Ibm Datapower Xi50 Documentation

This IBM® Redbooks® publication brings together subject matter experts with experience using the leading IBM customer interaction platform for cross-channel and online commerce, IBM WebSphere® Commerce, with the powerful IBM Sterling Order Management, which coordinates order fulfillment from all channels and across the extended enterprise. An integrated solution was built in the lab that illustrates how these products can be integrated to benefit IBM customers. This publication focuses on the integration of the IBM high-volume commerce solution designed to address enterprise commerce needs by delivering a rich, robust multi-channel customer experience, with Sterling Order Management, designed to enable supplier collaboration with management and order fulfillment process optimization. By integrating WebSphere Commerce and Sterling Order Management with out-of-the-box components, we prove that customers are provided an end-to-end solution to address a complete opportunity for a fulfillment life cycle that is cost effective and easy to implement. This publication targets a technical audience for the documentation of the integration approach by explaining the solution architecture and the implementation details. However, this publication also contains introductory chapters that contain executive summary material and provides well-documented scenarios with use cases for business analysts whose domain would be these systems.

In the dynamic business environment of today, Information Technology (IT) organizations face challenges around scalability and performance. This IBM® Redbooks® publication is targeted for IT architects, IT personnel, and developers who are looking to integrate caching technologies, specifically elastic caching, into their business environment to enhance scalability and performance. Although it is helpful to know caching technologies, an introduction to caching technologies in general is included. In addition, technical details are provided about implementing caching by using several IBM products. The IBM WebSphere® eXtreme Scale product provides several functions to enhance application performance and scalability. It provides distributed object caching functionality, which is essential for elastic scalability and next-generation cloud environments. It helps applications process massive volumes of transactions with extreme efficiency and linear scalability. By using the scalable in-memory data grid, enterprises can benefit from a powerful, high-performance elastic cache. The IBM WebSphere DataPower® XC10 Appliance enables your business-critical applications to scale cost effectively with consistent performance by using elastic caching in a purpose-built, easy-to-use appliance. This publication explains the benefits of using various caching techniques in your enterprise, specifically involving the use of IBM WebSphere eXtreme Scale and the IBM WebSphere DataPower XC10 Appliance. Three real-world scenarios are described that use these enterprise caching technologies to solve issues that face the businesses of today.

IBM® DB2® Version 10.1 for z/OS® (DB2 10 for z/OS or just DB2 10 throughout this book) is the fourteenth release of DB2 for MVSTM. It brings improved performance and synergy with the System z® hardware and more opportunities to drive business value in the following areas: Cost savings and compliance through optimized innovations DB2 10 delivers value in this area by achieving up to 10% CPU savings for traditional workloads and up to 20% CPU savings for nontraditional workloads, depending on the environments. Synergy with other IBM System z platform components reduces CPU use by taking advantage of the latest processor improvements and z/OS enhancements. Streamline security and regulatory compliance through the separation of roles between security and data administrators, column level security access, and added auditing capabilities. Business insight innovations Productivity improvements are provided by new functions available for pureXML®, data warehousing, and traditional online TP applications Enhanced support for key business partners that allow you to get more from your data in critical business disciplines like ERP Bitemporal support for applications that need to correlate the validity of data with time. Business resiliency innovations Database on demand capabilities to ensure that information design can be changed dynamically, often without database outages DB2 operations and utility improvements enhancing performance, usability, and availability by exploiting disk storage technology. The DB2 10 environment is available either for brand new installations of DB2, or for migrations from DB2 9 for z/OS or from DB2 UDB for z/OS Version 8 subsystems. This IBM Redbooks® publication introduces the enhancements made available with DB2 10 for z/OS. The contents help you understand the new functions and performance enhancements, start planning for exploiting the key new capabilities, and justify the investment in installing or migrating or skip migrating to DB2 10.

This IBM® Redbooks® publication is for anyone needing to increase WebSphere® messaging availability, especially people interested in the new capabilities of WebSphere MQ and WebSphere Message Broker. It discusses and demonstrates solutions to provide high availability for WebSphere Messaging solutions. For the distributed platforms, this ranges from the traditional PowerHATM for AIX® to the new WebSphere MQ multi-instance queue managers and WebSphere Message Broker multi-instance brokers. For the appliance users, we included solutions for WebSphere DataPower®. For enterprises that need continuous availability of WebSphere MQ messages, MQ Queue Sharing Groups and the CICS® Group Attach features are demonstrated. The book includes guidance on HA options, such as when you might need PowerHA (or a similar solution for your platform), when the multi-instance features work for your applications, and when duplexing the coupling facility structures might be appropriate.

DataPower Architectural Design Patterns

WebSphere Application Server V7: Competitive Migration Guide

DataPower SOA Appliance Service Planning, Implementation, and Best Practices

Simplifying Integration with IBM WebSphere DataPower Integration Appliance XI50 for zEnterprise

IBM WebSphere Transformation Extender 8.2

For more than 40 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. IBM System z®, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors in providing, among many other capabilities, world-class and state-of-the-art support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for ever more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance about how to enable the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication is for people who install and support z/OS Communications Server. It explains how to set up security for your z/OS networking environment. Network security requirements have become more stringent and complex. Because many transactions are from unknown users and untrusted networks, careful attention must be given to host and user authentication, data privacy, data origin authentication, and data

integrity. Also, because security technologies are complex and can be confusing, we include helpful tutorial information in the appendixes of this book.

Expert Guide to Deploying, Using, and Managing DataPower SOA Appliances IBM® WebSphere® DataPower® appliances can simplify SOA deployment, strengthen SOA security, enhance SOA performance, and dramatically improve SOA return on investment. In this book, a team of IBM's leading experts show how to make the most of DataPower SOA appliances in any IT environment. The authors present IBM DataPower information and insights that are available nowhere else. Writing for working architects, administrators, and security specialists, they draw extensively on their deep experience helping IBM customers use DataPower technologies to solve challenging system integration problems. IBM WebSphere DataPower SOA Appliance Handbook begins by introducing the rationale for SOA appliances and explaining how DataPower appliances work from network, security, and Enterprise Service Bus perspectives. Next, the authors walk through DataPower installation and configuration; then they present deep detail on DataPower's role and use as a network device. Using many real-world examples, the authors systematically introduce the services available on DataPower devices, especially the "big three": XML Firewall, Web Service Proxy, and Multi-Protocol Gateway. They also present thorough and practical guidance on day-to-day DataPower management, including, monitoring, configuration build and deploy techniques. Coverage includes • Configuring DataPower's network interfaces for common scenarios • Implementing DataPower deployment patterns for security gateway, ESB, and Web service management applications • Proxying Web applications with DataPower • Systematically addressing the security vulnerabilities associated with Web services and XML • Integrating security with WebSphere Application Server • Mastering DataPower XSLT custom programming • Troubleshooting using both built-in and external tools

For more than 50 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases, and mission-critical enterprise-wide applications. IBM z® Systems, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors in providing, among many other capabilities, world-class and state-of-the-art support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for ever more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance about how to enable the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication is for people who install and support z/OS Communications Server. It explains how to set up security for your z/OS networking environment. With the advent of TCP/IP and the Internet, network security requirements have become more stringent and complex. Because many transactions are from unknown users and untrusted networks such as the Internet, careful attention must be given to host and user authentication, data privacy, data origin authentication, and data integrity. Also, because security technologies are complex and can be confusing, we include helpful tutorial information in the appendixes of this book. For more information about z/OS Communications Server base functions, standard applications, and high availability, see the other following volumes in the series: IBM z/OS V2R2 Communications Server TCP/IP Implementation Volume 1: Base Functions, Connectivity, and Routing, SG24-8360 IBM z/OS V2R2 Communications Server TCP/IP Implementation Volume 2: Standard Applications, SG24-8361 IBM z/OS V2R2 Communications Server TCP/IP Implementation Volume 3: High Availability, Scalability, and Performance, SG24-8362 This book does not duplicate the information in these publications. Instead, it complements those publications with practical implementation scenarios that might be useful in your environment. For more information about at what level a specific function was introduced, see z/OS Communications Server: New Function Summary, GC31-8771.

This IBM® Redbooks® publication provides you with a path to demystify the complexity of adopting a service-oriented architecture (SOA) approach to integrating applications and services. With an iterative evolution of a fictitious company, which is called ITSO Enterprise, we demonstrate several scenarios about how we can implement an IBM Smart SOA approach that helps ITSO Enterprise to achieve its business goals to be a global interconnected enterprise, one step at a time. It is not our intention to dive into the extremely technical details of every product or to tell you specific solutions for specific problems, but rather, to advise you about how to look at these problems from a business context perspective and then to provide you with a concise deployment using the IBM WebSphere® Connectivity portfolio of products to easily address them. This book will be a reference for IT Specialists and IT Architects working on implementing Smart SOA solutions using the IBM WebSphere Connectivity portfolio of products at client sites, as well as for decision makers, IBM employees, IBM Business Partners, and IT Managers.

High Availability in WebSphere Messaging Solutions
IBM z/OS V2R2 Communications Server TCP/IP Implementation: Volume 4 Security and Policy-Based Networking
Transaction Processing: Past, Present, and Future
IBM zEnterprise EC12 Technical Guide

This IBM® Redbooks® publication will help you to better understand the effective use of the WebSphere® DataPower® family of appliances. It provides guidance on the best methods identified to date for building the various components that implement solutions, such as handling MQ-based message flows or creating authentication and authorization policies. The information and recommendations in this publication are the result of real world experiences using the appliances. Such experience shows that taking the time to plan a solution implementation before beginning the work yields the greatest savings in time and energy and the highest quality outcome. This publication begins with a checklist of items to consider when planning a DataPower solution. This publication is intended to provide answers or guidance to implementation problems often encountered by users of the appliance. This book is not intended to present complete solutions or templates because experience shows that every customer uses the appliance in their own unique environment with unique requirements. Thus, this publication provides a compendium of information about particular aspects of a solution. Use the Table of Contents or Index to find your current issue, and return to this publication when the next issue or question arises. Refer to the related IBM Redbooks publication entitled DataPower SOA Appliance Administration, Deployment, and Best Practices, SG24-7901 for more information.
The popularity of the Internet and the affordability of IT hardware and software have resulted in an explosion of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on a variety of platforms, and the System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. The zEnterprise System consists of the IBM zEnterprise 196 central processor complex, the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension. The z196 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The z196 Model M80 provides up to 1.6 times the total system capacity of the z10TM EC Model E64, and all z196 models provide up to twice the available memory of the z10 EC. The zBX infrastructure works with the z196 to enhance System z virtualization and management through an integrated hardware platform that spans mainframe, POWER7TM, and System x® technologies. Through the Unified Resource Manager, the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment. This IBM® Redbooks® publication provides an overview of the zEnterprise System and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. This book is intended for systems engineers, consultants, planners, and anyone wanting to understand the zEnterprise System functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z technology and terminology. The changes to this edition are based on the System z hardware announcement dated July 12, 2011.
Securing access to information is important to any business. Security becomes even more critical for implementations structured according to Service-Oriented Architecture (SOA) principles, due to loose coupling of services and applications, and their possible operations across trust boundaries. To enable a business so that its processes and applications are flexible, you must start by expecting changes – both to process and application logic, as well as to the policies associated with them. Merely securing the perimeter is not sufficient for a flexible on demand business. In this IBM Redbooks publication, security is factored into the SOA life cycle reflecting the fact that security is a business requirement, and not just a technology attribute. We discuss an SOA security model that captures the essence of security services and securing services. These approaches to SOA security are discussed in the context of some scenarios, and observed patterns. We also discuss a reference model to address the requirements, patterns of deployment, and usage, and an approach to an integrated security management for SOA. This book is a valuable resource to senior security officers, architects, and security administrators.
The popularity of the Internet and the affordability of IT hardware and software have resulted in an explosion of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on a variety of platforms, and the System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. This IBM® Redbooks® publication discusses the IBM zEnterprise System, an IBM scalable mainframe server. IBM is taking a revolutionary approach by integrating separate platforms under the well-proven System z hardware management capabilities, while extending System z qualities of service to those platforms. The zEnterprise System consists of the IBM zEnterprise 114 central processor complex, the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension. The z114 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The z114 provides up to 18% improvement in uniprocessor speed and up to a 12% increase in total system capacity for z/OS®, z/VM®, and Linux on System z over the z10TM Business Class (BC). The zBX infrastructure works with the z114 to enhance System z virtualization and management through an integrated hardware platform that spans mainframe, POWER7TM, and System x technologies. The federated capacity from multiple architectures of the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment through the Unified Resource Manager. This book provides an overview of the zEnterprise System and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. This book is intended for systems engineers, consultants, planners, and anyone wanting to understand the zEnterprise System functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z technology and terminology.
IBM and Cisco: Together for a World Class Data Center
IBM Security Solutions Architecture for Network, Server and Endpoint
DB2 10 for z/OS Technical Overview
IBM z/OS V1R13 Communications Server TCP/IP Implementation: Volume 4 Security and Policy-Based Networking
IBM z/OS V2R1 Communications Server TCP/IP Implementation Volume 4: Security and Policy-Based Networking

The popularity of the Internet and the affordability of information technology (IT) hardware and software have resulted in an explosion dramatic increase in the number of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on a variety of platforms, and the IBM® System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. This IBM Redbooks® publication provides information about the IBM zEnterprise® BC12 (zBC12), an IBM scalable mainframe server. IBM is taking a revolutionary approach by integrating separate platforms under the well-proven System z hardware management capabilities, while extending System z qualities of service to those platforms. The zEnterprise System consists of the zBC12 central processor complex, the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension (zBX). The zBC12 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The zBC12 provides the following improvements over its predecessor, the IBM zEnterprise 114 (z114): Up to a 36% performance boost per core running at 4.2 GHz Up to 58% more capacity for traditional workloads Up to 62% more capacity for Linux workloads The zBX infrastructure works with the zBC12 to enhance System z virtualization and management through an integrated hardware platform that spans mainframe, IBM POWER7®, and IBM System x® technologies. The federated capacity from multiple architectures of the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment through the Unified Resource Manager. This book provides an overview of the zBC12 and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. This book is intended for systems engineers, consultants, planners, and anyone who wants to understand zEnterprise System functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z technology and terminology.

IBM WebSphere® eXtreme Scale provides a solution to scalability issues through caching and grid technology. It provides an enhanced quality of service in high performance computing environments. This IBM® Redbooks® publication introduces WebSphere eXtreme Scale and shows how to set up and use an eXtreme Scale environment. It begins with a discussion of the issues that would lead you to an eXtreme Scale solution. It then describes the architecture of eXtreme Scale to help you understand how the product works. It provides information about potential grid topologies, the APIs used by applications to access the grid, and application scenarios that show how to effectively use the grid. This book is intended for architects who want to implement WebSphere eXtreme Scale. The original edition of this book was based on WebSphere eXtreme Scale version 6.1. It was published in 2008 and described as a "User's Guide". This second edition updates the information based on WebSphere eXtreme Scale version 8.6, and covers key concepts and usage scenarios.

This IBM Redbooks® publication gives a broad understanding of several important concepts that are used when describing IBM CICS Transaction Server (TS) for IBM z/OS (CICS TS) performance. This publication also describes many of the significant performance improvements that can be realized by upgrading your environment to the most recent release of CICS TS. This book targets the following audience: Systems Architects wanting to understand the performance characteristics and capabilities of a specific CICS TS release. Capacity Planners and Performance Analysts wanting to understand how an upgrade to the latest release of CICS TS affects their environment. Application Developers wanting to design and code highly optimized applications for deployment into a CICS TS environment. This book covers the following topics: A description of the factors that are involved in the interaction between IBM z® Systems hardware and a z/OS software environment. A definition of key terminology that is used when describing the results of CICS TS performance benchmarks. A presentation of how to collect the required data (and the methodology used) when applying Large Scale Performance Reference (LSPR) capacity information to a CICS workload in your environment. An outline of the techniques that are applied by the CICS TS performance team to achieve consistent and accurate performance benchmark results. High-level descriptions of several key workloads that are used to determine the performance characteristics of a CICS TS release. An introduction to the open transaction environment and task control block (TCB) management logic in CICS TS, including a reference that describes how several configuration attributes combine to affect the behavior of the CICS TS dispatcher. Detailed information that relates to changes in performance characteristics between successive CICS TS releases, covering comparisons that relate to CICS TS V4.2, V5.1, V5.2, V5.3, V5.4, and V5.5. The results of several small performance studies to determine the cost of using a specific CICS functional area.

Threats come from a variety of sources. Insider threats, as well as malicious hackers, are not only difficult to detect and prevent, but many times the authors of these threats are using resources without anybody being aware that those threats are there. Threats would not be harmful if there were no vulnerabilities that could be exploited. With IT environments becoming more complex every day, the challenges to keep an eye on all potential weaknesses are skyrocketing. Smart methods to detect threats and vulnerabilities, as well as highly efficient approaches to analysis, mitigation, and remediation, become necessary to counter a growing number of attacks against networks, servers, and endpoints in every organization. In this IBM® Redbooks® publication, we examine the aspects of the holistic Threat and Vulnerability Management component in the Network, Server and Endpoint domain of the IBM Security Framework. We explain the comprehensive solution approach, identify business drivers and issues, and derive corresponding functional and technical requirements, which enables us to choose and create matching security solutions. We discuss IBM Security Solutions for Network, Server and Endpoint to effectively counter threats and attacks using a range of protection technologies and service offerings. Using two customer scenarios, we apply the solution design approach and show how to address the customer requirements by identifying the corresponding IBM service and software products.

IBM CICS Performance Series: CICS TS for z/OS V5 Performance Report

IBM zEnterprise System Technical Introduction

Understanding SOA Security Design and Implementation

Integrating and Securing Services Across Domains

IBM z/OS V1R11 Communications Server TCP/IP Implementation Volume 4: Security and Policy-Based Networking

DataPower SOA Appliance Administration, Deployment, and Best PracticesIBM Redbooks

This IBM® Redbooks® publication describes how the IBM WebSphere® ILOG JRules product can be used in association with other IBM middleware products to deliver better solutions. This book can help architects position a business rule management system (BRMS) in their existing infrastructures to deliver the value propositions that the business needs. This book can also help developers design and integrate JRules with those middleware products (focussing on WebSphere Process Server, WebSphere Message Broker and IBM CICS®) and help to illustrate common integration patterns and practices for these products.

This IBM® RedpaperTM publication illustrates how the IBM WebSphere DataPower Integration Appliance XI50 for zEnterprise provides a secure, fast, cost-effective, easy-to-manage, all-in-one enterprise application integration solution. On top of all the benefits that the DataPower XI50 and XI52 already provide, incorporating the DataPower XI50z into zEnterprise also provides a number of additional benefits: - Exploitation of the high-speed intraensemble data network (IEDN) connecting the zEnterprise Blade Extension (zBX) with the zEnterprise central processor complex (CPC), either a zEnterprise 196 (z196) or zEnterprise 114 (z114) - Secure incorporation of the DataPower XI50z appliance into a virtual local area network (VLAN) on the zBX - Unified management of the DataPower XI50z, along with other blades and optimizers using a common management tool - A centralized computing model, resulting in more efficient use of floor space, lower energy costs, and a lower total cost of ownership (TCO) The DataPower XI50z provides a variety of powerful integration scenarios specifically for older mainframe applications, making it a natural choice to include the appliance in your centralized zEnterprise server. This publication is intended for potential and actual users of the DataPower XI50z.

For more than 40 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. The IBM System z® provides world class and state-of-the-art support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer, organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for ever more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS® Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance about how to enable the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication explains how to set up security for the z/OS networking environment. Network security requirements have become more stringent and complex. Because many transactions come from unknown users and untrusted networks, careful attention must be given to host and user authentication, data privacy, data origin authentication, and data integrity. We also include helpful tutorial information in the appendixes of this book because security technologies can be quite complex, For more specific information about z/OS Communications Server base functions, standard applications, and high availability, refer to the other volumes in the series.

DataPower Networking

IBM z13 Technical Guide

IBM zEnterprise 196 Technical Guide

Set Up Security and Integration with the DataPower XI50z for zEnterprise

Smart SOA Connectivity Patterns: Unleash the Power of IBM WebSphere Connectivity Portfolio

The popularity of the Internet and the affordability of IT hardware and software have resulted in an explosion of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on various platforms, and the IBM® System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. This IBM Redbooks® publication addresses the new IBM zEnterprise® System. This system consists of the IBM zEnterprise EC12 (zEC12), an updated IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension (zBX) Model 003. The zEC12 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows the zEC12 to deliver a record level of capacity over the prior System z servers. It is powered by 120 of the world's most powerful microprocessors. These microprocessors run at 5.5 GHz and are capable of running more than 75,000 millions of instructions per second (MIPS). The zEC12 Model HA1 is estimated to provide up to 50% more total system capacity than the IBM zEnterprise 196 (z196) Model M80. The zBX Model 003 infrastructure works with the zEC12 to enhance System z virtualization and management. It does so through an integrated hardware platform that spans mainframe, IBM POWER7®, and IBM System x® technologies. Through the Unified Resource Manager, the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment. This book provides information about the zEnterprise System and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the zEnterprise System functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z® technology and terminology.

This IBM® Redbooks® publication focuses on operational and managerial aspects for DataPower® appliance deployments. DataPower appliances provide functionality that crosses both functional and organizational boundaries, which introduces unique management and operational challenges. For example, a DataPower appliance can provide network functionality, such as load balancing, and at the same time, provide enterprise service bus (ESB) capabilities, such as transformation and intelligent content-based routing. This IBM Redbooks publication provides guidance at both a general and technical level for individuals who are responsible for planning, installation, development, and deployment. It is not intended to be a "how-to" guide, but rather to help educate you about the various options and methodologies that apply to DataPower appliances. In addition, many chapters provide a list of suggestions.

This IBM® Redbooks® publication teaches you how to automate your runtime policy by using a centralized policy management system. The SOA Policy Solution provides a centralized policy administration, enforcement, and monitoring for runtime policies that enable traffic management for service level agreement enforcement, service mediation, and other customized policies. Policies can be defined once and reused among multiple services, thus enabling a standardized, consistent approach to a runtime policy that saves time and money for implementation and maintenance of non-functional requirements for

the enterprise and assists with faster time to market. Business users can use the SOA Policy Solution to help create the service level agreements for their business services to deliver on promises for business performance. IT Architects can use the SOA Policy Solution to architect the policy solution patterns that standardize the runtime policy usage at their organization. Developers select specific policy patterns to implement the non-functional requirements that are associated with their projects. Operations groups provide information about operation needs and create standardized monitoring policy for operational action at run time.

Many large and medium-sized organizations have made strategic investments in the SAP NetWeaver technology platform as their primary application platform. In fact, SAP software is used to manage many core business processes and data. As a result, it is critical for all organizations to manage the life cycle of user access to the SAP applications while adhering to security and risk compliance requirements. In this IBM® Redbooks® publication, we discuss the integration points into SAP solutions that are supported by the IBM Security access and identity management product capabilities. IBM Security software offers a range of identity management (IdM) adapters and access management components for SAP solutions that are available with IBM Tivoli® Identity Manager, IBM Tivoli Directory Integrator, IBM Tivoli Directory Server, IBM Access Manager for e-business, IBM Tivoli Access Manager for Enterprise Single Sign-On, and IBM Tivoli Federated Identity Manager. This book is a valuable resource for security officers, consultants, administrators, and architects who want to understand and implement an identity management solution for an SAP environment.

IBM zEnterprise BC12 Technical Guide

IBM zEnterprise 114 Technical Guide

DataPower SOA Appliance Administration, Deployment, and Best Practices

Patterns: Integrating WebSphere ILOG JRules with IBM Software

SOA Policy, Service Gateway, and SLA Management

Digital business has been driving the transformation of underlying information technology (IT) infrastructure to be more efficient, secure, adaptive, and integrated. IT must be able to handle the explosive growth of mobile clients and employees. It also must be able to process enormous amounts of data to provide deep and real-time insights to help achieve the greatest business impact. This IBM® Redbooks® publication addresses the new IBM z SystemsTM single frame, the IBM z13s server. IBM z Systems servers are the trusted enterprise platform for integrating data, transactions, and insight. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It needs to be an integrated infrastructure that can support new applications. It also needs to have integrated capabilities that can provide new mobile capabilities with real-time analytics delivered by a secure cloud infrastructure. IBM z13s servers are designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows z13s servers to deliver a record level of capacity over the prior single frame z Systems server. In its maximum configuration, the z13s server is powered by up to 20 client characterizable microprocessors (cores) running at 4.3 GHz. This configuration can run more than 18,000 millions of instructions per second (MIPS) and up to 4 TB of client memory. The IBM z13s Model N20 is estimated to provide up to 100% more total system capacity than the IBM zEnterprise® BC12 Model H13. This book provides information about the IBM z13s server and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM z SystemsTM functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM z Systems technology and terminology.

Note: This PDF is over 900 pages, so when you open it with Adobe Reader and then do a "Save As", the save process could time out. Instead, right-click on the PDF and select "Save Target As". For more than 40 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. The IBM System z®, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors, providing, among many other capabilities, world-class, state-of-the-art, support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer, organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for ever more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance about how to enable the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication explains how to set up security for your z/OS networking environment. With the advent of TCP/IP and the Internet, network security requirements have become more stringent and complex. Because many transactions come from unknown users and from untrusted networks such as the Internet, careful attention must be given to host and user authentication, data privacy, data origin authentication, and data integrity. Also, because security technologies are complex and can be confusing, we include helpful tutorial information in the appendixes of this book. For more specific information about z/OS Communications Server base functions, standard applications, and high availability, refer to the other volumes in the series: "IBM z/OS V1R11 Communications Server TCP/IP Implementation Volume 1: Base Functions, Connectivity, and Routing," SG24-7798 "IBM z/OS V1R11 Communications Server TCP/IP Implementation Volume 2: Standard Applications," SG24-7799 "IBM z/OS V1R11 Communications Server TCP/IP Implementation Volume 3: High Availability, Scalability, and Performance," SG24-7800 In addition, "z/OS Communications Server: IP Configuration Guide," SC31-8775, "z/OS Communications Server: IP Configuration Reference," SC31-8776, and "z/OS Communications Server: IP User's Guide and Commands," SC31-8780, contain comprehensive descriptions of the individual parameters for setting up and using the functions that we describe in this book. They also include step-by-step checklists and supporting examples. It is not the intent of this book to duplicate the information in those publications, but to complement them with practical implementation scenarios that might be useful in your environment. To determine at what level a specific function was introduced, refer to "z/OS Communications Server: New Function Summary," GC31-8771.

In a smarter planet, information-centric processes are exploding in growth. The mainframe has always been the IT industry's leading platform for transaction processing, consolidated and secure data serving, and support for available enterprise-wide applications. IBM® has extended the mainframe platform to help large enterprises reshape their client experiences through information-centric computing and to deliver on key business initiatives. IBM zEnterprise® is recognized as the most reliable and trusted system, and the most secure environment for core business operations. The new zEnterprise System

consists of the IBM zEnterprise EC12 (zEC12) or IBM zEnterprise BC12 (zBC12), the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise IBM BladeCenter® Extension (zBX) Model 003. This IBM Redbooks® publication describes the zEC12 and zBC12, with their improved scalability, performance, security, resiliency, availability, and virtualization. The zEnterprise System has no peer as a trusted platform that also provides the most efficient transaction processing and database management. With efficiency at scale delivering significant cost savings on core processes, resources can be freed up to focus on developing new services to drive growth. This book provides a technical overview of the zEC12, zBC12, zBX Model 003, and Unified Resource Manager. This publication is intended for IT managers, architects, consultants, and anyone else who wants to understand the elements of the zEnterprise System. For this introduction to the zEnterprise System, readers are not expected to be familiar with current IBM System z® technology and terminology.

Digital business has been driving the transformation of underlying IT infrastructure to be more efficient, secure, adaptive, and integrated. Information Technology (IT) must be able to handle the explosive growth of mobile clients and employees. IT also must be able to use enormous amounts of data to provide deep and real-time insights to help achieve the greatest business impact. This IBM® Redbooks® publication addresses the IBM Mainframe, the IBM z13TM. The IBM z13 is the trusted enterprise platform for integrating data, transactions, and insight. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It needs to be an integrated infrastructure that can support new applications. It needs to have integrated capabilities that can provide new mobile capabilities with real-time analytics delivered by a secure cloud infrastructure. IBM z13 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows the z13 to deliver a record level of capacity over the prior IBM z SystemsTM. In its maximum configuration, z13 is powered by up to 141 client characterizable microprocessors (cores) running at 5 GHz. This configuration can run more than 110,000 millions of instructions per second (MIPS) and up to 10 TB of client memory. The IBM z13 Model NE1 is estimated to provide up to 40% more total system capacity than the IBM zEnterprise® EC12 (zEC1) Model HA1. This book provides information about the IBM z13 and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM z Systems functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM z Systems technology and terminology.

CICS and SOA: Architecture and Integration Choices

z/OS Identity Propagation

The Zen of Untangling IT Complexity Through Application Integration

Integrating IBM Security and SAP Solutions

Enterprise Caching Solutions using IBM WebSphere DataPower SOA Appliances and IBM WebSphere eXtreme Scale

For more than 40 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. The IBM System z®, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors in providing, among many other capabilities, world-class and state-of-the-art support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for even more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance about how to enable the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication explains how to set up security for the z/OS networking environment. Network security requirements have become more stringent and complex. Because many transactions come from unknown users and untrusted networks, careful attention must be given to host and user authentication, data privacy, data origin authentication, and data integrity. We also include helpful tutorial information in the appendixes of this book because security technologies can be quite complex.

This IBM® Redbooks® publication helps you plan and execute the migration of J2EE applications developed for Oracle WebLogic Server, JBoss, GlassFish, and Apache Tomcat, so that they run on WebSphere® Application Server V7. This book provides detailed information to plan migrations, suggested approaches for developing portable applications, and migration working examples for each of the platforms from which we migrated. It is not our intention to provide a feature-by-feature comparison of these application servers versus WebSphere Application Server V7, or to argue the relative merits of the products, but to produce practical technical advice for developers who have to migrate applications from these vendors to WebSphere Application Server V7. The book is intended as a migration guide for IT specialists who are working on migrating applications written for other application servers to WebSphere Application Server V7.

This is Volume II of the long-awaited second edition of the 'bible' and expert guide to deploying, using, and managing IBM DataPower Gateway Appliances. It is updated for firmware version 7.2. DataPower appliances can simplify deployment, strengthen security, enhance performance, and dramatically improve return on investment for many use cases, such as mobile, Web, API, legacy, cloud, and SOA/Web Services. In this book, a team of leading experts show how to make the most of DataPower appliances in any IT environment. The authors present DataPower information and insights that are available nowhere else. Writing for working architects, administrators, developers, and security specialists, they draw extensively on their deep experience, helping IBM customers use DataPower technologies to solve challenging system integration problems. This volume concentrates on DataPower networking, and features chapters on beginning and advanced networking, as well as network-level availability.

The service-oriented architecture (SOA) style of integration involves breaking an application down into common, repeatable services that can be used by other applications (both internal and external) in an organization, independent of the computing platforms on which the business and its partners rely. In recent years CICS® has added a variety of support for SOA and now provides near seamless connectivity with other IT environments. This IBM® Redbooks® publication helps IT architects to select, plan, and design solutions that integrate CICS applications as service providers and requesters. First, we provide an introduction to CICS service enablement and introduce the architectural choices and technologies on which a CICS SOA solution can be based. We continue with an in-depth analysis of how to meet functional and non-functional requirements in the areas of application interface, security, transactional scope, high availability, and scalability. Finally, we document three integration scenarios to illustrate how these technologies

have been used by customers to build robust CICS integration solutions.
Application Development for IBM CICS Web Services
IBM WebSphere Application Server V8 Concepts, Planning, and Design Guide
IBM z/OS V1R12 Communications Server TCP/IP Implementation: Volume 4 Security and Policy-Based Networking
Selling and Fulfillment Solutions Using WebSphere Commerce and IBM Sterling Order Management
Optimizing Cost and Reducing Complexity with IBM SOA Connectivity

This IBM ® Redbooks ® publication provides information about the concepts, planning, and design of IBM WebSphere ® Application Server V8 environments. The target audience of this book is IT architects and consultants who want more information about the planning and designing of application-serving environments, from small to large, and complex implementations. This book addresses the packaging and features in WebSphere Application Server V8 and highlights the most common implementation topologies. It provides information about planning for specific tasks and components that conform to the WebSphere Application Server environment. Also in this book are planning guidelines for WebSphere Application Server V8 and WebSphere Application Server Network Deployment V8 on distributed platforms and for WebSphere Application Server for z/OS ® V8. This book contains information about migration considerations when moving from previous releases.

The role of IT is becoming more prominent in people's daily lives and we are becoming increasingly dependent on computers. More and more business transactions are being automated, for example, ordering a book at an online bookstore or transferring money to a bank account in another part of the world. No matter the type of transaction, we want it to be accurate and we want to have no doubts about its outcome. Transactions are also becoming more complex, driven by new ways of conducting business and new technologies. Smartphones now allow us to conduct transactions anywhere and at anytime. Technology paradigms, such as Web 2.0 and business event processing, enable businesses to increase the dynamics of a transaction through instrumentation that captures events, analyzes the associated data, and proactively interacts with the client in order to improve the customer experience. To adapt to the increasing volume and complexity of transactions requires an ongoing assessment of the current way of supporting transactions with IT. No matter what your business is, you need to ensure that your transactions are properly completed with integrity. Wrong or incomplete results can adversely affect client loyalty, affect company profits, and lead to claims, lawsuits, or fines. Companies need to be able to rely on computer systems that are 100% reliable and guarantee transaction integrity at all times. The IBM ® mainframe is such a platform. Clients that have been using an IBM mainframe are conscious of its added value. For this IBM RedguideTM publication, we surveyed a number of companies that use the IBM mainframe and we asked them to tell us its most distinguishing qualities. They answered unanimously "reliability, availability, and scalability." They also do not see an alternative for running their mission-critical business workloads other than the IBM mainframe. When we surveyed our clients, we also asked them about the future. Clearly, major future trends demand significantly smarter, faster, and bigger transaction processing systems than we have today. Some of these trends are the availability of new computing paradigms, continuing growth of the mobile channel, further integration of organizations, massive growth of unstructured and uncertain data, and increasing complexity of IT systems. IBM continues to invest in mainframe technology leadership, which protects years of client investments on this platform. Today, well-known transaction processing (TP) middleware, such as the IBM CICS, IBM IMS, IBM z/TPF, and IBM WebSphere Application Server products, and also solutions for service-oriented architecture (SOA) and business process management (BPM) are available and fully optimized on the IBM mainframe running the mission-critical business workloads of many companies the world over. In 2010, IBM announced the IBM zEnterprise ® system introducing a hybrid computing platform that combines the traditional IBM mainframe capabilities and the ability to use IBM blade servers, managed by a single management software. With zEnterprise, you can significantly reduce the complexity of your IT and achieve better service levels, while continuing to benefit from traditional mainframe strengths in transaction processing.

This IBM ® Redbooks ® publication is an IBM and Cisco collaboration that articulates how IBM and Cisco can bring the benefits of their respective companies to the modern data center. It documents the architectures, solutions, and benefits that can be achieved by implementing a data center based on IBM server, storage, and integrated systems, with the broader Cisco network. We describe how to design a state-of-the art data center and networking infrastructure combining Cisco and IBM solutions. The objective is to provide a reference guide for customers looking to build an infrastructure that is optimized for virtualization, is highly available, is interoperable, and is efficient in terms of power and space consumption. It will explain the technologies used to build the infrastructure, provide use cases, and give guidance on deployments.

This IBM ® Redbooks ® publication discusses the new IBM WebSphere ® DataPower ® Integration Appliance XI50 for zEnterpriseTM that bridges the gap between mainframe and distributed. The DataPower XI50z (a multifunctional appliance) within the zEnterprise BladeCenter ® Extension (zBX) is managed with a single point of control, which can help to streamline operations and maintenance. The DataPower XI50z simplifies the translation of your existing formats to XML (hardware acceleration) for easier communication and connectivity. This book will help you install, tailor, and configure the new attributes for implementing a zEnterprise ensemble network. The zEnterprise System introduces internal virtual networks (VLANs) and additional networking attributes that need to be addressed. Also, we describe the planning considerations for the internal virtual networks and external networks. This book is for anyone who wants an understanding of the security on the zEnterprise that focuses on the usage of the XI50z Network Security Services. As you can expect from an IBM Redbooks publication, we provide several integration use cases that you are able to use immediately within a production environment, for example, the XI50z connecting with and using WebSphere MQ (WMQ), connecting with CICS ® , connecting with IMSTM, and connecting with DB2 ® .

IBM z13s Technical Guide
IBM WebSphere DataPower SOA Appliance Handbook
IBM DataPower Handbook
WebSphere eXtreme Scale v8.6 Key Concepts and Usage Scenarios

This IBM® Redbooks® publication explores various implementations of z/OS® Identity Propagation where the distributed identity of an end user is passed to z/OS and used to map to a RACF® user ID, and any related events in the audit trail from RACF show both RACF and distributed identities. This book describes the concept of identity propagation and how it can address the end-to end accountability issue of many customers. It describes, at a high level, what identity propagation is, and why it is important to us. It shows a conceptual view of the key elements necessary to accomplish this. This book provides details on the RACMAP function, filter management and how to use the SMF records to provide an audit trail. In depth coverage is provided about the internal implementation of identity propagation, such as providing information about available callable services. This book examines the current exploiters of z/OS Identity Propagation and provide several detailed examples covering CICS® with CICS Transaction Gateway, DB2®, and CICS Web services with Datapower.

This IBM® Redbooks® publication focuses on developing Web service applications in IBM CICS®. It takes the broad view of developing and modernizing CICS applications for XML, Web services, SOAP, and SOA support, and lays out a reference architecture for developing these kinds of applications. We start by discussing Web services in general, then review how CICS implements Web services. We offer an overview of different development approaches: bottom-up, top-down, and meet-in-the-middle. We then look at how you would go about exposing a CICS application as a Web service provider, again looking at the different approaches. The book then steps through the process of creating a CICS Web service requester. We follow this by looking at CICS application aggregation (including 3270 applications) with IBM Rational® Application Developer for IBM System z® and how to implement CICS Web Services using CICS Cloud technology. The first part is concluded with hints and tips to help you when implementing this technology. Part two of this publication provides performance figures for a basic Web service. We investigate some common variables and examine their effects on the performance of CICS as both a requester and provider of Web services.