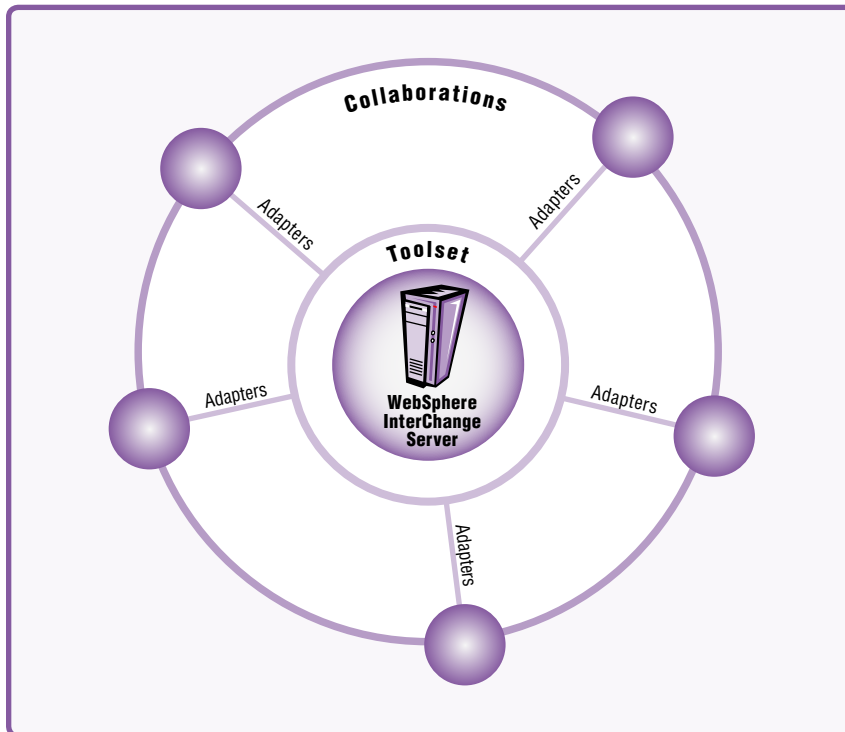**IBM**

WebSphere® software

IBM WebSphere InterChange Server, Version 4.2

Highlights

- *A process automation server for managing several discrete business applications as one*

- *Centralized system and configuration management*

- *Multithreaded and concurrent business logic execution*

- *A high-availability configuration option*

- *Increased data integrity*

WebSphere Business Integration Server components work together to provide you with process integration solutions that can automate and streamline business processes while helping you link to trading partners over the Internet.

From tactical needs to strategic initiatives, your company faces a wide variety of challenges that can best be met through business integration. You need a way to make your manufacturing, finance, services or sales organization work more smoothly at every level. Business integration can help increase your effectiveness by linking people, processes, systems and data across your enterprise. IBM WebSphere software technology offers business integration solutions that can help maximize your company's flexibility and effectiveness, while leveraging your existing IT investment.

IBM WebSphere® InterChange Server, a key component of IBM WebSphere Business Integration Server, can link your diverse computer networks and software applications allowing them to work together — regardless of platform. WebSphere InterChange Server is designed to help you execute business strategy. Connect to business-to-business (B2B) exchanges. Take products or services online. And standardize business information to help give you a

unified view of enterprisewide data. The result is more flexible and manageable processes that better meet ever-changing business needs.

WebSphere InterChange Server offers a scalable deployment option to help you plan and implement business integration solutions. Solutions that automate business processes both inside and through your firewall — within one cohesive framework. WebSphere InterChange Server offers mission-critical reliability and performance. System availability and scalability. And centralized system and configuration management.

Reduce bottlenecks with scalable and available business integration systems
WebSphere InterChange Server exploits a logical, distributed hub-and-spoke model—an efficient way to maintain a single point of control over several systems at once. The spoke architecture connecting applications to the server achieves additional scalability by enabling simultaneous processing of the same business events whenever the application interfaces support it. That means your business applications can safely run concurrently. And you can invoke multiple instances of an application simultaneously. This parallel use can greatly increase the accessibility of your data and applications, making important information and processes available to your customers and trading partners when they need it.

Increase reliability and scalability with process management capabilities
WebSphere InterChange Server supports processes that are characterized by longer duration between activities and the potential for timeouts. This is a common feature of B2B transactions, where manual activities are combined with automated tasks in business applications. Configurable parameters for process response times and manual overrides for long-lived transactions allow users to customize business processes to achieve optimal flow and accountability. Users also have the flexibility to rescind actions and alerts associated with specific processes.

New thread context-management capabilities enable improved resource allocation and management of WebSphere InterChange Server. With a business process automation engine, such as WebSphere Business Integration Server, you can benefit from significantly increased system efficiency and flexibility.

Enhance efficiency through concurrent business logic execution
Multithreaded processes exploit the ability to perform multiple tasks simultaneously by sharing computing resources while maintaining the integrity of each process. By using multithreading to execute business logic processes concurrently, WebSphere InterChange Server can

handle transactions and interchanges efficiently, using a common approach to business logic to define the rules and specifications that control how transactions are executed.

Based on Java™ technology, WebSphere InterChange Server is available on Microsoft® Windows NT® and Microsoft Windows® 2000, Sun Solaris operating environment, HP-UX operating environment and IBM AIX® systems. High-availability solutions are available today on Microsoft Windows NT, Microsoft Windows 2000, and in the Sun Solaris and IBM AIX operating environments.

User-defined database connection pools let users directly access relational databases from within a collaboration or map. This feature eliminates the need to provide additional code to manage the application program interfaces (APIs) and the opening and closing of database connections to simplify the execution of database tasks. When executing business logic, connection pooling can decrease the performance overhead of a relational database management system (RDBMS) connection by reducing the need to constantly forge new connections.

Help avert business errors with improved process recovery

In the event of a system failure, WebSphere InterChange Server can provide business process recovery, maintaining event-sequencing and once-only processing so that key processes can be recovered with minimal disruption. The critical business events within your system—such as purchases, inventory updates and other important data exchanges—can be placed in the right sequence and do not have to be duplicated while the system repeats its recovery. This process greatly minimizes the potential for errors in your processes, so that your users can access the most accurate information available, regardless of recent system failures.

Preserve the integrity of critical business activities

WebSphere InterChange Server helps protect data integrity by enabling event sequencing, cross-referencing and transaction management services. Event sequencing helps keep events that trigger activities within a process in sequential order. This feature allows business processes to be executed in the order they are supposed to, independent of when the activities that are triggered within them finish.

The cross-referencing function allows for related business objects in different systems to be linked. A specific customer in the system may be known by the account code ABCD and in another as 123456. The cross-reference function can maintain this relationship so that the right customer key can be passed to the appropriate application or system. This function can greatly increase productivity by eliminating re-keying and significantly reducing errors.

There are a number of transaction management services offered by WebSphere InterChange Server. Long-lived transactions are used to provide continuity across a business transaction that may take a few minutes, hours or even longer to complete. WebSphere InterChange Server provides simple and sophisticated process rollback by applying a compensating transaction model.

Use open, flexible system monitoring and management

WebSphere InterChange Server offers Simple Network Management Protocol (SNMP)-compliant interfaces for IBM Tivoli® Management Environment® (TME®) and third-party management applications. The use of open standards can easily integrate the server and adapters into an enterprisewide management policy for your IT infrastructure.

WebSphere InterChange Server can also support Internet-based system monitoring with a variety of visual components to display the health of the server and application adapters. Business process statistics are collected and can be viewed in tab or chart formats. Use the system monitor default configuration as is in your preferred Web browser, or configure your own role-specific monitor consoles. You can also configure business processes to save, view and analyze. WebSphere InterChange Server enables enterprises and departments to manage and monitor business processes—from a central or remote location over the Web.

Increase efficiency with quick, accurate information exchange

WebSphere InterChange Server supports synchronous and asynchronous methods of information exchange, allowing for critical data to be exchanged quickly and accurately to help achieve system efficiency. WebSphere InterChange Server provides message delivery under a request-reply system in which messages are sent back and forth between two points. Internally the server uses event modeling to enhance reusability by keeping application adapters separate from business processes.

The messaging services contained in WebSphere InterChange Server are compliant with IBM WebSphere MQ Internet Passthru (formerly IBM MQSeries® Internet Passthru), Java Message Service (JMS) and Internet Inter-ORB Protocol (IIOP) messaging services, helping it adapt to and communicate with your existing systems.

WebSphere InterChange Server includes a remote agent capability that allows for connection to remote applications with IBM WebSphere Business Integration Adapters without the need for additional servers on the remote site. Your corporate security can be maintained, both by the use of encryption in the JMS or IBM WebSphere MQ messaging layer, and the firewall proxy services of IBM WebSphere MQ Internet Passthru.

Simplify integration activities and maximize reuse

WebSphere InterChange Server uses a patented business-object model to support many-to-many integration with greater system efficiency and simplified maintenance. Process collaborations operate on generic business objects — individual transactions, processes and events comprising your business processes. Business objects can represent common items, such as customers, accounts or purchase orders. Because

the common business objects are separate from the application-specific representations to communicate with the applications, you can avoid the overhead of point-to-point integration. You can also avoid potential additional costs by increasing your reuse of existing assets should you need to implement the same processes with a different application in new or separate divisions of the enterprise.

Extend your process integration

WebSphere InterChange Server, supporting Java 2 Platform, Enterprise Edition (J2EE) technology, provides greater flexibility and allows the server's functions to extend where you may need it. Compliance with J2EE Connector Architecture (JCA) eases integration with disparate application servers and portal servers. WebSphere InterChange Server implements a JMS-compliant transport and messaging service. And session Enterprise JavaBeans (EJB) APIs can add functions throughout the enterprise, making business data and processes available to your entire business.

WebSphere software solutions for e-business infrastructure can help you develop, deploy, integrate and automate your e-business applications by:

- *Optimizing and automating e-business processes in tandem with enterprise processes*
- *Providing a variety of e-business tools to simplify integration*
- *Supporting most Internet-based trading standards smoothly, without additional coding*
- *Enabling application-to-application and browser-based integration*
- *Delivering globalization basic support and translation into Japanese, French, Italian, German, Spanish, Brazilian Portuguese, Korean, simplified Chinese and traditional Chinese*

WebSphere Business Integration portfolio

As the world's largest information technology company, IBM offers a wide range of middleware and operating systems for nearly every computing platform, to give you the right tools to be an e-business on demand™. The WebSphere Business Integration portfolio delivers market-leading middleware that allows you to unite applications, people and business processes to work as one. Built on open

IBM WebSphere InterChange Server at a glance

Hardware requirements*	

Microsoft Windows	• 1GHz processor or a minimum 667MHz each with dual processors (for high availability)
	• Minimum 512MB RAM
	• Minimum 40GB or a mirrored 9GB boot disk and a mirrored 18GB shared disk available disk space
	• Additional high-availability hardware requirements:
	  – Microsoft-certified cluster machine
	  – Shared disk subsystem with redundant array of independent disks (RAID)

IBM AIX	• 375MHz processor, IBM RS/6000® system or equivalent • Minimum 512MB RAM • Minimum 40GB available disk space or a minimum of four 36GB disks per system (for high availability)
Sun Solaris operating environment	• Sun Enterprise 250 with 450MHz, UltraSPARC processor • Minimum 512MB RAM • Minimum 40GB available disk space or a minimum of four 18GB disks per system (for high availability)
HP-UX	• 440MHz, Hewlett-Packard HP-9000 • Minimum 512MB RAM • Minimum 40GB available disk space

Software requirements

• A Simple Mail Transport Protocol (SMTP)-based e-mail system
• Microsoft Internet Explorer or Netscape Navigator 4.0 or higher required to view HTML documents
• WebSphere MQ, Version 5.3.1 Client and WebSphere MQ, Version 5.3.1 Server (included)
• IBM WebSphere MQSeries® Internet Passthru, Version 1.2 to support remote agent (Windows and Sun Solaris operating environments only)
• WebSphere Application Server Advanced Edition, Version 4.0.4 or Apache Tomcat, Version 4.0 (to support Web-based system monitoring only)
• One of the following relational databases:
  – IBM DB2® Universal Database™ Enterprise Edition, Version 8.1
  – Oracle RDBMS 8.1.7.2
  – Microsoft SQL Server 7.0 with Service Pack 4 (Windows only)
  – Microsoft SQL Server 2000 with Service Pack 2 (Windows only)

For Windows	• One of the following operating systems:
	  – Windows 2000 Professional, Windows 2000 Server or Windows 2000 Advanced Server with Service Pack 3
	  – Microsoft Windows NT 4.0 Workstation or Windows NT Server with Service Pack 6a (for high availability)
	  – Windows NT Server Enterprise Edition 4.0 with SupportPac MC74 for Microsoft Cluster Server support
	    (for high availability only)
	• Sun Java Development Kit (JDK) 1.3.1_06 (Windows NT and Windows 2000 only) to compile customer-generated maps and collaborations

For IBM AIX	• IBM AIX, Version 5.1 (maintenance level 2) • IBM High Availability Cluster Microprocessing (HACMP) 4.5 • IBM JDK, Version 1.3.1 to compile customer-generated maps and collaborations • IBM VisualAge® for C++, Version 5.0.2 or equivalent compiler to compile DB2® stored procedures

For Sun Solaris operating environment	• One of the following operating systems:
	  – Solaris 8; Solaris 7 with Solaris Patch Report updates as of October 1, 2002 or later
	  – Sun Cluster 2.2; Veritas Cluster Server 1.3 (for high availability)
	• Sun JDK 1.3.1_06 to compile customer-generated maps and collaborations

For HP-UX	• HP-UX 11.11 (11i) • Hewlett-Packard JDK 1.3.1.05 to compile customer-generated maps and collaborations

*Actual requirements for your system may be greater, depending on the complexity of your specific environment, throughput and data object size. For more details, refer to IBM WebSphere System Installation Guide for Windows and IBM WebSphere System Installation Guide for UNIX®.

standards, like J2EE, XML and new Web services standards, this robust portfolio offers reliability, scalability and a security-rich environment — the core strengths you've come to expect from IBM.

With a WebSphere Business Integration solution, your business managers can effectively model and simulate business processes — and refine these processes to increase efficiencies as needs arise. Your IT staff can quickly and easily inte-grate previously disparate systems within your existing infrastructure — and with new applications and systems. You can connect systems smoothly with customer and trading partner systems to deliver immediate, dynamic and personalized information. And you can fully monitor processes to gain a current view of enter-prise performance. So you can manage business effectiveness and readily make improvements to gain a better return on investment.

For more information
To learn how WebSphere InterChange Server can help integrate your business processes, visit **ibm.com**/websphere/integration, contact Worldwide Business Integration Sales at 888 685-0947 or e-mail bisales@us.ibm.com.

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