brief comments on other methods. An appendix provides programming illustrations for binary and decimal computers.

DP Techniques Manual, 12 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-8062

INDEX ORGANIZATION FOR INFORMATION RETRIEVAL

Methods of indexing vary with the nature of the material to be indexed and the ways in which this material will be used. This book presents, in simplified form, the basic principles behind organizing indexes of various types. It is written to help systems personnel understand the problems they will encounter in organizing information for eventual retrieval.

Stressing that an indexing system should always be developed in the light of the particular retrieval problem, and that the specific equipment to be used is a secondary consideration, the book covers name indexing, special indexing (including auto-encoding and the KWIC index), and indicative and informative indexing.
Manual, 56 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-8071

10,000 DIVISION CODE FOR PROPER NAMES

This manual contains a four-digit code based on the name frequencies found by the University of Oregon.
DP Techniques Manual, 23 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-8078

FORM AND CARD DESIGN

This manual is divided into two sections, the first devoted to form design and the second to card design. Its use presupposes a knowledge of IBM data processing equipment. It can be used as a guide for individual study or a text for class study.
DP Techniques Manual, 16 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-8096

INTRODUCTION TO DATA MANAGEMENT STUDENT TEXT

This publication is an introduction to the concepts of data management and information processing. It is intended to address both programmer and non-programmer. Topics presented are Data Management and Information, Fields and Records, Data Storage Devices, Data Organization, Functions of Data Management, and Concepts of a Data Base System.
Manual, 8-1/2 x 11, 60 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC20-8152

FLOWCHARTING TECHNIQUES

Adherence to standard techniques for the preparation of flowcharts of data processing systems and procedures greatly increases the effectiveness of communication between the programmer-analyst and the many groups with whom he deals. The manual describes in detail the preparation of system and program flowcharts. The symbols used are those provided by the IBM Flowcharting Template (GX20-8020). A flowchart worksheet (GX20-8021) is a means of standardizing documentation. It provides space for drawing program flowcharts and contains an area for identification of the job, including application, procedure, date, and pagination.
Manual, 38 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

GC22-9062

DATA SECURITY THROUGH CRYPTOGRAPHY

Prevention of unauthorized physical and logical access to confidential information has been the traditional method of protecting the secrecy of computer data. Cryptography provides such protection in situations where the traditional method is not effective or possible.

Cryptography preserves the secrecy of computer data that could be accessed by the unauthorized by concealing the information using a process in which intelligible data is transformed into non-intelligible data. This manual describes the sale of cryptography in data security.
Manual, 8 1/2 x 11 inches, 40 pages, 10/77

GC22-9063

IBM CRYPTOGRAPHIC SUBSYSTEM CONCEPTS AND FACILITIES MANUAL

The IBM Cryptographic Subsystem is an integrated hardware-software implementation of end-to-end cryptography for protecting data. It consists of the following separate products:

1. IBM Programmed Cryptographic Facility, Program Product
2. IBM Advanced Communications Function for Virtual Telecommunications Access Method (ACE/VTAM), Encrypt/Decrypt Feature
3. Encrypt/Decrypt Feature (or RQC) for the IBM 3276 Display Station and the IBM 3776 (Models 1 and 2) Communication Terminal

This manual describes the Cryptographic Subsystem and the Cryptographic concepts and techniques employed.
Manual, 8 1/2 x 11 inches, 48 pgs, 10/77

GC27-0429

NETWORK COMMUNICATIONS CONTROL FACILITY LIC PROG 5735-XX6 GENERAL INFORMATION

This manual is an overview of the program product Network Communications Control Facility (NCCF). It is directed to

customer executives, system administrators, system analysts, system programmers, application programmers, and terminal operators who are operating with DOS/VS or OS/VS systems. Manual, 8 1/2 x 11 inches, 40 pages, 10/78

GC28-0722

OS/VS2 MVS RESOURCE ACCESS CONTROL FACILITY (RACF) - GENERAL INFORMATION MANUAL - PROG PROD 5740-XXH

This publication contains overview and planning information for Version 1, Release 3 of the Resource Access Control Facility (RACF) program product (5740-XXH). It is intended for the use of installation managers and personnel responsible for system data security. It is assumed that the reader is familiar with OS/VS2 (MVS).

RACF is a program product that provides access control by identifying and verifying system users, authorizing access to system resources and logging detected unauthorized attempts to enter the system and detected accesses to protected resources.

Manual, 8 1/2 x 11 inches, 56 pgs, 3/78

GC28-0942

OS/VS1 and OS/VS2 MVS PROGRAMMED CRYPTOGRAPHIC FACILITY GENERAL INFORMATION, PROG PROD 5740-XY5

The Programmed Cryptographic Facility Program Product provides OS/VS2 MVS installation with the capability to protect sensitive data through the use of cryptography. This publication is intended for installation managers and system programmers responsible for planning the software data security strategy for their installation.

Chapter 1 introduces the general subject of cryptography and provides an overview of the Programmed Cryptographic Facility. Chapter 2 identifies system requirements. Chapter 3 describes each component of the facility and describes how they work together to provide a cryptographic capability. Chapter 4 defines the functions available to the user and Chapter 5 identifies planning, security, and operating considerations.

Manual, 8 1/2 x 11 inches, 48 pgs, 10/77

GC28-6794

GUIDE TO PL/S II

The PL/S II compiler is a proprietary program used by IBM to develop other programs that are made generally available. This provides general information on understanding and interpreting PL/S II listings. The book also provides some guidelines on how to modify compiler generated assembler code. Readers will be experienced systems programmers who need to understand and possibly modify operating system modules. They should know the basic assembler language such as PL/I.

Manual, 56 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GC34-2010

NETWORK PROBLEM DETERMINATION APPLICATION (NPDA) GENERAL INFORMATION PROGRAM NUMBER 5735-XX8

This document provides introductory information about the IBM Network Problem Determination Application (NPDA) Program Product, which allows a user to record, retrieve and examine communication network error data in an interactive environment. The document provides a general description of NPDA as well as initial planning information needed for installation.

Manual, 8 1/2 x 11 inches, 18 pages, 10/78

GE19-5095

STRUCTURED PROGRAMMING FOIL PRESENTATION SCRIPT

This presentation explores one of the Improved Programming Technologies known as Structured Programming. A comparison is made with traditional programming followed by a discussion of the various structure types and consideration of some typical programming situations.

The presentation was developed in 1975 by the Improved Programming Technologies Support Group on assignment at the World Trade Systems Center in Zoetermeer, Netherlands.

Manual, 96 pages, 12/75

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE19-5200

CODE READING, STRUCTURED WALK-THROUGHS AND INSPECTIONS-IMPROVED PROGRAMMING TECHNOLOGIES

This document addresses itself to the discovery of errors and suggests how three supporting techniques within the Improved Programming Technologies help to approach the ultimate goal: error-free software.

The three techniques described here are: code reading, structured walk-throughs, and inspections. Their use within IBM has offered significant benefits. The intent of this document is to suggest how they might be of value, either individually or collectively, within other data processing organizations.

Manual, 10 3/8 x 8 1/4 inches, 56 pages, 3/76

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE19-5201

PROBLEM AND CHANGE MANAGEMENT IN DATA PROCESSING - SURVEY AND GUIDE

A lack of coordination and control in dealing with data processing problems can be costly, in terms not only of resources wasted but also of user dissatisfaction. This manual presents an approach to reducing such costs - the introduction of systematic problem handling to speed problem solving, ease communications, and enable as many problems as possible to be treated as routine. Problems are often caused by changes to programs or equipment, so problem incidence, and thus costs, can be reduced when control of the installation of changes is improved.

Manual, 84 pages, 2/79

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE19-5208

MANAGING THE DATA PROCESSING ORGANIZATION

This book is offered as an aid to effective management of the data processing organization. It gives an overview of some important management principles and shows how these principles can be applied to data processing to ensure its economic use. Emphasis is on management methods of improving overall productivity and quality in data processing, rather than on programming and software engineering techniques. The book covers all the major elements of a management system for the data processing organization and includes chapters dealing with evaluation and selection of applications, long range planning, short range planning, project management, operations management, and management reporting. It is directed primarily to data processing managers, but may also be of interest to senior management to whom data processing managers report, to users of computer services, and to others with an interest in good data processing management.

Manual, 146 pages, 11/76

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-0090

PRINCIPLES OF DATA ACQUISITION SYSTEMS

For IBM customers who require a basic understanding of the functions of data acquisition systems, this manual provides an introductory description of their operation and use in a system environment. This manual acquaints the reader with many of the various items of hardware commonly encountered in data acquisition systems, the means of connecting them in a system configuration and the central processing unit, features and programming capabilities necessary for efficient operation.

Manual, 27 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-0348

AN INTRODUCTION TO INFORMATION RETRIEVAL

This manual uses the language of the nonspecialist to present ways in which digital computers can be used in information storage and retrieval systems. Indexing methods, file organization, and search strategies are discussed, and a brief bibliography is included. The manual is intended as a first reader for those interested in the broad aspects of data banks and mechanized libraries.

Manual, 38 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-0396

STATISTICS-BASED SYSTEM TECHNIQUES CONCEPTS, EXAMPLES, APPLICATIONS - APPLICATION MANUAL

This is an introductory level manual on sixteen techniques for analyzing and improving systems, whether business, industrial, scientific, or engineering. There are questions and answers, short examples, basic concepts, and an application bibliography for each method. The manual is to serve as an awareness tool; difficult topics such as confidence limits estimation procedures, and analysis of variance are deemphasized. The techniques covered are Bayes and cluster analysis, continuous simulation, correlation and decision analysis, discrete simulation; discrimination and econometric analysis evolutionary operation, experimental design, exponential smoothing; factor, Markov, queue, regression, and time series analysis.

Manual, 53 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-0527

BUSINESS SYSTEMS PLANNING, INFORMATION SYSTEMS PLANNING GUIDE

Business Systems Planning (BSP) is a structured approach to help an organization establish an information systems plan that can satisfy its near and long term information needs. This guide offers assistance to BSP study teams by explaining the approach and presenting guidelines for conducting a BSP study. It can also be used for general reference on the subject of planning for information systems.

The guide covers BSP principles, concepts, and study overview, then devotes a chapter to each of the major activities of a BSP study, and includes a final chapter to acquaint the reader with follow on projects.

Manual, 92 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-0593

BASIC SYSTEMS ANALYSIS AND DESIGN TECHNIQUES

This application manual is intended to assist the beginning applications analyst in learning the basics of systems analysis and design, and will also help the analyst to decide how to proceed into the "whats, hows, and whys" involved in such things as test plans, documents of understanding, testing, tracking mechanisms, etc. A number of topics are addressed, mostly from the "what to do" and "how to do it" point of view. The section "Major Events in Designing and Implementing a System" should help a newcomer to systems analysis to have an idea as to where to begin and the questions to ask.

Manual, 45 pages, 8/78

GE20-0612

CAPACITY SYSTEM PLANNING: EXECUTIVE OVERVIEW

The objective of Capacity System Planning is to translate business plans into the data processing capacity needed to support those plans. To accomplish this, significant milestones based on business plans are set up over a number of years into the future, and the data processing growth plan is used to determine how much data processing capacity will be required at each milestone. This overview describes what that effort involves and what results it can produce.

Manual, 7 1/4 x 11 inches, 12 pages, 7/78

GE20-0662

AN ARCHITECTURE FOR MANAGING THE INFORMATION SYSTEMS BUSINESS, VOL. 1 MANAGEMENT OVERVIEW

The purpose of this document is to build an understanding of the architecture, processes, and data elements that comprise the Information Systems business. From this understanding the reader may begin to implement effective control and efficiency in the management of data processing. The document gives an overview of some fundamental management principles, and suggests how these can be applied to the data processing organization within the framework of the Information Systems Architecture.

Manual, 8 1/2 x 11 inches, 49 pages, 01/80

GE20-8067

PERT - A DYNAMIC PROJECT CONTROL METHOD

Designed to acquaint the reader with the PERT technique. It is divided into these sections - (1) the technique - its advantages and implementation, (2) the network development, (3) the computer program - data preparation, and (4) description of PERT in operation, including sample calculations.

LP Application Manual, 28 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-8091

KEYWORD-IN-CONTEXT (KWIC) INDEXING

KWIC indexes constitute a new approach to the problem of how to furnish information promptly about new literature. This manual presents the principles and advantages of KWIC indexing and gives essential details about the parts of an overall KWIC index -- the KWIC index proper, reference code, bibliography and author index. An extensive list of recommendations is included for preparing master machinable records. This involves reserving particular card columns for specific items and includes suggested punctuation substitutions and other special indications. The manual also gives instructions for machine printout, mounting copy for reproduction, and binding.

LP Techniques Manual, 24 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GE20-8171

AN INTRODUCTION TO LINEAR PROGRAMMING

This manual is a primer on what can be accomplished on a computer with linear programming systems. The presentation covers the entire scope of linear programming application: problem formulation, computer operations, interpretation of results, and additional information that can be obtained through the use of complete linear programming system for a computer. The manual assumes no mathematical background beyond high school algebra.

The first chapter deals with concepts and examples of linear programming. The second chapter deals with deriving additional information about a solution. The third chapter completely describes a larger example of linear programming in oil refinery scheduling. The fourth chapter is a description of the simplex method of linear programming. A detailed glossary of linear programming terms is included.

Manual, 67 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GF20-0006

MANAGEMENT CONTROLS FOR DATA PROCESSING

This manual, written by Price Waterhouse & Co., discusses external and internal controls necessary for data processing systems, the responsibilities for these controls, and the impact of these controls on the auditability of the systems. Both batch and online versions of an application system illustrating control procedures are also included, as is an audit/review questionnaire that can be used as a guide when conducting an audit or review of data processing department controls.

Manual, 95 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GF20-0007

ANALYSIS OF SOME QUEUING MODELS IN REAL-TIME SYSTEMS

This manual presents basic theory which describes relationships among the principal elements in a queuing situation. Several queuing models are discussed, and the theory is applied to 32 short examples of problems encountered in real-time systems; numerical solutions are given for these problems. The manual concerns single server and multi-server queues, machine interference, networks of queues, and combinations of random variables encountered in queuing analysis.

Manual, 75 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GF20-8093

CODING METHODS

Specific methods of alphabetic and numerical coding are discussed, also the way in which they may be developed and applied. The manual lists and describes the characteristics that should be included in the construction of adequate codes.

Manual, 20 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GF20-8102

DECISION TABLES - A SYSTEMS ANALYSIS AND DOCUMENTATION TECHNIQUE

The basic concepts of decision tables and a minimum set of conventions for their use in systems analysis, procedure design, and documentation are described. The purpose of such tables is to provide information in a concise format that is easy to read and understand. The tabular approach is used to express complex decision logic in a manner that encourages the analyst to reduce a problem to its simplest form by arranging and presenting logical alternatives under various conditions. The resultant tables present a system's logic in a concise manner that is easy to visualize and grasp. While the concepts in the text are presented on a level for comprehension by students in basic computer courses, the techniques are applicable at all levels of sophistication by everyone in a data processing environment.

Manual, 8 1/2 x 11 inches, 20 pgs, 4/78

SLSS - ORDER NO. SUBSCRIPTION ONLY

GG22-9000

IBM SYSTEM/370TRACKING AND RESOLVING PROBLEMS AND COORDINATING CHANGES

This is one of a series of Technical Bulletins distributed by the Poughkeepsie Systems Center. This report is intended to assist the DP manager in the development and implementation of formal problem management and change control procedures within the DP function.

It is directed primarily to DP managers and to the executives to whom they report. It describes functions that can be integrated as a single unit into the existing LP organization.

Technical Bulletin, 67 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GG22-9001

AN INTRODUCTION TO CAPACITY PLANNING

This bulletin is intended as an introduction to the concepts and methodology of capacity planning and how capacity planning can be a useful management tool in the complex data processing environment. Specific topics covered include definitions of terms, performance measurement, method implementation and performance prediction. An appendix contains visuals for a capacity planning presentation.

Technical Bulletin Manual, 8 1/2 x 11 inches, 136 pages, 2/77

GG22-9003

A PERSPECTIVE ON NETWORKING

This Technical Bulletin is for IBM and customer personnel. Its purpose is to provide some insight into the issues and complexities of networking. It also discusses how these interact with various implementation configurations.

Manual, 8 1/2 x 11 inches, 48 pgs, 5/77

GG22-9015

CAPACITY PLANNING IMPLEMENTATION TECHNICAL BULLETIN

This Technical Bulletin is intended for data processing people (technical and managerial) engaged in computer capacity planning activities. The purpose of this bulletin is to discuss "state-of-the-art" techniques for implementing a capacity planning program. The process is concerned with understanding and quantifying user service objectives, workload characterization, resource consumption, monitoring and reporting computer operation on a continuing basis. As pointed out in the discussion, user satisfaction is the most critical factor in the capacity planning process.

Manual, 8 1/2 x 11 inches, 160 pages 1/79

GH20-1628

A GUIDE TO TESTING IN A COMPLEX SYSTEM ENVIRONMENT

This document describes the methods, techniques and programs necessary to test in a complex environment. It also gives a description of the various testing environments and of the testing methods to be used in each environment.

It is intended both as an introduction to testing for executives and managers, and as an in-depth treatise for those responsible for setting up and executing the tests.

Manual, 90 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

SH20-2116

3800 SYSTEM DESIGN AND DOCUMENTATION AID, IUP 5796-ATY, DESCRIPTION/OPERATION

The 3800 Design and Documentation Aid, 5796-ATY, developed by The Firestone Tire and Rubber Company, Akron, Ohio, provides OS/VS COBOL and 3800 Printer data processing organizations with the ability to standardize and easily maintain installation documentation. Using the Hierarchy plus Input-Process-Output (HIPO) technique, standardized documentation for installation management activities is produced on the 3800 Printer in the form of Visual Table of Contents (VTOC's) and HIPO diagrams. Commands are in 80-character images which are submitted either through cards or ISO. The program is a series of modules written in OS/VS COBOL.

Manual

SH20-2361

SOURCE COMPARE/AUDIT UTILITY, IUP 5796-PLZ, DESCRIPTION/OPERATIONS

This Program Description/Operations Manual provides the user with sufficient information to understand, install and successfully use the program.

Manual, 8 1/2 x 11 inches, 88 pages, 9/79

GK10-6104

MANAGEMENT REPORTING AND CONTROLS IN DATA PROCESSING NATIONAL WESTMINSTER BANK

This publication is intended to describe the techniques and procedures used by the National Westminster Bank for management reporting and controlling of their data processing installation.

Brief, 8 1/2 x 11 inches, 12 pgs, 3/77

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0732

MANAGING SYSTEMS DEVELOPMENT MONTGOMERY WARD INSTALLATION MANAGEMENT BRIEF

This Brief describes Montgomery Ward's system of project management for system development. A common approach is adopted for the conversion of a control program, the installation of a new cpu, or any data processing project. Procedures employed are of interest cross-industry to data processing management.

Brief, 28 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0750

MANAGEMENT SERVICES FRITO LAY INSTALLATION MANAGEMENT BRIEF

An outline for interactive communications between the DP staff, called Management Services, and executive management within Frito Lay is described. A project accountability control technique is the basis for executive management's awareness of the activities of management services and for management services understanding of Frito Lay's business objectives. Of interest to installations whose mission is the solution of business problems.

Manual, 16 pages

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0775

A DP COST ALLOCATION SYSTEM: PRUDENTIAL INSURANCE

This Brief covers Prudential's system of billing for data processing services on a cost basis to the company's line areas when productive work is performed or new projects are developed. The automated job accounting system used in controlling cost uses data derived from the SMF feature of OS/MT or OS/MVT.

Brief

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0776

DATA PROCESSING QUALITY ASSURANCE - MARTIN MARIETTA DATA SYSTEMS ORLANDO DATA CENTER

This Brief describes the increased efficiency of data processing services at Martin Marietta Data Systems Orlando Data Center resulting from a quality assurance department. Their procedure entails the certification of all programs; audit of system development projects; reporting and control over operations problems; and bimonthly review of DP concerns by IBM and Martin Marietta personnel.

Brief

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0864

MCAUTO HIERARCHICAL COMMUNICATIONS IN DP MANAGEMENT

With a computer inventory of more than \$171 million, MCAUTO's installation is very complex. By bringing together a cross section of functional departments and management levels at scheduled and structured meetings, the installation is able to avoid most problems and to resolve those that do occur with minimal impact on productivity. Trial-and-error approaches are largely replaced by teamwork.

Continuing equipment changes necessitate continuing attention without communications barriers. A valuable tool used by the managers in planning the logistics of equipment changes is a magnetic layout of the machine room, scaled to

size.

MCAUTO's ideas for communication may have applicability in even a modest computer installation.

Brief

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0882

OPERATIONS MANAGEMENT EXTENSION (OME) COMPUTER PROGRAM CONTROL OF THE DP OPERATION AT SMUD

The Operations Management Extension is a set of computer programs to improve control of the computer installation. The Job Creation program expands "shorthand" statements into error-free test JCL. Job transfer edits, rearranges and catalogs JCL into its production format and automatically updates the procedure library. Job Setup processes the Monthly Activity Scheduler file and the OME tape library file to update the job streams for execution and produce a series of operations control reports. Job Execution is a continuously running "monitor" that allows the operator to initiate the track jobs from the console. The Operating System is unaltered; OME is simply an extension of OS. OME is applicable to most jobs in a scheduled, batch, production environment.

Brief, 16 pages & covers

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-0931

COMPONENT FAILURE IMPACT ANALYSIS AT CATERPILLAR, INSTALLATION MANAGEMENT BRIEF

This brief describes how the Component Failure Impact Analysis technique is used at Caterpillar to assess current backup and recovery procedures and to consider alternative capability and procedures.

Manual

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-1073

PROBLEM AND CHANGE CONTROL AT THE STATE OF WASHINGTON DATA PROCESSING SERVICE CENTER

This brief describes the problem and change control procedures at the State of Washington Data Processing Service Center. These procedures are designed to:

- Ensure that problems are resolved and not forgotten
- Facilitate effective utilization of problem-solving resources
- Ensure the orderly application of change
- Reduce problems introduced through change
- Involve management in setting problem and change priorities

Brief, 8 1/2 x 11 inches, 12 pgs, 8/77

SLSS - ORDER NO. SUBSCRIPTION ONLY

GK20-1120

RECOVERY STRUCTURED WALKTHROUGH AT MARINE MIDLAND BANK

This brief describes and discusses the use of the technique in identifying and highlighting actions that could improve system availability.

Brief

GK20-1297

SYSTEM OUTAGE ANALYSIS - ASSOCIATION OF AMERICAN RAILROADS

This brief discusses System Outage Analysis - an availability management technique and the System Outage Analysis study conducted by the Association of American Railroads.

Brief, 8 1/2 x 11 inches, 12 pages, 11/79

GK20-1305

MANAGING THE MOVE OF COMPTROLLERS DATA PROCESSING DIVISION, STATE OF IOWA

This brief describes the move of a complex installation consisting of three interconnected System/370 Model 158's controlling a network of over 300 terminals. The systems were relocated in five days with a minimum disruption of service. The installation's Public Safety Network was interrupted for only one hour and 17 minutes.

Application brief

GX20-1702

PROPORTIONAL RECORD LAYOUT FORM

The front side of this form consists of the Proportional Record Layout Form. It is suitable for card, tape, and disk records. Positional markings are 00-99 and 01-100 in decimal notation, and 00-63 and 01-64 in hexadecimal notation. The back side of the form is the record format form. This form permits record layouts to be prepared without the space limitations of positional markings. Space is also provided for reference data. These are general-purpose forms and may be used for all systems.

Padded Form, 25 sheets, 11 x 6-1/2

NOT AVAILABLE UNDER ELSS

GX20-1818

150/10/8 PRINT CHART

The 11" x 18" chart is printed in green ink and provides 150 printing positions (at 10 positions per inch horizontally) for a printer carriage space-setting of 8 lines per inch. This form replaces GX20-1778 which allowed for a printing span of 144 characters. Printer charts requiring 150-character spans (3211 with 18 additional print positions) may be prepared using this chart. This chart may be reproduced using most standard office copying machines. The grid and other preprinted information may be "dropped-out" using a green filter.

Padded Form, 11 x 18, 25 sheets

NOT AVAILABLE UNDER SLSS

and do not necessarily represent IEM's views or opinions.
Manual
SLSS - ORDER NO. SUBSCRIPTION ONLY

GX20-1970

HIPO WORKSHEET

This worksheet is used for drawing HIPO diagrams.
Padded Form, 11 x 16-1/2 inches, 25 sheets per pad
NOT AVAILABLE UNDER SLSS

GX20-1971

HIPO TEMPLATE

This plastic template provides cutout shapes used in drawing HIPO diagrams. It is enclosed in an envelope outlining the definitions of the symbols. The symbols, and their use in the preparation of HIPO diagrams are further described in HIPO - A Design Aid and Documentation Technique, GC20-1851. The HIPO Worksheet, GX20-1970, also may be used in the preparation of HIPO diagrams.
Template, 10 to a set
NOT AVAILABLE UNDER SLSS

GX20-2336

COMPONENT FAILURE IMPACT ANALYSIS FORMS: COMPONENT FAILURE IMPACT ANALYSIS GRID AND GRID EXPANSION WORKSHEET

This padded form is used in performing a component failure impact analysis (CFIA). Its use is illustrated in the manual Component Failure Impact Analysis - An Availability Management Technique (GC20-1865).
Padded form, 11 x 16 inches, 2 pgs, 3/79

GX20-2353

SYSTEMS MANAGEMENT ASSESSMENT QUESTIONNAIRE

The Systems Management Assessment Questionnaire is a set of yes/no questions to evaluate the implementation of the Systems Management disciplines:

Change Management	Performance Management
Problem Management	Capacity Management
Processing Management	Audit/Security Management
Recovery Management	Management Reporting

There is also a subjective evaluation for each discipline regarding the extent to which the items in that category are effectively utilized.

In addition, there are questions on which tools and aids are utilized for Systems Management.

This questionnaire was prepared jointly by the Data Processing and Field Engineering Divisions.
Foldout reference card, 3 1/2 x 8 1/2 inches, 14 panels, 10/79

GX20-8020

FLOWCHARTING TEMPLATE

This plastic template provides cut-out shapes for drawing standard symbols used frequently in flowcharting computer systems and programs. It is enclosed in an envelope outlining definitions of symbols and use of the template. More details are given in the Data Processing Techniques manual on FLOWCHARTING TECHNIQUES (GC20-8152).
Template, 10 to a set
NOT AVAILABLE UNDER SLSS

GX20-8047

HEXADECIMAL & DECIMAL INTEGER CONVERSION TABLE

Tables showing hexadecimal and decimal integer and fraction conversions, examples of arithmetic steps in the conversions, and a powers of 16 table.
Reference Card, 4 pages, 3-1/4 x 7-3/8
NOT AVAILABLE UNDER SLSS

GX28-1630

DECISION TABLE WORKSHEET

This is a simple ruled form and 3/16 by 1/4 inch grid on which to organize program logic in tabular format for systems analysis, procedure design, or documentation. Preprinted green lines (some 40 vertical and 24 horizontal) provide uniform spaces for writing entries, conditions, rules, etc., or, with the grid lines as guides, the user can draw his own vertical or horizontal spacings to fit descriptive needs.

Padded form, 8 1/2 x 11 inches, 25 sheets per pad

G226-3551

NETWORK CONTROL CENTER GUIDE

The objective of this manual is to discuss the organizational functions and techniques to be considered in planning, designing and implementing a Network Control Center. It is intended to be used by executives and managers of the data processing organization.
Manual, 8 1/2 x 11 inches, 72 pages, 4/80

G229-0282

IBM SYSTEMS MANAGEMENT

To summarize IBM's key offerings in the area of systems management for communication networks. Includes a chart showing supported environments and dependencies and a description of ANMP, NEMP, NCCP, NPDA and NPA. Intended for customers.

Brochure, 8 1/2 x 3 1/2 inches, folded

G320-1370

DATA SECURITY AND DATA PROCESSING VOLUME I INTRODUCTION AND OVERVIEW

In May of 1972, IBM announced the formation of four study sites for the purpose of gaining more information about data security and identifying user requirements in this vital subject. This introductory manual documents an executive overview of the findings of the four study sites.

As stated at the outset of the project these publications report independent findings of the study sites,

G320-1371

DATA SECURITY AND DATA PROCESSING VOLUME 2 - STUDY SUMMARY

In May of 1972, IBM announced the formation of four study sites for the purpose of gaining more information about data security and identifying user requirements in this vital subject. This manual summarizes the results of the findings of the four study sites.

As stated at the cut set of the project, these publications report independent findings of the study sites, and do not necessarily represent IBM's views or opinions.
Manual, 27 pages
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G320-1372

DATA SECURITY & DATA PROCESSING: VOLUME 3 PART 1 STATE OF ILLINOIS EXECUTIVE OVERVIEW

In May 1972, IBM announced the formation of four study sites for the purpose of gaining more information about data security and identifying user requirements in this vital area. This manual (one of a series of 6 volumes) documents an overview of the findings of the Management Information Division of the State of Illinois. It is reprinted with the permission of the State of Illinois.

As stated at the outset of the project, these publications report independent findings of the study sites and do not necessarily represent IBM's views or opinions.
Manual, 43 pages
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G320-1373

DATA SECURITY & DATA PROCESSING: VOLUME 3 PART 2 STATE OF ILLINOIS STUDY RESULTS

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Manual
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G320-1374

DATA SECURITY & DATA PROCESSING: VOLUME 4, MASSACHUSETTS INSTITUTE OF TECHNOLOGY STUDY RESULTS

In May 1972, IBM announced the formation of four study sites for the purpose of gaining more information about data security and identifying user requirements in this vital area. This manual (one of a series of 6 volumes) documents an overview of the findings of the Massachusetts Institute of Technology.

These publications report findings of the study sites and do not necessarily represent IBM's views or opinions.

Manual, 300 pages
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G320-1375

DATA SECURITY & DATA PROCESSING: VOLUME 5, TRW SYSTEMS INC. STUDY RESULTS

In May 1972, IBM announced the formation of four study sites for the purpose of gaining more information about data security and identifying user requirements in this vital area. This manual (one of a series of 6 volumes) documents an overview of the findings of TRW Systems, Inc.

As stated at the outset of the project, these publications report independent findings of the study sites and do not necessarily represent IBM's views or opinions.

Manual
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G320-1376

DATA SECURITY AND DATA PROCESSING VOLUME 6 EVALUATIONS AND INSTALLATION EXPERIENCES: RESOURCE SECURITY SYSTEM

In May of 1972, IBM announced the formation of four study sites for the purpose of gaining more information about data security and identifying user requirements in this vital subject. This manual documents the study findings of the IBM Federal Systems Division Study site. It is one of a series of 6 volumes.

As stated at the outset of the project, these publications report independent findings of the study sites, and do not necessarily represent IBM's views or opinions.
Manual, 122 pages
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G320-1379

DATA SECURITY AND DATA PROCESSING SESSION LEADER'S GUIDE (STATE OF ILLINOIS VIDEOTAPES)

In May of 1972, IBM announced the formation of four study

sites for the purpose of gaining more information about data security and identifying user requirements in this vital subject. This session leader's guide is intended to be used in conjunction with a set of 9 videotapes prepared by one of the study sites, the State of Illinois. The guide itself was also prepared at this study site. Details about the availability of the videotapes have been sent to DP branch Offices.

As stated at the outset of the project, this guide and the videotapes report independent findings of the study site and do not necessarily represent IEM's views or opinions.

Information on the purchase of copies of one or more of the tapes, the type of playback equipment required, and prices and terms, etc., may be directly obtained from:

S/T Videocassette Duplicating Corporation
500 Willow Tree Road
Icunia, New Jersey 07605
(201) 947-6450 NYC: (212) 239-4653

or from your local IBM Data Processing Division Marketing Representative.

Manual, 15 pages

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G320-2683

ARCHITECTURAL SUPPORT FOR SYSTEM PROTECTION AND DATABASE SECURITY - LOS ANGELES SCIENTIFIC CENTER

A set of architectural extensions to a machine of the type of IBM System/370 is proposed. The proposal involves hardware/software interaction to constrain the execution time behavior of application and higher authority programs. The extensions consist of the addition of a new state to the previous supervisor and problem states, enforcement of disciplined transition between states, hardware distinction of five information types and a mechanism to ensure correct I/O data transfers. Application of the extensions to a shared database system shows that the protection of the operating system is enhanced significantly, with respect to errors or deliberate attacks, and that a high level of protection against unauthorized access, can be obtained for the database itself, without excessive cost.

Report, 8 1/2 x 11 inches, 31 pgs, 12/76

G320-5323

STRUCTURED DESIGN - REPRINTED FROM IBM SYSTEMS JOURNAL

Considerations and techniques are proposed that reduce the complexity of programs by dividing them into functional modules. This can make it possible to create complex systems from simple, independent, reusable modules. Debugging and modifying programs, reconfiguring I/O devices, and managing large programming projects can all be greatly simplified. And, as the module library grows, increasingly sophisticated programs can be implemented using less and less new code.

Paper, 25 pages

NOT AVAILABLE UNDER SLSS

G320-5522

OPERATING SYSTEM INTEGRITY IN OS/VS2 BY W.S. MCPHEE, REPRINTED FROM IBM SYSTEMS JOURNAL

System integrity is a basic requirement for operating system security. Presented are types of system integrity problems and their general solutions. Techniques used in OS/VS2 Release 2 to solve these problems are highlighted.

Paper, 23 pages

NOT AVAILABLE UNDER SLSS

G320-5532

AUDIT SOURCE COMPARE EOS AND OS/VS, IUP 5796-PDF, EDM NOTICE

Audit - Source Code Compare for S/370 DOS/VS or OS/VS is a pair of IUP's which analyze the differences between two versions of a program's source code. The variations detected by this audit/control tool are highlighted on a message listing which, in turn, becomes a vehicle the user can use to verify the only authorized changes are made to an installation's sensitive programs. Audit-Source Code Compare has been used by the IBM Corporate Information Systems Department audit-control groups as a tool to assure that only authorized changes are made to the installation's programs. This program may be executed under any S/370 DOS/VS, VS1 or VS2 system.

This Availability Notice contains complete ordering information for the Program and all its related documentation, for management and data processing personnel who are prospective users of the program and others who require information concerning it.

Release Notice

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G320-5646

DATA SECURITY - THREATS AND DEFICIENCIES IN COMPUTER OPERATIONS - A REPORT ON A COMPLETED STUDY - A TRANSLATION FROM AN IBM SVENSKA PUBLICATION

The purpose of the study is to identify the types of hazards prevalent in today's data processing operations and to develop approaches to protect against these hazards. The initial results from the first phase of this study are contained in An Executive's Guide to Data Security -- A Translation from an IBM Svenska Publication (G320-5647) and in this volume. The Executive Guide introduces the study and presents an approach to data security. This volume provides the detailed results of observations made in nine data processing installations. Hazards identified during the study are classified into generic categories which form

the basis of subsequent phases of the study.

Manual

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G320-5647

AN EXECUTIVE'S GUIDE TO DATA SECURITY - A TRANSLATION FROM AN IBM SVENSKA AB PUBLICATION

A data security study to identify the types of hazards prevalent in today's data processing operations and to develop approaches to protect against these hazards was jointly planned by the Swedish office for Administrative Development (STAKC) and IBM Svenska AB. It has been carried out by staff from Statskonsult AB (A state-owned consulting company), which was commissioned by STAKC to undertake the study, and IBM. The initial results from the first phase of this study are contained in Data Security -- Threats and Deficiencies in Computer Operations -- A Report on a Completed Study -- A Translation from an IBM Svenska AB Publication (G320-5646) and in this volume.

This volume introduces the study and presents an approach to data security in terms of its basic elements. The study report provides the detailed results of observations made in nine data processing installations. Hazards identified during the study are classified into generic categories which form the basis of subsequent phases of the study.

Manual

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G320-5649

DATA SECURITY CONTROLS AND PROCEDURES - A PHILOSOPHY FOR DP INSTALLATIONS

This publication is addressed to information systems management and presents measures that IEM and others have found useful for limiting risk in data processing installations. While it is hoped that these measures will be of interest, they are provided for information purposes only, IBM makes no guarantee or representation with respect to their applicability to a specific data processing installation.

Manual

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G320-5650

MANAGEMENT MEMORANDUM: SECURITY FEATURES OF IBM SYSTEM/370

A management-oriented report on hardware and software features of System/370. Designed to highlight features that can help installation management in choosing features that might be useful in their data processing environment. Also contains an Appendix of selected IEM publications on physical and data security.

BRCCURE, 29 PAGES, 6/76

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G320-5790

SYSTEMS AUDITABILITY & CONTROL, AUDIT PRACTICES

This manual is part of a study by the Institute of Internal Auditors. It presents information on auditing in the data processing environment, including audit tools & techniques.

Manual, 8 1/2 x 11 inches, 226 pgs, 5/77

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G320-5791

SYSTEMS AUDITABILITY & CONTROL, EXECUTIVE REPORT

This is an Executive Summary of the Institute of Internal Auditors project to study audit and control procedures for data processing installations. Topics include Project Methodology, Discussion of Conclusions and Cost Implications of Systems Auditability and Control.

Manual, 8 1/2 x 11 inches, 24 pgs, 5/77

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G320-5792

SYSTEMS AUDITABILITY & CONTROL, CONTROL PRACTICES

The control practices report is part of a study by the Institute of Internal Auditors. It presents information relating to control techniques applicable to computer based information systems, computer service center operations, and the system development process. It also provides an overview of Data Processing Control Practices.

Manual, 8 1/2 x 11 inches, 156 pgs, 5/77

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G320-5829

AUDITABILITY AND PRODUCTIVITY INFORMATION CATALOG

This catalog provides a quick reference to IEM programs that can enhance the productivity of personnel auditing, designing, developing, testing, or documenting System/370 programs and systems. The program descriptions in the catalog are in alphabetic sequence by subcategory within the following categories:

- CICS
- IMS
- OS
- DCS
- VM/370

• Programs that are not listed in the above categories but that perform audit functions or are used as audit aids.

Catalog, 8 1/2 x 11 inches, 364 pgs, 9/77

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G320-5840

COMMUNICATIONS SYSTEMS MANAGEMENT BASIC CONCEPTS

This preliminary publication on communication systems management concepts is primarily intended to assist the executive to whom the information processing function reports in evaluating the degree to which an existing or planned communication systems management function meets the organization's goals. It may also be of interest to managers with communication systems management responsibilities and to IBM representatives.

Manual, 24 pages, 7/78

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G320-6163

SOURCE COMPARE/AUDIT UTILITY IUP 5796-PLZ, NOTICE

The Source Compare/Audit Utility accepts text input from two files and produces various print, update and summary files detailing source line matches, insertions, deletions, and reformat. Input files can be sequential data sets, OS/VS partitioned data sets or partitioned data set members. The Source Compare/Audit Utility features speed, capability, simplicity of use, and accuracy through a unique algorithm which is able to resynchronize the comparison despite a large number of source level differences.

Release notice, 8 1/2 x 11 inches, 8 pages, 10/79

G321-5010

HIERARCHICAL APPROACH TO COMPUTER SYSTEM INTEGRITY SYSTEMS JOURNAL REPRINT

Security is an important factor if the programs of independent and possibly error-prone or malicious users are to coexist on the same computer system. In this paper, we show that a hierarchically structured operating system, such as produced by a virtual machine system, that combines a virtual machine monitor with several independent operating systems (VMM/OS), provides substantially better software security than a conventional two-level multiprogramming operating system approach. This added protection is derived from redundant security using independent mechanisms that are inherent in the design of most VMM/OS systems. Such a system can be obtained by exploiting existing software resources.

Journal Reprint, 7x10 inches, 20 pages

NOT AVAILABLE UNDER SLSS

G321-5011

AN ACCESS CONTROL MECHANISM FOR COMPUTING RESOURCES SYSTEMS JOURNAL REPRINT

The architecture of an access control mechanism for the resources of an OS/360 or VS/370 computer system is presented.

The use of this operating system component for data base security and integrity in a research and engineering environment is described.

The techniques described make possible controlled access to the system's processing power, controlled access to the database, decentralized authorization responsibility, measuring dataset usage, and event recording for automatic dataset migration, archiving, and staging.

Journal Reprint, 7 x 10 inches, 20 pages

NOT AVAILABLE UNDER SLSS

G321-5012

GENERALIZED AUDIT TRAIL REQUIREMENTS AND CONCEPTS FOR DATA BASE APPLICATIONS - SYSTEMS JOURNAL REPRINT

Discussed is a data base audit trail. It is defined here to be a generalized recording of "who did what to whom, when, and in what sequence." This information is to be used to satisfy system integrity, recovery, auditing, and security requirements of advancements of advanced integrated data base/data communications systems. This paper hypothesizes what information must be retained in the audit trail to permit recovery and audit later in time and a scheme of organizing the contents of the audit trail so as to provide the required functions at minimum overhead.

Introduced are the concepts of types of audit required, DB/DC audit assumptions, time domain addressing, time sequences required to support versions of data, what constitutes an audit trail, and implementation considerations.

Journal Reprint, 7 x 10 inches, 20 pages

NOT AVAILABLE UNDER SLSS

G321-5032

TOP-DOWN DEVELOPMENT USING A PROGRAM DESIGN LANGUAGE SYSTEM JOURNAL REPRINT

Discussed is a program design language - a form of pseudocode - that has been developed and used to organize, teach, document, and develop software systems. An example of top-down program design illustrates the key steps in using the language: determining the requirements, abstracting the functions, expanding the functions, and verifying the functions.

Syntax and conventions of the language are given in an appendix.

Journal Reprint, 7 x 10 inches, 20 pages

NOT AVAILABLE UNDER SLSS

G321-5036

SELECTED READINGS: DATA BASE SYSTEMS SYSTEMS JOURNAL REPRINT

This short paper was chosen for publication by the editors, who hope that the comments and references will be helpful to readers who desire to strengthen their background in the literature of data base systems. Beginning with early data base concepts, this paper cites a selection of key references of hierarchical, network, and relational data bases. The authors of this selection are R. Ashany, Associated Editor of the IBM Journal of Research and Development, and Michael Adanowicz, Associate Professor, Polytechnic Institute of New York, Brooklyn, New York.

Journal Reprint, 7" x 10", 20 pgs

NOT AVAILABLE UNDER SLSS

G321-5040

SERVICE LEVELS: A CONCEPT FOR THE USER AND THE COMPUTER CENTER

Service levels represent an important concept that can be applied toward the solution of difficult problems surrounding communications between users and providers of data processing services. In this paper, this concept is described in terms of the architecture which defines the scope and structure of service information. The paper further translates the architecture into data processing terminology by presenting the data-base structure and data elements related to service levels. The paper also addresses the post-processing of the data base, a step essential to properly communicating service-level information.

Journal Reprint, 7 x 10 inches, 20 pages

G321-5042

A USER ORIENTED DATA BASE RETRIEVAL SYSTEM

Discussed is an experimental, specialized data base system developed for users who do not require the sophisticated resources of the large data base systems but do require many of the capabilities they provide. Data manipulation and retrieval within a data base are made available for the non programmer user. The function and design attributes of the system are described including the reasons for basing the system on API functions.

Journal Reprint, 7 x 10 inches, 22 pgs, 3/77

G321-5045

A METHOD OF PROGRAMMING MEASUREMENT AND ESTIMATION

Improvements in programming technology have paralleled improvements in computing system architecture and materials. Along with increasing knowledge of the system and program development processes, there has been some notable research into programming project measurement, estimation, and planning. Discussed is a method of programming project productivity estimation. Also presented are preliminary results of research into methods of measuring and estimating programming project duration, staff size, and computer cost.

Journal Reprint, 7 x 10 inches, 3/77

G321-5053

DATA BASES: PAST, PRESENT, AND FUTURE - SYSTEMS JOURNAL REPRINT

A broad range of commercial and research data base systems are analyzed. Common characteristics are discussed. These systems, which have roots in older filing systems and in punched card systems, are grouped into the three categories of hierarchic, network and single-level models. Also presented is work on the standardization of data base systems. Research toward the discovery of new commonalities is also discussed. This paper is based on an extensive published literature.

Reprint, 7 x 10 inches, 49 pgs, 8/77

G321-5055

AUTOMATED LOGICAL DATA BASE DESIGN - SYSTEMS JOURNAL REPRINT

This paper describes the design effort for an integrated data base and then develops techniques for automating significant portions of the labor. These techniques have been incorporated in a program to provide an effective data base design tool (Data Base Design Aid) in current use. The processes involved with this aid are discussed.

Reprint, 7 x 10 inches, 35 pgs, 8/77

G321-5057

DESIGN TECHNIQUES FOR A USER CONTROLLED DB/DC SYSTEM - SYSTEMS JOURNAL REPRINT

The flexibility and usefulness of an integrated data base can be limited by constraints inherent in the data base management system. One such system, IBM's Information Management System (IMS), has been extended in terms of data independence, access control, data integrity and user communication by a group of techniques integrated into an IMS application called the Product Development Communication and Control (PDCC) system. This paper describes the IMS extensions provided by PDCC and discusses the system's implementation. PDCC is the prototype of the IMS Applications Development Facility, an IBM Installed User Program.

Journal reprint, 7 x 10 inches, 18 pgs, 11/77

G321-5063

MEASURING PROGRAMMING QUALITY AND PRODUCTIVITY - SYSTEMS JOURNAL REPRINT

Discussed is the unit-of-measure situation in programming. An analysis of common units of measure for assessing program quality and programmer productivity reveals that some standard measures are intrinsically paradoxical. Lines of code per programmer-month and cost per defect are in this category. Presented here are attempts to go beyond such paradoxical units as these. Also discussed is the usefulness of separating quality measurements into measures of defect removal efficiency and defect prevention, and the usefulness of separating productivity measurements into work

units and cost units.
Reprint, 7 x 10 inches

G321-5066

A CRYPTOGRAPHIC KEY MANAGEMENT SCHEME FOR IMPLEMENTING THE DATA ENCRYPTION STANDARD (DES)
Data being transmitted through a communications network can be protected by cryptography. In a data processing environment, cryptography is implemented by an algorithm which utilizes a secret key, or sequence of bits. Any key-controlled cryptographic algorithm, such as the Data Encryption Standard (DES), requires a protocol for the management of its cryptographic keys. The complexity of the key management protocol ultimately depends on the level of functional capability provided by the cryptosystem. This paper describes a key management scheme that provides the support necessary to protect communications between individual end users (end-to-end encryption) and that also can be used to protect data stored or transported on removable media.

Journal reprint, 7 x 10 inches, 20 pages

G321-5067

GENERATION, DISTRIBUTION, AND INSTALLATION OF CRYPTOGRAPHIC KEYS

A key controlled cryptosystem requires a mechanism for the safe and secure generation, distribution, and installation of its cryptographic keys. This paper discusses key generation, distribution, and installation procedures for the key management scheme presented in preceding paper G321-5066.

Journal reprint, 7 x 10 inches, 12 pages

G321-5068

CRYPTOGRAPHY ARCHITECTURE FOR INFORMATION SECURITY

Information being transferred from point to point over a public communications carrier or stored on portable media can be protected, by the use of cryptography; from accidental or intentional disclosure. Control functions are required to insure synchronization of the process. In a communications environment, the control functions become logically part of the network architecture. IBM's Systems Network Architecture (SNA) has been extended to allow the use of cryptography when sensitive information is being processed. Architectural similarities for the file environment are discussed.

Journal reprint, 7 x 10 inches, 13 pages

G321-5069

ADMINISTRATIVE CONTROL OF COMPUTING SERVICE

The complexity of necessary administrative controls for computer service exceeds the capabilities of clerical methods. This paper presents a practical method for describing the external administrative environment in a data base which can be used by the operating system for dynamic enforcement of limits. An attempt is made to address consistently the different forms of data processing that may be concurrent in a single installation; included are general purpose time sharing, transaction oriented computing, and scientific computing. Described is the architecture of an operating system component that could be regarded as the interface between administrative security mechanisms and the security features of the system software.

Journal reprint, 7 x 10 inches, 28 pages, 5/78

G321-5070

DATA PROCESSING SPHERES OF CONTROL

The IBM System Journal is published quarterly by IBM. This volume contains the following:

There has long been a need for better definition of the audit and control aspects of data processing applications. This paper attempts to satisfy that need and thereby provide a framework for improving communication between systems analysts and computer scientists. It introduces the concept of spheres of control, which are logical boundaries that exist in all data processing systems, whether manual or automated. The paper describes their essential properties and portrays them as they relate to each other in the batch, on-line, and in-line processing environments. Included are spheres of control that define process bounding for such purposes as recovery, auditing, process commitment, and algorithm (procedure) replacement.

Journal reprint, 7 x 10 inches, 20 pages

G321-5077

PERFORMANCE TUNING IN OS/VS2 MVS - SYSTEMS JOURNAL REPRINT

A procedure of observation and correction is presented for the coarse tuning of an MVS system by analyzing it into its software and hardware components and increasing their efficiency successively. The method involves adjustments to swapping, the input/output load, the CPU load, main storage, and the system resources manager. Also discussed are performance measures necessary to characterize a system, tools to tune a system, and various aspects of data gathering and the effects of adjustments on system parameters. Two illustrative case histories are also given.

Reprint, 7 x 10 inches, 24 pages, 8/78

G321-5106

AN INTEGRATED APPROACH TO CENTRALIZED COMMUNICATIONS NETWORK MANAGEMENT

Recent technological advances have increased the size and number of teleprocessing networks as well as broadened their scope and complexity. This added size and complexity has magnified the need for communications network management. One approach to communications network management is to provide centralized control which is integrated into the System Network Architecture user network. This approach is described in this paper by focusing on two program products that provide centralized operator control and problem determination capabilities for a network.

Journal reprint, 7 x 10, 23 pages, 11/79

G321-5113

OVERVIEW OF THE CAPACITY PLANNING PROCESS FOR PRODUCTION DATA

An overview of techniques available to address capacity planning in the production data processing environment is presented. The production data processing system is briefly described and its capacity is quantified. The measurement tools, reports, and data required to implement a capacity planning program are discussed. Modeling and prediction are placed in perspective with the overall objectives of the capacity planning process. Personnel (managerial and technical) and organization considerations are also discussed.

Journal reprint 7 x 10 inches, 24 pages, 2/80

G321-5114

A CAPACITY PLANNING METHODOLOGY

Discussed is a capacity planning procedure called USAGE. Various business elements to be individually measured and tracked are presented. Outlined are methods for estimating workload growth. Separate limits of capacity for on-line workload and batch workload demand are discussed. A simple graphics presentation procedure is included to communicate the results of the study to those who need the information for making business decisions.

G321-5115

SYSTEM CAPACITY AND PERFORMANCE EVALUATION

The performance of MVS (Multiple Virtual Storage) systems can be predicted for changes in workload and environment by an IBM marketing aid informally called SCAPE (for System Capacity and Performance Evaluation). Written in FORTRAN, the programs use simple queuing formulas with empirical modifications. Response times for complex workloads (IMS, CICS, TSO, and batch) through the CPU and auxiliary storage are expressed as functions of application loads and other parameters that define the system's environment. SCAPE can predict the effect on performance of different CPU models, larger memory, additional channels, additional direct-access storage, larger block sizes, and alternate workload projections.

Journal reprint 7 x 10 inches, 22 pages, 2/80

G321-5120

SYSTEMS MANAGEMENT

Effective systems management is dependent on two factors - visibility of the data required for systems management and a structured, disciplined management system to effectively utilize this information. Discussed in this paper are two programs to assist in dealing with these factors. These host programs use VSAM data bases and are accessed via CIVS/VS or IMS/VS. The programs provide applications to assist in problem management, change management, network configuration, and problem determination. These functional application tools are described in terms of their content and their relationships with the overall systems management tasks.

Journal reprint, 7 x 10 inches, 20 pages, 2/80

G520-2169

THE CONSIDERATIONS OF DATA SECURITY IN A COMPUTER ENVIRONMENT

This brochure is a guide to provide general management, systems designers and operations management with various data security considerations in order to assess and minimize potential problems. It does not, however, attempt to cover highly classified systems within the government - those with stringent requirements peculiar to data involving the nation's security.

The brochure discusses considerations of data security necessary when computing systems store and process either proprietary data or personal information on individuals. While it does not cover the much broader social issue of privacy, it does proceed with a recognition that the protection of individual privacy places special responsibilities on those who determine how systems are to be used.

The addition of remotely located terminal devices significantly increases the potential problems and the resulting concern for data security. Problems range from preventing the curious intruder from browsing through personnel rosters, customer lists, operating statements, etc., to preventing the malicious intruder from altering payroll records, obtaining secret financial data or illegally obtaining copies of new product specifications.

Booklet, 6" x 9", 44 pages

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G520-2700

THE CONSIDERATIONS OF PHYSICAL SECURITY IN A COMPUTER ENVIRONMENT

Protective measures designed to secure a computer installation and its vital records against fire, unauthorized access and other hazards are discussed in general terms, are detailed in sample checklists, and exemplified in the APS case study.

Manual, 43 pages

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G520-2741

THE FIRE AND AFTER THE FIRE

Brochure describes the FID fire of 1972, and IBM's recovery efforts to get the facility back into operation in the shortest possible time span. The object lesson of this narrative is that no one is immune to mishap and, therefore, should have a recovery plan in place.

Brochure, 12 pages, 11/78

G520-2797

42 SUGGESTIONS FOR IMPROVING SECURITY IN DATA
PROCESSING OPERATIONS

Suggestions on how to overcome some of the problems of physical security and data security most commonly encountered. It is not a checklist, but a collection of observations and comments by people experienced in operating data processing installations. References are included to other IBM publications on security.
6 x 9 Booklet, 20 pages
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G520-2838

IBM DATA SECURITY SYMPOSIUM, APRIL 1973

Reprint of 27 papers presented at the April, 1973 symposium on data security held in Boston, Massachusetts.
Compilation, 264 pages
SLSS - ORDER NO. SUBSCRIPTION ONLY

G520-2881

SECURITY, THE RIGHT THING FOR YOUR COMPUTER, THE BEST
THING FOR YOUR INFORMATION

Offers suggestions and examples to help management improve the physical and data security of data processing operations. A brief list of pertinent publications is included.
Folder, 14 pages
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G520-2882

DATA SECURITY SEMINARS: IBM EDUCATION COURSE X8851 BROCHURE

Describes an IBM Education course on physical and data security being given for one day in IBM locations. IBM specialists in data security programs and procedures conduct detailed sessions of interest to executives and other personnel charged with maintaining security in a computer environment.
Brochure, 8 pages
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G520-2965

IBM DATA SECURITY FORUM: DENVER, COLORADO, SEPTEMBER 1974

This publication reprints, without changes and without comment, the 36 papers given at the data security forum held September 10-12, 1974 in Denver, Colorado. The appendix summarizes the results of the data security survey.
Compilation, 536 pages, soft cover
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G520-3332

AUDITORS PERSPECTIVE 8100

The design and implementation of distributed data processing systems pose special challenges in the area of audit and control. This publication describes six requirements of concern to auditors and managers and explains how the features of the 8100 system and associated programs address the requirements.
Manual, 24 pages, 9/78

G520-3526

SYSTEM MANAGEMENT ASSESSMENT QUESTIONNAIRE SUPPLEMENT

This document is a supplement to the Systems Management Assessment Questionnaire. It is intended to clarify and expand upon the questions and the subject matter in the questionnaire.

This document is divided into eight sections representing the Systems Management disciplines: Change Management, Problem Management, Processing Management, Recovery Management, Performance Management, Capacity Management, Audit/Security Management, Management Reporting

Each section should be used in conjunction with the corresponding Systems Management discipline in the questionnaire.

Booklet, 3 1/2 x 8 1/2 inches, 16 pages, 10/79



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