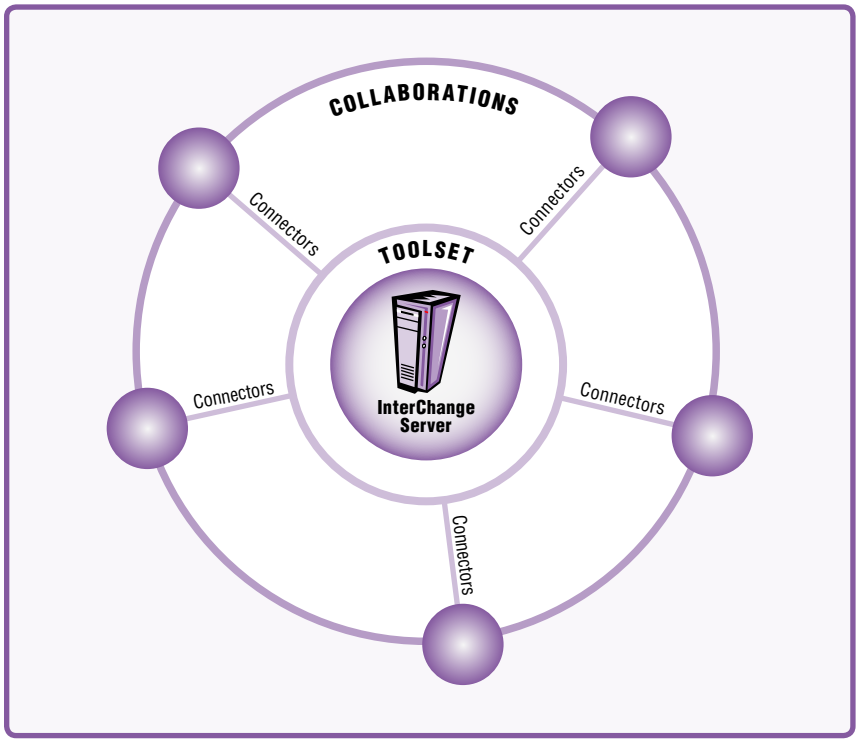
Automate business processes, consolidate customer data and link to trading partners over the Internet

WebSphere® software

IBM CrossWorlds InterChange Server

Highlights

- ***Process automation server for managing several discrete business applications as one***
- ***Primary integration server supporting business-to-business channels and portals***
- ***Multithreaded and concurrent business logic execution***
- ***Assured data integrity***
- ***High-availability configuration option***
- ***Centralized system and configuration management***
- ***Extensive portfolio of predefined, generic business process templates***
- ***Comprehensive portfolio of connectivity solutions***



The CrossWorlds components work together to provide you with process integration solutions that automate and streamline business processes while helping you link to trading partners over the Internet and around the world.

From tactical needs to strategic initiatives, your company faces a wide variety of challenges that can only be met through business integration. IBM CrossWorlds® InterChange Server links your diverse computer networks and software applications to let them work together, regardless of platform. You need a way to make your manufacturing, finance, services or sales organization work more smoothly at every level. Business integration can help increase collaboration among employees and get team members working together more efficiently.

More industry-leading companies are choosing IBM CrossWorlds technology to automate business processes, tie customer data together and link to trading partners over the Internet. As part of the IBM WebSphere® software platform, CrossWorlds technology offers business integration solutions that can help maximize your company's flexibility and effectiveness, while leveraging your existing information technology (IT) investment.

WebSphere business integration solutions let your employees make better strategic decisions by providing a consistent, unified view of enterprisewide data regardless of where the application or database information resides, whether on a server on the other side of the country or in a legacy database. You can also gain the advantage of more flexible business processes that are more easily revised to accommodate ever-changing business needs.

CrossWorlds InterChange Server offers a scalable, multitier deployment option for companies planning to implement business integration solutions. These solutions can automate business processes both inside and outside the company's firewall. Within one cohesive framework, you can integrate disparate systems and information to tie customer data together, automate business processes and link to trading partners over the Internet. CrossWorlds InterChange Server offers mission-critical reliability and availability, enterprise-level scalability and performance, and centralized system and configuration management.

Performance: scalability and availability

CrossWorlds InterChange Server exploits a logical, distributed hub-and-spoke model to support centralized administration with distributed processing — an efficient way to maintain a single point of control over several systems at once. The spoke architecture connecting applications to the server achieves an additional degree of scalability over its competitors by supporting simultaneous invocation of application program interfaces (API). That means your business applications can safely run concurrently with one another, and a single application can be invoked more than once at the same time. This parallelism can greatly increase the number of simultaneous users that can access your data and applications, making important information and processes available to your customers and trading partners whenever they need it.

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. Multithreaded concurrent business logic execution allows CrossWorlds InterChange Server to handle transactions and interchanges efficiently, using a common set of business logic to define the rules and specifications that control how transactions are executed.

User-defined database connection pools let users directly access relational databases from within a collaboration or map. This feature removes the need to provide additional code to manage the opening and closing of database connections as well as APIs to simplify the execution of database tasks. When executing business logic, connection pooling reduces the performance overhead of a relational database management system (RDBMS) connection by reducing the need to constantly forge new connections. Providing an operating system that operates efficiently and uses very few of your resources. And making it easy to add systems and users as your business grows.

Based on Java™ technology, CrossWorlds InterChange Server is available on Microsoft® Windows NT® and Microsoft Windows® 2000, Sun Solaris operating environment and IBM AIX® systems. High-availability solutions are available today on Microsoft Windows NT and Sun Solaris operating environments. Your customers and trading partners will be able to access your data and applications using almost any operating system.

Recovery

In the event of a system failure, CrossWorlds InterChange Server provides business process recovery, maintaining event-sequencing and once-only processing. The critical business events within your system — purchases, inventory updates and other important data exchanges — will occur in the right sequence and will not be duplicated while the system repeats its recovery. This process greatly minimizes the potential for errors in your data, ensuring your users have the most accurate information available, regardless of any recent system failures. It also helps eliminate lost updates by preventing out-of-sequence processing of different instances of the same business event.

Data integrity

CrossWorlds InterChange Server helps ensure data integrity by making sure your data remains accurate and uncorrupted. All WebSphere business integration solutions offer event-sequencing, cross-referencing and transaction-management services. Event sequencing ensures that events that trigger processes related to specific business information are kept in sequential order — regardless of when the events arrive at CrossWorlds InterChange Server. Business processes happen exactly in the order they are supposed to, no matter when the events that trigger them occur.

The cross-referencing process assigns a unique ID from each application or database and automatically stores and indexes them, noting the precise relationships between the applications and databases. So your business processes can access the precise applications or databases needed at any given time, minimizing the risk of errors.

For long-lived transactions and applications requiring more complex recovery scenarios, the transaction service allows for simple and sophisticated process rollback by applying a compensating transaction model exploiting advanced error-handling features.

Management: security and administration

User identification, authentication and encryption are based on Secure Sockets Layer (SSL) protocol to manage the security of message transmissions on the Internet. SSL has become the industry standard for Internet security, and employing this protocol assures that CrossWorlds InterChange Server can interact securely with almost any system. Users are instructed at login to respond with their unique passwords, ensuring that only authorized users gain access to your critical data and applications.

CrossWorlds InterChange Server also supports X509 certificates to provide secure digital signatures that authenticate the origin of information exchanged. This helps to ensure that your data and transactions are handled safely and privately.

CrossWorlds InterChange Server offers out-of-the-box compliance with Simple Network Management Protocol (SNMP)-compliant monitoring tools. Alternatively, you can monitor and administer your CrossWorlds InterChange Server systems with third-party SNMP-compliant monitoring tools, including enterprise management suites IBM Tivoli® TME®, Hewlett-Packard OpenView and CA Unicenter. This use of open standards easily integrates CrossWorlds solutions into an enterprisewide management policy for your IT infrastructure, helping you leverage your IT investment.

Connectivity and data flow

CrossWorlds InterChange Server supports object- and message-oriented middleware and synchronous and asynchronous methods for information exchange, assuring that critical data is exchanged quickly and accurately to achieve system efficiency. CrossWorlds InterChange Server provides assured message delivery under a request-reply system in which messages are sent back and forth between two points. The server also assures delivery under a publish and subscribe paradigm, in which a message can be sent to an unlimited number of appropriate recipients. A bidirectional, event-based publish and subscribe internal event model enhances reusability by keeping application connectors separate from the business processes they are used in. A single connector can subscribe to, and receive data from, any collaboration.

The messaging services contained in CrossWorlds InterChange Server are compliant with IBM WebSphere MQ, Java Messaging Service (JMS) and Internet Inter-ORB protocol (IIOP) messaging services, ensuring that it can adapt to and communicate with your existing systems. Your corporate security is enhanced by the server connection through a firewall using HTTP over secure sockets layer (HTTPS). Since the server uses HTTPS to connect, it eliminates management overhead required to secure additional ports in the firewall.

CrossWorlds 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. Since 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 migration costs should you need to implement the same processes with a different application in new or separate divisions of the enterprise.

Extensibility

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

Product or solution	Function	Benefit
IBM WebSphere MQ	Messaging integration	Integrate applications across more than 35 platforms with assured once-only message delivery.
IBM WebSphere MQ Everyplace™	Mobile integration	Securely extend your e-business integration to a mobile workforce.
IBM WebSphere Business Integration Adapters, IBM WebSphere Adapters and IBM CrossWorlds Connectors	Packaged application connectivity	Utilize prebuilt application adapters to integrate packaged software, like Ariba Buyer and SAP.
IBM WebSphere MQ Event Broker	High-performance message publish and subscribe function	Dynamically distribute messages.
IBM WebSphere MQ Integrator Broker	Message transformation and routing	Cost-effective information exchange between multiple applications.
IBM WebSphere Data Interchange	Electronic Data Interchange (EDI) translation	Translate business information to exchange with trading partners.
IBM CrossWorlds InterChange Server	Business process integration	Coordinate business processes across multiple applications.
IBM CrossWorlds Toolset	Business process integration customizing and managing	Easily implement and maintain business integration processes.
IBM CrossWorlds Collaborations	Business process definition and automation	Leverage proven industry process templates to deploy integration solutions quickly.
IBM CrossWorlds Trading Partner Integration	Business-to-business (B2B) communication	Automate supply-chain interaction through a gateway for B2B communication.
IBM MQSeries Workflow	Business process management	Manage business processes across multiple applications and people.
HOLOSOFX BPM Suite	Business process modeling and monitoring	Model, simulate and monitor business processes that execute in the runtime for MQSeries Workflow.
WebSphere Business Integration	A single offering that combines WebSphere MQ Integrator Broker, MQSeries® Workflow and CrossWorlds InterChange Server	Deploy WebSphere business integration products as needed.
WebSphere Business Connection	B2B integration	Extend business process integration securely with trading partners, suppliers and customers.

Business integration building blocks

With the IBM CrossWorlds family, you can combine business integration products and solutions selectively or build one upon the other to help integrate business processes within and across enterprises. CrossWorlds Connectors are part of the WebSphere software platform for e-business — a set of integrated, award-winning e-business solutions.

No matter where you are in the e-business cycle, the WebSphere software platform can allow you to grow — at the speed your market demands. Building on this robust platform, you can connect diverse IT environments to maximize your current investments. And leverage existing skills with a full range of business integration solutions from the WebSphere family of products.

IBM CrossWorlds InterChange Server at a glance

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

Hardware requirements	
Microsoft Windows environment	• Processor running at 400MHz • Minimum 512MB RAM • Minimum 900MB available disk space *Additional high-availability hardware requirements:* • Microsoft-certified cluster machine • Shared disk subsystem with redundant array of independent disks (RAID)
IBM AIX environment	• 300MHz CPU IBM RISC System/6000® system or equivalent • Minimum 512MB RAM • Minimum 900MB available disk space
Sun Solaris operating environment	*Sun Enterprise 250 with:* • 300MHz UltraSPARC-II module processor • Minimum 512MB RAM • Minimum 900MB available disk space
Software requirements	
Windows environment	*One of the following operating systems:* • Windows 2000 (Professional, Server or Advanced Server) with Service Pack 2 • Microsoft Windows NT 4.0, Enterprise Edition with Service Pack 6a (for high availability) • Windows NT 4.0 Service Pack 6a (for lower availability) *Relational database (one of the following):* • IBM DB2® Universal Database™, Version 7.2, fix pack 4 • Oracle DB 8.1.7 or Oracle 8.1.6 • Microsoft SQL Server 7.0 with Service Pack 3 • SQL Server 2000 with Service Pack 1 on Windows 2000 *E-mail:* An SMTP-based e-mail system (for example, Microsoft Outlook, Microsoft Exchange or Eudora) *Browser:* Microsoft Internet Explorer or Netscape Navigator 4.0 or later required to view HTML documents *Compiler:* Java compiler (Sun Java Development Kit [JDK] 1.3.1 for Windows NT and Windows 2000) required for compiling customer-generated maps and collaborations
IBM AIX environment	*IBM AIX, Version 4.3.3* *Relational database (one of the following):* • DB2 Universal Database, Version 7.2, fix pack 4 • Oracle DB 8.1.7 or Oracle 8.1.6 • Microsoft SQL Server 7.0 with Service Pack 3 • SQL Server 2000 with Service Pack 1 on Windows 2000 *E-mail:* An SMTP-based e-mail system (for example, Microsoft Outlook, Microsoft Exchange or Eudora) *Browser:* Microsoft Internet Explorer or Netscape Navigator 4.0 or greater required to view HTML documents *Compiler:* Java compiler (IBM JDK 1.3.1) required for compiling customer-generated maps and collaborations
Sun Solaris operating environment	*Solaris 8, Version 2.8 or Solaris 7, Version 2.7* *Relational database (one of the following):* • DB2 Universal Database, Version 7.2, fix pack 4 • Oracle DB 8.1.7 or Oracle 8.1.6 *E-mail:* A system that can send and handle SMTP e-mails (for example, Microsoft Exchange and Netscape Messaging server or UNIX sendmail) *Browser:* Microsoft Internet Explorer or Netscape Navigator 4.0 or later required to view HTML documents *Compiler:* Java compiler (Sun JDK 1.3.1) required for compiling customer-generated maps and collaborations

CrossWorlds solutions build on WebSphere e-business infrastructure software to 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*

From linking applications or systems to integrating and streamlining business processes, WebSphere business integration solutions can help you achieve your current and future business goals.

For more information

To learn more about how CrossWorlds InterChange Server can help integrate and connect your business processes, visit **ibm.com**/websphere/crossworlds, contact Worldwide Business Integration Sales at 888-685-0947 or send an e-mail to bisales@us.ibm.com.

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