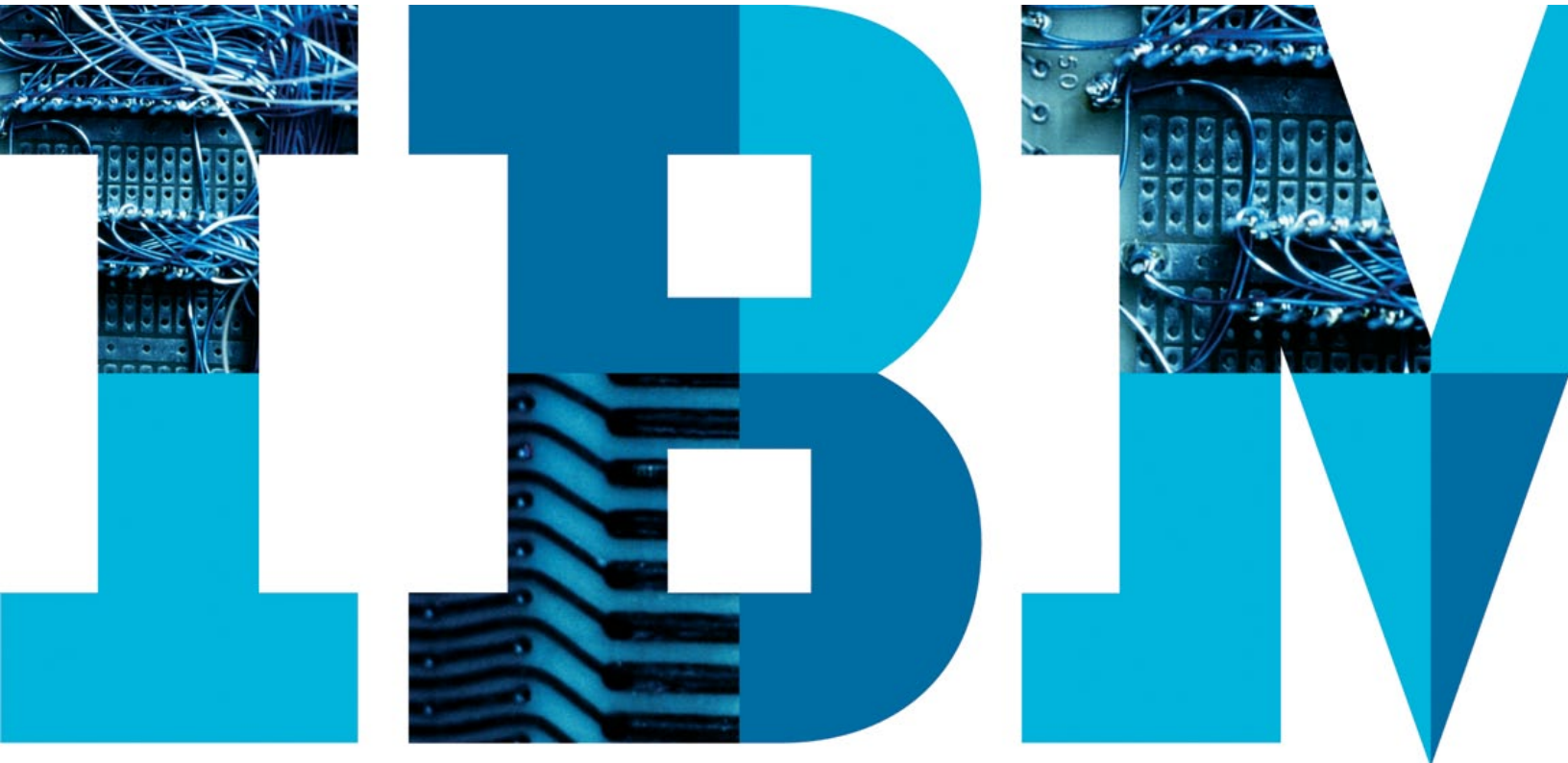# IBM System z software for the zEnterprise EC12 system

Driving new levels of performance and cost efficiency

An information-centric era

Today, we're experiencing a literal revolution in customer access, with user requests from a wide variety of endpoints and mobile devices—typically coming from outside the organization's firewall and web page. This new customer access is generating significant volumes and velocity of data. At the core of the systems equipped to handle these new data volumes lies the IBM mainframe—one of the top platforms for the intensive transaction processing these systems demand, for the security and compliance requirements core business data demands, and for the reliability and availability key enterprise applications require.

Through an approach that we call *smarter computing*, companies are moving to an information-centric business model by extracting actionable insight from the operational data these systems generate. They're using smarter computing to deliver a more secure, more personalized experience to their customers. And they're taking a smarter computing approach to create IT efficiencies at enterprise scale for their core business transactions, redirecting investments to deliver new services, reduce costs and foster innovation.

But to exploit new market segments and capture new users, organizations need operational analytics that can build intelligence into business transactions, greatly increasing their value; help create new transactions; and improve customer service. They need resiliency, security and availability for core business operations and new customer services. And they need efficiency at enterprise scale that can deliver significant cost savings and free up resources to drive growth.

The IBM System z® mainframe has been the foundation of large-scale computing for almost 50 years. It can deliver near-real-time operational analytics to improve business performance and add greater intelligence to virtually every transaction. The System z characteristics of reliability, availability and scalability—combined with its ultimate security—provide the trusted resiliency that today's dynamic business environment requires. More recently, IBM released a new mainframe server based on System z technology: the IBM zEnterprise® EC12 (zEC12) system. More energy-efficient than ever, the zEC12 delivers economic advantages in consolidating today's distributed server sprawl. The ability to consolidate workloads and dramatically boost the efficiency of your IT operation can result in cost reductions and free up resources that can be used to create new services and better serve the constantly changing requirements of the business.

At the heart of the zEC12 lies the broad portfolio of IBM System z software that delivers the ultimate security that businesses require to offer core processes and services to their customers. System z software provides the operational analytics capabilities that enable companies to integrate real-time data, consolidate the wealth of existing enterprise data, and mine it to deliver insight across the organization. And System z software is designed to enable companies to scale and move quickly in the highly competitive marketplace, manage infrastructure elements dynamically, and deliver services through a private enterprise cloud—all at a lower total cost.

Ultimate security and resiliency: creating an enterprise security hub

Distributed computing environments, the explosion of social media and stringent regulatory requirements make safeguarding the wealth of enterprise information extremely difficult and costly to manage.

By making System z technology the enterprise security hub, organizations can take advantage of mainframe extensibility and scalability to consolidate their disparate systems and create a more efficient, standardized and security-rich infrastructure.

Security

IBM System z software provides security and resiliency for enterprises that require high levels of application availability and information processing. This includes protecting sensitive business data and the sharing of information both internally and externally. System z software provides encryption to protect user privacy and keeps an extensive audit trail with compliance reporting.

IBM InfoSphere® Guardium® software for System z technology is a simple, robust solution for helping prevent data leaks from databases and files, enabling organizations to deploy centralized and standardized controls for real-time database security and monitoring. IBM Security zSecure™ suite for System z technology provides granular access and segregation of audit and management functions to administer security, monitor threats and provide audit usage. It also enables businesses to monitor privileged users, detect intrusions and support compliance.

Social business

The ways in which people interact, relationships form, decisions are made, work is accomplished and goods are purchased today are different than they have been in the past—and may never be the same. Social business is changing industry landscapes and leveling the playing field. Employees are sidestepping established hierarchies and using social tools for work. Empowered customers are demanding a personalized shopping experience that they can engage in anytime, anywhere. Consequently, it is increasingly important that social computing and social media be integrated into enterprise design.

IBM social business software for System z technology includes IBM Connections and IBM Lotus Notes® software, which enable businesses to optimize interactions between people to improve information sharing, locate expertise in the organization, and improve project management and execution through rapid access to information.

Operational analytics: turning information into insight

Companies are realizing that there is strategic value to the data locked within the business, but often that data is not available to decision makers. IBM Business Analytics solutions on System z mainframes offer a comprehensive solution on a single platform, capable of scaling to address a wide variety of business users' needs for complete and accurate business information— faster, and at a lower cost.

Data warehousing

Data warehousing with IBM System z software can remove the barriers that isolate enterprise information and enable a unified view across organizational boundaries. System z software can improve query response times, provide near-real-time access to critical business information and minimize data center complexity.

Businesses today are maintaining more data for longer periods of time but must still find better ways to analyze past, current and future events. IBM has built greater temporal data management awareness of time into IBM DB2® 10 for z/OS® software, enabling organizations to track and query historical, current and future conditions in a more efficient manner—simplifying auditing and compliance initiatives, pinpointing and correcting human errors, helping ensure the integrity of data over time, and assessing changing business conditions.

Data management

Organizations have a wealth of business data about customers, products and employees in a variety of systems and applications. But each of the source systems creates and holds the data in its own way. This often means that critical data elements go missing or are incomplete, duplicated or inconsistent. The organization ultimately has no single, unified version of the truth about its business.

IBM data management solutions for System z technology help companies transform data into a strategic asset to fuel business intelligence. IBM System z software boosts the quality and speed of reporting and analysis, delivering real-time reporting and a more reliable foundation for analysis and decision making. By consolidating applications and data with System z software, companies can improve utilization and significantly lower costs.

IBM data management solutions for System z technology include IBM InfoSphere Guardium software, a robust solution for helping ensure the privacy and integrity of trusted information in the data center; IBM Information Management System (IMS™) software for System z technology, an industry-leading transaction and hierarchical database management system that provides direct, distributed access to data; and IBM InfoSphere Optim™ software for System z technology to enhance the management of data from requirements to retirement.

Operational analytics

IBM analytics solutions for System z technology enable companies to tap into virtually all types of information—from historical reporting and real-time analysis to predictive modeling—and then deliver it to others in the organization to empower decision making and improve outcomes.

Solutions such as IBM DB2 Analytics Accelerator for z/OS software, a marriage of the System z quality of service and Netezza® technology, can accelerate complex queries in a highly secure and available environment. Superior performance and scalability with rapid appliance deployment provides complex analysis at reduced cost and complexity. Powered by Netezza technology, DB2 Analytics Accelerator for z/OS software offers dramatically faster complex business analytics with transparency to users.

Real-time scoring with IBM SPSS® Modeler and IBM DB2 for z/OS software enables organizations to incorporate the newest and most relevant data as it is received, directly affecting real-time decision making. Enhanced visibility into inventory helps ensure that businesses have the right stock available when customers need it. SPSS Modeler and DB2 for z/OS software can help companies improve the revenue-per-customer ratio by enabling more-targeted marketing campaigns that deliver higher response rates, better cross-sell and up-sell rates, and lower mailing costs. And it can help improve fraud identification by identifying and then denying transactions with a high probability of fraudulence.

The new IBM zEnterprise Analytics System 9700 and IBM zEnterprise Analytics System 9710 offer a comprehensive portfolio of data management, hardware, software and services that simplify the building of analytics systems. The systems incorporate the new zEC12 and deliver dramatic improvement in query throughput while integrating the new IBM DB2 Analytics Accelerator into the base offering. The hybrid system, a blend of Netezza massively parallel processing (MPP) and System z symmetric processing (SMP) technologies, enables the merging of fit-for-purpose and mixed workload capabilities into a single system, combining transaction-oriented applications with analytics into a single platform for operational business analytics.

Enterprise efficiency: cost-effective processing and transactional integrity

A volatile and a fast-moving marketplace; newly empowered customers; socially-active employees; and a flood of data from new, smarter systems are pushing many IT infrastructures to the limit. IBM System z software is helping organizations meet those challenges by addressing the complexity and inefficiency in today's multiarchitecture data centers. IBM System z software enables an optimized infrastructure, cloud delivery and the ability to scale to address spikes in the business—driving new levels of performance and cost efficiency.

Transaction processing

From the daily, core transactions—bank statements, credit card transactions, airline reservations, nightly sales report generation and batch processing—to the intelligent systems of our smarter planet, mainframe systems constitute the rock-solid foundation that makes it all work. Day in and day out, mainframe systems process terabytes of data from high-speed storage devices and produce the valuable output that makes global economies work.

With the explosion of multiple transaction channels created by the growth of mobile computing, organizations are challenged to sync the new front-end applications—many of which are deployed on fragile infrastructures completely outside of a company's firewall and control—with the back-end transaction processing systems that access the most valuable company assets. IBM System z software provides enterprise vitality and transactional integrity that enable companies to process millions of transactions from hundreds of thousands of concurrent users in near real time, helping ensure that virtually every customer experience is consistent and completed.

IBM continues to invest in mainframe technology, protecting years of client investments on this platform. Today well-known transaction processing (TP) middleware such as IBM Customer Information Control System (CICS®) and IBM IMS software, as well as solutions for service-oriented architecture (SOA) and business process management (BPM) are available and optimized on the IBM mainframe and run mission-critical business workloads for many clients the world over.

Business rules and process

Organizations must have user-friendly business tools that simplify and automate complex processes while facilitating flexible rule definitions to foster collaboration among key stakeholders. For System z users specifically, the business logic embedded in brittle COBOL code can, and should, be separated and managed universally outside of the application to help ensure rapid response to the customer-driven dynamics of business change.

Decision management is a business discipline that enables organizations to automate, optimize and govern repeatable business decisions. IBM Operational Decision Manager for z/OS software provides the means for these decisions to be automated and called in real time by business processes and applications. IBM WebSphere® Business Rules for z/OS software helps improve the maintainability of decision logic in mainframe applications and bridge organizational silos, and IBM Business Process Manager Advanced software delivers the comprehensive visibility and management of business processes with support for high-volume automation with high quality of service.

Enterprise modernization

Critical elements in the foundation of the smarter computing approach, IBM enterprise modernization solutions help organizations improve and evolve core IT systems toward modern architectures and technologies in a cost-effective and continual manner. The goal is to increase flexibility and reduce total cost by shifting resources away from maintenance to innovation across key modernization initiatives such as mobility, social, cloud and analytics.

IBM portfolio and strategy management solutions provide a better understanding of application portfolios to help organizations prioritize, manage and monitor delivery of strategic enterprise modernization initiatives.

The IBM Integrated Solution for System z Development environment is a flexible, modern, multiplatform application development environment that can help streamline collaboration, project planning, development, and software change and configuration management across teams by bridging gaps between resources across geographies, skill levels, technologies and hardware platforms.

The IBM Continuous Integration Solution for System z offering enables distributed and mainframe teams to build and test a comprehensive cross-platform application continually and at a lower cost. The solution offers a robust environment for planning, automating and monitoring quality and testing of composite applications as a seamless process.

IBM's latest compilers can help boost application performance and scalability by exploiting advances in hardware performance optimization. They can also improve application performance and deliver enhanced efficiency for existing infrastructures without requiring special coding or source code changes.

Integrated appliances

Packaged solutions consisting of hardware and software for a specific IT functionality, appliances typically contain best practices for setup, configuration and use. The value of appliances lies in their ability to accelerate deployment and provide less labor-intensive self-management.

The IBM WebSphere DataPower® Integration Appliance for zEnterprise XI50z offering is a multifunctional appliance for the System z environment that can help provide XML hardware acceleration, streamline and protect valuable SOA applications, and provide drop-in integration for heterogeneous environments.

An integrated platform that provides broad analytics capabilities on a powerful warehouse foundation with IBM servers and storage, the IBM Smart Analytics System provides broad analytics capabilities and is a single point of support for comprehensive analytics solutions. IBM DB2 Analytics Accelerator for z/OS software combines System z quality of service and Netezza technology to accelerate complex queries in a highly secure and available environment.
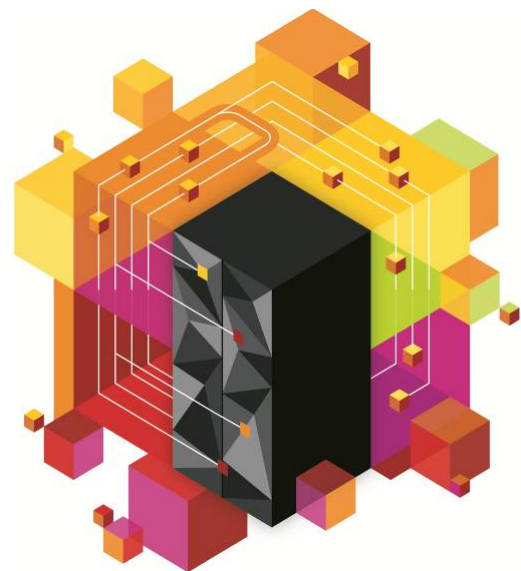
Cloud computing

Pressured to take costs out of IT infrastructure and process while speeding deployment of service delivery, many IT organizations are turning to private clouds to lower their total cost of operations. IBM System z software offerings infuse private enterprise clouds with the security, centralized manageability, scalability and multilatency that businesses need to manage their infrastructure more dynamically. System z software can deliver huge economies of scale through consolidation of workloads with Linux on System z technology—supporting thousands of workloads on a single system with high levels of availability and security.

The Cloud Ready for Linux on System z offering, an IBM Tivoli® solution, offers a quick way to get started creating a private cloud on System z technology, providing necessary monitoring, provisioning and automation capabilities. IBM Tivoli Integrated Service Management software provides monitoring and management in a cloud environment, and the new IBM CICS V5.1 release is cloud-enabled for platform-as-a-service capabilities.

Integrated service management

To deliver quality services rapidly, manage and mitigate risk, facilitate compliance, and accelerate business growth, organizations need the software, systems, best practices and expertise that comprise integrated service management. With the visibility, control and automation that integrated service management provides, companies can better manage people, process and infrastructure across the service chain.

IBM Tivoli solutions for service availability and performance management can help businesses ensure service quality and reduce operations costs by improving visibility into business service performance. IBM Tivoli software for System z technology can encourage a better understanding of the effect of application, server, middleware and network infrastructures on service health and the customer experience. And by integrating management across operational silos, staff and tools, IBM Tivoli software can improve return on existing investments, maximize productivity, control costs and improve mean time to resolution.

IBM System z software: intelligence and security at a lower cost

With capabilities including data warehousing, cloud computing, social business and enterprise modernization, IBM System z software can address the requirements of virtually any business. IBM System z software combines leading-edge technologies with the superior capabilities of the System z platform, enabling an optimized infrastructure, cloud delivery and integration of operational data with analytics—driving new levels of performance and cost efficiency.

For more information

For more information about IBM System z software, contact your IBM representative or IBM Business Partner, or visit:
ibm.com/software/os/systemz