Dfsort Application Programming Guide

VS COBOL II.MVS I/O SubsystemsMVS/VSAM for the Application ProgrammerDB2 Universal Database for OS/390 V7.1 Application Certification GuideCOBOL/370 for Power ProgrammersIMS 12 Selected Performance TopicsDB2 Developer's GuideMainframe Basics for Security ProfessionalsABCs of IBM z/OS System Programmingz/OS Version 2 Release 1 Technical UpdatesABCs of z/OS System ProgrammingThe MVS PrimerAdvanced ANSI COBOL with Structured ProgrammingBatch Modernization on Z/OSIBM z/OS V2R2: Storage Management and UtilitiesABCs of IBM z/OS System ProgrammingIntroduction to the New Mainframe: z/OS BasicsCommercial Software EngineeringGetting Started with z/OS Data Set Encryptionz/OS Traditional Application Maintenance and SupportVS COBOL II Application ProgrammingDb2 for z/OS Utilities in PracticeMVS JCL & UtilitiesVS COBOL IIIBM Problem Determination Tools for z/OSAssembler for COBOL ProgrammersDB2 9 for Z/OS Stored ProceduresDB2 Developer's GuideOptimizing System z Batch Applications by Exploiting ParallelismDictionary of Acronyms and Technical AbbreviationsHigh Availability and Scalability of Mainframe Environments Using System Z and Z/OS as ExampleIntroduction to the New Mainframe: z/VM BasicsA Practical Guide to ICF CatalogsSystem Programmer's Guide to Z/OS System LoggerMVS Systems ProgrammingADY - IEBMVS, JCL, and UtilitiesDFSORTDFSMS: Extended Address Volumez/OS Version 1 Release 12 Implementation

VS COBOL II.

This IBM® Redbooks® publication describes changes in installation and migration when migrating from a current z/OS® V1R10 and z/OS V1R11 to z/OS V1R12. Also described are tasks to prepare for the installation of z/OS V1R12, including ensuring that driving system and target system requirements are met, and coexistence requirements are satisfied. New migration actions are introduced in z/OS V1R12. This book focuses on identifying some of the new migration actions that must be performed for selected elements when migrating to z/OS V1R12. This book describes the following enhancements: z/OS V1R12 installation, HiperDispatch, System Logger, Auto-reply to WTORs, Real Storage Manager (RSM) DFSMS, DFSORT, Services aids, z/OS Infoprint Server, TSO/E, RMFTM, Language Environment®, BCP allocation XML System Services, z/OS UNIX® System Services, BCP supervisor, Extended Address Volumes HyperSwap®. BCPii, (de)ciphering, Predictive Failure Analysis, C language, Hardware instrumentation services FICON® dynamic channel-path management, Workload Manager, SDSF, JES2, JES3, SMF, GRS, XCF, HCD Unicode, Capacity provisioning, RRS, Parallel subsystems initialization z/OS Management Facility (z/OSMF)

MVS I/O Subsystems

DB2 Developer's Guide is the field's #1 go-to source for on-the-job information on programming and administering DB2 on IBM z/OS mainframes. Now, three-time IBM Information Champion Craig S. Mullins has thoroughly updated this classic for DB2 v9 and v10. Mullins fully covers new DB2 innovations including temporal database support; hashing; universal tablespaces; pureXML; performance, security

and governance improvements; new data types, and much more. Using current versions of DB2 for z/OS, readers will learn how to: * Build better databases and applications for CICS, IMS, batch, CAF, and RRSAF * Write proficient, code-optimized DB2 SQL * Implement efficient dynamic and static SQL applications * Use binding and rebinding to optimize applications * Efficiently create, administer, and manage DB2 databases and applications * Design, build, and populate efficient DB2 database structures for online, batch, and data warehousing * Improve the performance of DB2 subsystems, databases, utilities, programs, and SQL stat DB2 Developer's Guide, Sixth Edition builds on the unique approach that has made previous editions so valuable. It combines: * Condensed, easy-to-read coverage of all essential topics: information otherwise scattered through dozens of documents * Detailed discussions of crucial details within each topic * Expert, field-tested implementation advice * Sensible examples

MVS/VSAM for the Application Programmer

This IBM® Redbooks® publication gives a broad understanding of integrated catalog facility (ICF) catalog environments. It includes suggestions for design, planning, and deployment tasks to help you create and maintain a balanced and efficient catalog environment. Four scenarios are provided to illustrate sample implementations of typical activities that are associated with an organization's requirements. Chapter 5, "Record-level sharing support for ICF catalogs" describes Record Level Sharing (RLS) for Catalogs and shows the results of our tests in a controlled laboratory environment. This version of the book is set at the IBM z/OS V2R2 level. This publication is for readers who want to gain an understanding of ICF catalogs and the considerations and practices that surround an ICF catalog environment deployment.

DB2 Universal Database for OS/390 V7.1 Application Certification Guide

A guide to top-down structured programming that shows how to apply syntax learning and theoretical logic design strategies to everyday programming situations in commercial and business environments. Provides a tool box of design techniques for developing programs that are accurate and easily modified, and offers more than 20 summarized program design templates, standard building blocks from which the majority of business data processing programs are created. These include generic patterns for control break reporting, table loading, internal sorting, sequential add/change/delete up-date, and random access file handling and also includes a reference summary with examples for IBM's new sorting utility, DFSORT; extended examples of both partial key random access to non-IBM random files and to IBM VSAM files; and a comprehensive reference summary with prescriptive actions for all IBM VSAM file status values.

COBOL/370 for Power Programmers

This is the first book to cover IBM's newest version of COBOL--COBOL 370. Kirk shows programmers how to use this new version of COBOL to develop applications and access a compiler from either a programmable workstation or a mainframe.

The book describes a range of techniques and also explores non-COBOL topics such as compile options, JCL, and performance issues.

IMS 12 Selected Performance Topics

Marketshare for DB2 has been growing steadily over the past 5 years and with the announcement of DB2 Universal Database V8 (T-Rex), the product has never had more momentum. DB2 owns about 30 percent of the database market--the same as Oracle. Not only is the product used in many Fortune 500 companies, but it is becoming very popular in small to medium sized businesses as well. This book provides the reader with a comprehensive reference and research tool for DB2 for the mainframe. Official material is awkwardly written, spans over a dozen manuals in PDF format, and lacks real-world guidance. Author, Craig Mullins, consistently hears from readers of past editions that they rely on this book as their primary reference for DB2. Craig Mullins is constantly being asked when it will support a new release.

DB2 Developer's Guide

The ABCs of IBM z/OS® System Programming is a 13-volume collection that provides an introduction to the z/OS operating system and the hardware architecture. Whether you are a beginner or an experienced system programmer, the ABCs collection provides the information that you need to start your research into z/OS and related subjects. The ABCs collection serves as a powerful technical tool to help you become more familiar with z/OS in your current environment, or to help you evaluate platforms to consolidate your e-business applications. This edition is updated to z/OS Version 2 Release 3. The other volumes contain the following content: Volume 1: Introduction to z/OS and storage concepts, TSO/E, ISPF, JCL, SDSF, and z/OS delivery and installation Volume 2: z/OS implementation and daily maintenance, defining subsystems, IBM Job Entry Subsystem 2 (JES2) and JES3, link pack area (LPA), LNKLST, authorized libraries, System Modification Program Extended (SMP/E), IBM Language Environment Volume 4: Communication Server, TCP/IP, and IBM VTAM® Volume 5: Base and IBM Parallel Sysplex®, System Logger, Resource Recovery Services (RRS), global resource serialization (GRS), z/OS system operations, automatic restart manager (ARM), IBM Geographically Dispersed Parallel SysplexTM (IBM GDPS) Volume 6: Introduction to security, IBM RACF®, Digital certificates and PKI, Kerberos, cryptography and z990 integrated cryptography, zSeries firewall technologies, LDAP, and Enterprise Identity Mapping (EIM) Volume 7: Printing in a z/OS environment, Infoprint Server, and Infoprint Central Volume 8: An introduction to z/OS problem diagnosis Volume 9: z/OS UNIX System Services Volume 10: Introduction to IBM z/Architecture®, the IBM Z platform, IBM Z connectivity, LPAR concepts, HCD, and DS Storage Solution. Volume 11: Capacity planning, performance management, WLM, IBM RMFTM, and SMF Volume 12: WLM Volume 13: JES3, JES3 SDSF

Mainframe Basics for Security Professionals

This textbook provides students with the background knowledge and skills necessary to begin using the basic functions and features of z/VM Version 5,

Release 3. It is part of a series of textbooks designed to introduce students to mainframe concepts and help prepare them for a career in large systems computing. For optimal learning, students are assumed to be literate in personal computing and have some computer science or information systems background. Others who will benefit from this textbook include z/OS professionals who would like to expand their knowledge of other aspects of the mainframe computing environment. This course can be used as a prerequisite to understanding Linux on System z. After reading this textbook and working through the exercises, the student will have received a basic understanding of the following topics: The Series z Hardware concept and the history of the mainframe Virtualization technology in general and how it is exploited by z/VM Operating systems that can run as guest systems under z/VM z/VM components The z/VM control program and commands The interactive environment under z/VM, CMS and its commands z/VM planning and administration Implementing the networking capabilities of z/VM Tools to monitor the performance of z/VM systems and guest operating systems The REXX programming language and CMS pipelines Security issues when running z/VM

ABCs of IBM z/OS System Programming

This IBM® Redbooks® publication provides a broad understanding of the changes, new features, and new functions introduced with IBM z/OS® Version 2 Release 1 (2.1). This new version marks a new era of z/OS. Version 2 lays the groundwork for the next tier of mainframe computing, enabling you to pursue the innovation to drive highly scalable workloads, including private clouds, support for mobile and social applications, and more. Its unrivaled security infrastructure helps secure vast amounts of data. Its highly optimized availability can help you deliver new data analytics solutions. And its continued improvements in management help automate the operations of IBM zEnterprise® systems. With support for IBM zEnterprise EC12 (zEC12, Enterprise Class) and zEnterprise BC12 (zBC12, Business Class) systems, z/OS 2.1 offers unmatched availability, scalability, and security to meet the business challenges of cloud services and data analytics and the security demands of mobile and social network applications. Through its unique design and qualities of service, z/OS provides the foundation that you need to support these demanding workloads alongside your traditional mission-critical applications. WinterShare 2014 presentation This presentation on z/OS V2.1 (June 2014) represents an update to the WinterShare 2014 presentation and reflects z/OS enhancements delivered since general availability last Fall. Please listen to John Eells of our Technical Strategy team present this one-hour comprehensive technical overview of z/OS V2.1. Audio Presentation (59MB) Corresponding charts

z/OS Version 2 Release 1 Technical Updates

Leverage Your Security Expertise in IBM® System z™ Mainframe Environments For over 40 years, the IBM mainframe has been the backbone of the world’s largest enterprises. If you’re coming to the IBM System z mainframe platform from UNIX ® , Linux ® , or Windows ® , you need practical guidance on leveraging its unique security capabilities. Now, IBM experts have written the first authoritative book on mainframe security specifically designed to build on your experience in other environments. Even if you’ve never logged onto a mainframe before, this book will teach you how to run today’s z/OS ® operating system command line and ISPF

toolset and use them to efficiently perform every significant security administration task. Don’t have a mainframe available for practice? The book contains step-by-step videos walking you through dozens of key techniques. Simply log in and register your book at www.ibmpressbooks.com/register to gain access to these videos. The authors illuminate the mainframe’s security model and call special attention to z/OS security techniques that differ from UNIX, Linux, and Windows. They thoroughly introduce IBM’s powerful Resource Access Control Facility (RACF) security subsystem and demonstrate how mainframe security integrates into your enterprise-wide IT security infrastructure. If you’re an experienced system administrator or security professional, there’s no faster way to extend your expertise into “big iron” environments. Coverage includes Mainframe basics: logging on, allocating and editing data sets, running JCL jobs, using UNIX System Services, and accessing documentation Creating, modifying, and deleting users and groups Protecting data sets, UNIX file system files, databases, transactions, and other resources Manipulating profiles and managing permissions Configuring the mainframe to log security events, filter them appropriately, and create usable reports Using auditing tools to capture static configuration data and dynamic events, identify weaknesses, and remedy them Creating limited-authority administrators: how, when, and why

ABCs of z/OS System Programming

The MVS Primer

IBM® Problem Determination (PD) Tools consists of a core group of IBM products that are designed to work with compilers and run times to provide a start-to-finish development solution for the IT professional. This IBM Redbooks® publication provides you with an introduction to the tools, guidance for program preparation to use with them, an overview of their integration, and several scenarios for their use. If an abend occurs during testing, Fault Analyzer enables the programmer to quickly and easily pinpoint the abending location and optionally, the failing line of code. Many times, this information is all the programmer requires to correct the problem. However, it might be necessary to delve a little deeper into the code to figure out the problem. Debug Tool allows the programmer to step through the code at whatever level is required to determine where the error was introduced or encountered. After the code or data is corrected, the same process is followed again until no errors are encountered. However, volume testing or testing with multiple terminals is sometimes required to ensure real-world reliability. Workload Simulator can be used to perform this type of testing. After all of the tests are completed, running the application by using Application Performance Analyzer can ensure that no performance bottlenecks are encountered. It also provides a baseline to ensure that future enhancements do not introduce new performance degradation into the application. This publication is intended for z/OS® application developers and system programmers.

Advanced ANSI COBOL with Structured Programming

Batch Modernization on Z/OS

As IBM® continues to enhance the functionality, performance, and availability of IBM Db2®, the utilities have made significant strides towards self-management. IBM Db2 for z/OS utilities is leading the trend towards autonomics. During the last couple of versions of Db2 for z/OS, and through the maintenance stream, new features and enhancements have been delivered to further improve the performance and functionality of the Db2 utilities. The intent of this IBM RedpaperTM publication is to help Db2 Database Administrators, Db2 System Programmers, and anyone who runs Db2 for z/OS utilities implement best practices. The intent of this paper is not to replicate the Db2 for z/OS Utilities Reference Guide or the Db2 for z/OS Installation Guide. This paper describes and informs you how to apply real-life practical preferred practices for the IBM Db2 for z/OS Utilities Suite. The paper concentrates on the enhancements provided by Db2 utilities, regardless of the version, albeit some functions and features are available only in Db2 12 for IBM z/OS®.

IBM z/OS V2R2: Storage Management and Utilities

ABCs of IBM z/OS System Programming

Introduction to the New Mainframe: z/OS Basics

This IBM® Redbooks® publication provides students of information systems technology with the background knowledge and skills necessary to begin using the basic facilities of a mainframe computer. It is the first in a planned series of book designed to introduce students to mainframe concepts and help prepare them for a career in large systems computing. For optimal learning, students are assumed to have successfully completed an introductory course in computer system concepts, such as computer organization and architecture, operating systems, data management, or data communications. They should also have successfully completed courses in one or more programming languages, and be PC literate. This book can also be used as a prerequisite for courses in advanced topics or for internships and special studies. It is not intended to be a complete text covering all aspects of mainframe operation or a reference book that discusses every feature and option of the mainframe facilities. Others who will benefit from this book include experienced data processing professionals who have worked with non-mainframe platforms, or who are familiar with some aspects of the mainframe but want to become knowledgeable with other facilities and benefits of the mainframe environment.

Commercial Software Engineering

Brown and Smith bring your knowledge of VSAM up-to-date. This manual covers all of the many recent changes to VSAM. The detailed, clear explanations provide the background you need to understand VSAM. Lots of examples reinforce the text and provide prototypes to help you understand quickly how to code needed functions.

Getting Started with z/OS Data Set Encryption

Explains COBOL as it exists in the new ANSI standard. Designed for advanced programmers, it eases the transition from general programming training to the programming done in business applications using COBOL. Through hundreds of practical examples, it explores the intricacies of COBOL without spending a lot of time on basic computer concepts. With an emphasis on cross-system application and development, it describes both IBM's VS COBOL II for the mainframe environment and Microsoft's COBOL for the personal computer.

z/OS Traditional Application Maintenance and Support

The ABCs of z/OS System Programming is a thirteen-volume collection that provides an introduction to the z/OS operating system and the hardware architecture. Whether you are a beginner or an experienced system programmer, the ABCs collection provides the information that you need to start your research into z/OS and related subjects. If you want to become more familiar with z/OS in your current environment, or if you are evaluating platforms to consolidate your e-business applications, the ABCs collection will serve as a powerful technical tool. The contents of the volumes are: Volume 1: Introduction to z/OS and storage concepts, TSO/E, ISPF, JCL, SDSF, and z/OS delivery and installation Volume 2: z/OS implementation and daily maintenance, defining subsystems, JES2 and JES3, LPA, LNKLST, authorized libraries, Language Environment, and SMP/E Volume 3: Introduction to DFSMS, data set basics, storage management hardware and software, VSAM, System-Managed Storage, catalogs, and DFSMStvs Volume 4: Communication Server, TCP/IP and VTAM Volume 5: Base and Parallel Sysplex , System Logger, Resource Recovery Services (RRS), global resource serialization (GRS), z/OS system operations, automatic restart management (ARM), Geographically Dispersed Parallel Sysplex (GPDS), availability in the zSeries environment Volume 6: Introduction to security, RACF , Digital certificates and PKI, Kerberos, cryptography and z990 integrated cryptography, zSeries firewall technologies, LDAP, Enterprise Identity Mapping (EIM), and firewall technologies Volume 7: Printing in a z/OS environment, Infoprint Server and Infoprint Central Volume 8: An introduction to z/OS problem diagnosis Volume 9: z/OS UNIX System Services Volume 10: Introduction to z/Architecture, zSeries processor design, zSeries connectivity, LPAR concepts, HCD, and HMC Volume 11: Capacity planning, performance management, RMF, and SMF Volume 12: WLM Volume 13: JES3

VS COBOL II Application Programming

This Dictionary covers information and communication technology (ICT), including hardware and software; information networks, including the Internet and the World Wide Web; automatic control; and ICT-related computer-aided fields. The Dictionary also lists abbreviated names of relevant organizations, conferences, symposia and workshops. This reference is important for all practitioners and users in the areas mentioned above, and those who consult or write technical material. This Second Edition contains 10,000 new entries, for a total of 33,000.

Db2 for z/OS Utilities in Practice

MVS JCL & Utilities

VS COBOL II

IBM Problem Determination Tools for z/OS

This IBM® RedpaperTM publication shows you how to speed up batch jobs by splitting them into near-identical instances (sometimes referred to as). It is a practical guide, which is based on the authors' testing experiences with a batch job that is similar to those jobs that are found in customer applications. This guide documents the issues that the team encountered and how the issues were resolved. The final tuned implementation produced better results than the initial traditional implementation. Because job splitting often requires application code changes, this guide includes a description of some aspects of application modernization you might consider if you must modify your application. The authors mirror the intended audience for this paper because they are specialists in IBM DB2®, IBM Tivoli® Workload Scheduler for z/OS®, and z/OS batch performance.

Assembler for COBOL Programmers

DB2 9 for Z/OS Stored Procedures

This book provides a detailed look at the specialized skills and knowledge required to become a MVS systems programmer. It reveals practical tips and guidelines for installing, running, and maintaining an MVS System, and adds a wealth of commonsense advice and rules of good practice from a seasoned MVS pro.

DB2 Developer's Guide

Guidelines for making performance and cost trade-offs in MVS I/O subsystem designs. Readers will find explanations of design alternatives, measurement techniques for identifying problems in existing configurations, and modeling techniques that can be used to analyze the strengths and weaknesses of possible alternatives.

Optimizing System z Batch Applications by Exploiting Parallelism

Dictionary of Acronyms and Technical Abbreviations

This IBM® Redbooks® publication provides a broad explanation of data protection through encryption and IBM Z® pervasive encryption with a focus on IBM z/OS® data set encryption. It describes how the various hardware and software

components interact in a z/OS data set encryption environment. In addition, this book concentrates on the planning and preparing of the environment and offers implementation, configuration, and operational examples that can be used in z/OS data set encryption environments. This publication is intended for IT architects, system programmer, and security administrators who plan for, deploy, and manage security on the Z platform. The reader is expected to have a basic understanding of IBM Z security concepts.

High Availability and Scalability of Mainframe Environments Using System Z and Z/OS as Example

Introduction to the New Mainframe: z/VM Basics

A Practical Guide to ICF Catalogs

This IBM® Redbooks® publication helps you to become familiar with the technical changes that were introduced into the Storage Management and Utilities areas with IBM z/OS V2R2. This book is one of a series of IBM Redbooks that take a modular approach to providing information about the updates that are included with z/OS V2R2. This approach has the following goals: - Provide modular content - Group the technical changes into a topic - Provide a more streamlined way of finding relevant information that is based on the topic We hope you find this approach useful and we welcome your feedback.

System Programmer's Guide to Z/OS System Logger

The ABCs of IBM® z/OS® System Programming is a 13-volume collection that provides an introduction to the z/OS operating system and the hardware architecture. Whether you are a beginner or an experienced system programmer, the ABCs collection provides the information that you need to start your research into z/OS and related subjects. Whether you want to become more familiar with z/OS in your current environment, or you are evaluating platforms to consolidate your online business applications, the ABCs collection will serve as a powerful technical tool. Volume 1 provides an updated understanding of the software and IBM zSeries architecture, and explains how it is used together with the z/OS operating system. This includes the main components of z/OS needed to customize and install the z/OS operating system. This edition has been significantly updated and revised.

MVS Systems Programming

ADY - IEB

MVS, JCL, and Utilities

The rapid growth of big data and the storage of all that data is creating a critical problem for many organizations with IBM® z SystemsTM environments. This situation occurs because the data that is stored is using all of the addressable device storage that is available. This IBM RedpaperTM publication describes how extended addressable volume (EAV) for IBM 3390 Direct Access Storage Device (DASD) devices can solve the lack of addressable device storage space problem. The paper also describes the design points of EAV, the value of implementing EAV, and the use of EAV.

DFSORT

IBM® Information Management System (IMSTM) provides leadership in performance, reliability, and security to help you implement the most strategic and critical enterprise applications. IMS, IMS utilities, and IMS tools continue to evolve to provide value and meet the needs of enterprise customers. With IMS 12, integration and open access improvements provide flexibility and support business growth requirements. Scalability improvements have been made to the well-known performance, efficiency, availability, and resilience of IMS by using 64-bit storage. In this IBM Redbooks® publication we provide IMS performance monitoring and tuning information by describing the key IMS performance functions and by showing how to monitor and tune them with traditional and new strategic applications. This book is for database administrators and system programmers. We summarize methods and tools for monitoring and tuning IMS systems, describe IMS system-wide performance, database, and transaction considerations. Based on lab measurements, we provide information about recent performance enhancements that are available with IMS 12, and advice about setting performance-related parameters.

DFSMS: Extended Address Volume

In this IBM® Redbooks® publication, we attempt to provide fresh insight into a problem domain that, in the authors' opinions, has been pushed to the back burner of technology writing for far too long—the domain of z/OS® (traditional) mainframe maintenance and production support. Since the mid-1980's, outside of a few websites and publications, this still-critical area of software has barely even received lip service by the world of mainstream technology media. In a small way, we are attempting address this situation. In this book, we provide information in "what and how to" sections on the value of z/OS maintenance and support—not the value of the software, which is hardly in question, but the value of the software developers, and how they collaborate, analyze, code, and test the applications, fixes, and enhancements under their responsibility. We present new 21st Century tools to help them achieve their goals more easily and effectively. These tools integrate and provide a 1 + 1 + 1 = 5 value-proposition, for companies that are still doing work the way they did when in the mid-1970's, when Gerald Ford was president of the United States. We are also describing, to a lesser extent, how you can effectively integrate the new tools with your existing development software stack, in order to find points of complimentary functionality. And we describe the new agile development and maintenance methodologies, and best practices for tools use and adoption. We hope that you find this work useful, and perhaps that it can fuel more discussion, future Redbooks publications, and other publications by

IBM, or any vendor or group interested in this critical and vastly under-acknowledged technology domain.

z/OS Version 1 Release 12 Implementation

Covers data structures, SQL, stored procedures, programming/language environments, debugging, tuning, and much more; a full section on object-relational programming and other advanced techniques; and more. The CD-ROM included with this book contains a complete DB2 UDB V7.1 Family Application Development Exam (#514), and more.

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION