Reference Guide
IBM CrossWorlds Connectors

WebSphere® software

IBM

Process integration is key to e-business

For your business to remain competitive, you'll need to take better advantage of your information technology (IT) systems that support interactions with suppliers, trading partners and customers. Save money and leverage your teams' current skills by integrating those systems internally among your current applications and externally to share information with your upstream and downstream trading partners and customers. Make your order fulfillment process more efficient, streamline your procurement processes, eliminate errors and rework in your production processes. Do you have the IT resources and infrastructure to make this happen?
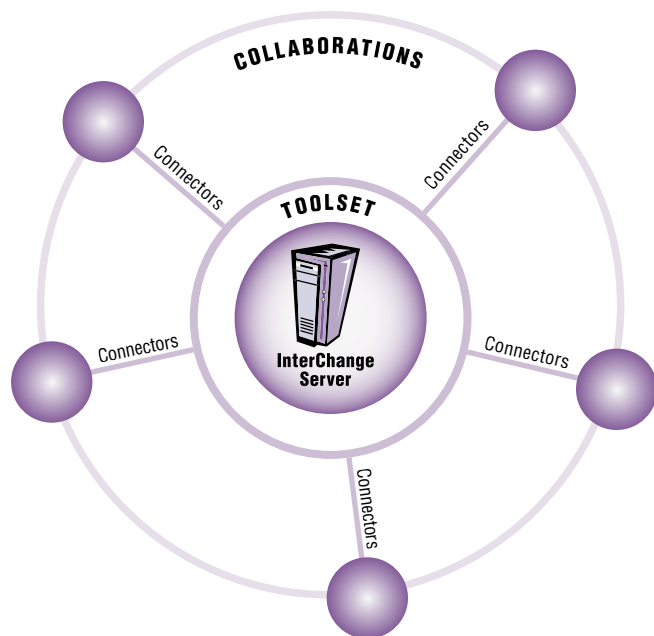
Improve business processes with CrossWorlds software

As part of the IBM WebSphere® product portfolio, IBM CrossWorlds® technology provides the software foundation and tools that allow you to link customer data and connect to trading partners' systems over the Web to automate enterprise business processes. IBM CrossWorlds Connectors support business process integration by connecting applications, databases and Web interfaces to solutions that easily extend with IBM CrossWorlds InterChange Server and any WebSphere software product that uses it. CrossWorlds Connectors are integral to implementing integration solutions to support your business strategy and help maximize your flexibility to make your business more competitive in the marketplace. With CrossWorlds software, you can rapidly streamline your business processes, whether they cross functional boundaries within your company or extend to systems residing with trading partners, customers or suppliers. The results can improve your operational efficiency, increase your responsiveness to competitive pressures and save you time and money.

Gain access to third-party applications

Think of CrossWorlds InterChange Server as distributed hubs of an integration solution. CrossWorlds Connectors are the spokes that attach packaged, legacy, custom, mainframe and Web applications to the hubs, enabling the exchange of data and transaction information between them. This means you can gain access to large amounts of data across your company and make it available to your customers, trading partners and yourself.

CrossWorlds Connectors feature nonintrusive, event-level, two-way connectivity between applications that gives you control over the information being exchanged. In addition, CrossWorlds Connectors provide event detection, application program interface (API) support, messaging and transaction support and the capability to detect and roll back any failed transactions, which can allow you to expand the functionality of your applications. CrossWorlds Connectors offer a more complete connectivity solution, thanks to robust features, such as:

The CrossWorlds software 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.

Flexible distributed architecture. The CrossWorlds distributed connector architecture provides flexible deployment options that allow connectors to be deployed locally on the target application systems machine or on the integration broker's machine. This lets you choose your deployment scenario based on the hardware management policy of your enterprise.

Centralized low-complexity administration. The complexity of an underlying distributed architecture is masked from the user through a centralized administration experience. This significantly reduces the manageability costs of a large business process integration backbone.

Open standards-based infrastructure. A Java™ Message Server (JMS) technology-based message transport allows interaction of connectors with the integration broker. Extensible Markup Language (XML) schema provides easy integration with multiple types of integration hubs.

Multiple broker support. Multiple integration brokers can be supported with identical functional connectivity, IBM WebSphere MQ Integrator and CrossWorlds InterChange Server.

Object-oriented application view. While standard connectors interact with integration brokers through programmatic put and get interactions, CrossWorlds Connectors hide the underlying target API from the business process they serve. This leads to higher business process productivity. CrossWorlds Connectors provide an object-oriented view of the target application's interfaces, which matches the business process design.

Customers can use CrossWorlds Connectors in various ways. They can extend the functionality of specific applications by linking a sales force automation application with a back-end order system. They can transform data from an application-specific format into an e-business-ready format, such as XML, for ready-use by a Web application. And CrossWorlds Connectors are prebuilt and don't require significant development, which allows you to focus your development resources on deployment and configuration.

Approximately 50 CrossWorlds Connectors provide out-of-the-box access to common applications and technologies, including:

- *Application connectivity*
  Extract data and transaction information from both leading and industry-specific packaged applications. They enable access through APIs where possible and provide other available means of accessing data specific to the application and version.

- *e-business connectivity*
  Securely connect to customers' desktops, to trading partners' internal applications, and online marketplaces and exchanges over a firewall.

- *Technology connectivity*
  Provide various ways to access data, technologies and protocols that enhance an integration infrastructure based on IBM MQSeries,® IBM DB2® and CrossWorlds InterChange Server technologies.

- *Mainframe connectivity*
  Leverage best-of-breed technology to access application data in IBM OS/390® systems.

Application connectors

- *IBM CrossWorlds Connectors for BroadVision*
  Provides bidirectional, realtime integration between BroadVision and other customer relationship management (CRM), supply chain management (SCM) and enterprise resource planning (ERP) back-office applications. This application connectivity gives you a better view of business processes from a high level. These connectors use Common Object Request Broker Architecture (CORBA) API and interact with BroadVision Content and Visitor Management System objects to give you a high-level view of business processes.

- *IBM CrossWorlds Connectors for Clarify*
  Leverages the database-independent Clarify API Toolkit to support either an Oracle, Sybase or SQL Server database with meta-data-driven connectors. These connectors provide two-way, sametime integration between Clarify and other e-commerce, ERP and supply chain applications.

- *IBM CrossWorlds Connector for i2 Active Data Warehouse (ADW)*
  Allows integration with all i2 optimization products that currently use ADW. It is a meta-data-driven connector that interacts directly with Conceptual Data Model (CDM). You can use database triggers to detect and take snapshots of events in the application.

- *IBM CrossWorlds Connectors for MetaSolv TBS*
  Provides bidirectional, realtime integration between MetaSolv and other e-commerce, order-management or ERP applications. The event management subsystem is a Java application that makes use of an event table created within an Oracle database, providing you with additional integration flexibility.

- *IBM CrossWorlds Connectors for Oracle Applications*
  Delivers comprehensive integration capabilities for interaction with Oracle applications. Java technology-based products support three ways of integrating Oracle using Java Database Connectivity (JDBC)-based technology — through Oracle APIs, Oracle interface tables and Oracle application tables.

- *IBM CrossWorlds Connectors for PeopleSoft*
  Facilitates two-way, realtime integration between PeopleSoft and other e-commerce, CRM, SCM and ERP applications. This connector works with PeopleSoft Component Interfaces to create interactions your customers can initiate.

- *IBM CrossWorlds Connector for Portal Infranet*
  Streamlines customer service processes. The messaging features of this connector lets you integrate your billing and customer information across your operations using the Java technology-based Pulse Code Modulation (PCM) API.

- *IBM CrossWorlds Connector for SAP R/3*
  Supports SAP interfaces and provides a range of integration options that lower your risk by ensuring you can connect through business APIs (BAPI), application launching and embedding (ALE) or Intermediate Documents (IDOCs), three of the most common ways to connect with SAP. This connector has multiple modules that let you take advantage of bidirectional, multi-threaded integration with e-commerce, CRM, SCM, ERP, and custom and legacy applications. It also feature advanced event-detection mechanisms, noninvasive messaging and business-object handlers.

- *IBM CrossWorlds Connector for Siebel*
  Provides comprehensive bidirectional, realtime integration between Siebel and order management, ERP, e-business, and custom and legacy systems in a one-to-one, one-to-many or many-to-many scenario. This connector lets you provide improved-quality customer service and effectively execute quote-to-order fulfillment processes.

- *IBM CrossWorlds Connector for Trilogy*
  Supplies you with two-way, concurrent integration between Trilogy and other e-commerce, CRM and ERP applications. This connector communicates with the Trilogy application through a Component Object Model (COM) interface, which provides access to a set of corresponding Trilogy objects and methods.

- *IBM CrossWorlds Connectors for Vantive*
  Allows your applications to communicate with Vantive applications through low-level APIs. These connectors give you bidirectional, sametime integration between Vantive and other e-commerce, CRM, SCM and ERP applications.

e-business connectivity

- *IBM CrossWorlds Serverless Trading Agent*
  Establishes tightly coupled and secure application-to-application connections outside the firewall — without requiring CrossWorlds server technology to be installed on the client side. This connector allows you to link your outsourced applications to another company's enterprise application as if it were inside your firewall.

- *IBM CrossWorlds Access Framework*
  Establishes and supports on-demand, secure, realtime and synchronous communication with your customers and trading partners. For example, you can use this connector to develop browser-based interfaces for customers or dealers to check the status of orders, so they can view data instantly.

- *IBM CrossWorlds Trading Partner Interchange Solo*
  Facilitates the support of a single trading partner profile at a time, helping to speed up and simplify endpoint deployment by limiting the amount of information that is exchanged. This connector contains basic, nonhub functionality, which allows for faster information exchange.

- *IBM CrossWorlds Trading Partner Interchange On-Ramp*
  Allows you to access online trading exchanges or trading network hubs. This connector lets you create up to 10 trading partner profiles that describe a single trading partner organization, enabling the exchange of data. It also emphasizes deployment speed and simplicity. It's a low-end, small-hub offering, geared toward companies with basic integration needs. This connector is currently only available for CrossWorlds InterChange Server, not WebSphere MQ Integrator.

- *IBM CrossWorlds Trading Partner Interchange for Trading Networks*
  Allows you to create up to 100 contact records to designate trading partners while providing advanced product functionality, such as external database support, Java Message Service (JMS) event routing, full packaging and unpackaging of data and support of APIs and OS/390 platforms.

- *IBM CrossWorlds Resource Adapter for InterChange Server*
  Enables applications deployed within a Java 2 Platform, Enterprise Edition (J2EE) technology-based application server to smoothly integrate various Enterprise Information Services (EIS) systems, such as ERP, mainframe transaction processing and databases. This allows you to leverage and execute your business strategies more efficiently.

- *IBM CrossWorlds XML Data Handler*
  Converts business objects into XML format, giving you access to many pervasive computing devices. This connector data handler supports XML, Version 1.0 and can be used with most CrossWorlds technology connectors and adapters — allowing you to extend their functionality.

- *IBM CrossWorlds EDI Data Handler*
  Converts CrossWorlds objects to Electronic Data Interchange (EDI) documents. Objects must be converted to EDI documents to ensure that vital business information is shared across platforms. These documents can then be converted to business objects without the need to provide traditional complex mapping.

- *IBM CrossWorlds Connector for Web Services*
  Incorporates Internet services functionality into integrated auto-mated processes. This connector lets you leverage your existing integration strategy, reuse your investment in current business processes and reduce cost while increasing trading partner revenue.

- *IBM CrossWorlds Access Framework for Enterprise JavaBeans*
  Gives you a simple way to access process integration function-ality within the J2EE application server environment. This con-nector allows you to easily tap into your automated business processes and interact directly with the multiple application and data sources linked to the CrossWorlds software integration hub.

Technology connectivity
- *IBM CrossWorlds Connector for JMS*
  Allows the CrossWorlds InterChange Server to exchange busi-ness objects with applications that send or receive data in the form of JMS messages. This connector allows business applica-tions to synchronously and asynchronously send and receive business data and events. It supports both request processing and event notifications.

- *IBM CrossWorlds Connector for e-mail*
  Enables CrossWorlds InterChange Server to exchange business objects with a variety of applications. This connector sends e-mail messages containing business objects or files in response to collaboration requests. It also polls mailboxes on mail servers for e-mail messages, converts messages to business objects and then posts the business objects to the CrossWorlds InterChange Server.

- *IBM CrossWorlds Connector for MQSeries Integrator*
  Enables IBM CrossWorlds Collaborations to initiate MQSeries Integrator message flows, as well as handle synchronous requests. This connector uses IBM CrossWorlds XML Data Handler to facilitate XML integration, providing access to pervasive computing devices.

- *IBM CrossWorlds Connector for XML*
  Allows CrossWorlds InterChange Server to exchange business objects with e-commerce applications. This connector supports conversions of business objects to and from XML. It also receives XML doc-uments by polling Web-based applications to be post-ed to CrossWorlds InterChange Server.

- *IBM CrossWorlds Connector for MQSeries*
  Supports enterprise application integration through MQSeries messages. This connector supports synchronous and asynchro-nous request processing and event notification. CrossWorlds Connector for MQSeries can assign more than one message format to the same business object using any compatible data handler, allowing you to work with multiple messages at the same time.

- *IBM CrossWorlds Connector for JText*
  Enables CrossWorlds InterChange Server to communicate with an application through the exchange of text files. This connector supports integration with remote text files that are accessible using File Transfer Protocol (FTP). This connector provides you with greater integration durability because whenever file sources are moved across the network, minimal changes occur to integration parameters.

- *IBM CrossWorlds Connector for JDBC*
  Allows CrossWorlds InterChange Server to exchange business objects with appli-cations built on a database supported by a Java Database Connectivity (JDBC) driver. This connector also supports stored procedure calls at each object level. Several advanced configuration properties allow the connector to communicate with DB2 platforms, Sybase and Informix for capa-bilities extending beyond the JDBC standard, giving you greater access to third-party platforms.

- *IBM CrossWorlds Connector for MQSeries Workflow*
Incorporates hybrid and multiple implementations of IBM
MQSeries Workflow with the CrossWorlds solution. This combi-
nation of products provides a best-of-breed integration strategy
for companies seeking to automate processes, meet regulatory
requirements or satisfy industry-standard procedures.

- *IBM CrossWorlds Connector for SWIFT*
Extends your integration solutions by integrating network and
Society for Worldwide Interbank Financial Telecommunication
(SWIFT)-standard formats. This connector allows organizations
using CrossWorlds software applications to reduce the time,
cost and effort of integrating SWIFT messages with other finan-
cial applications, databases and back-end systems.

- *IBM CrossWorlds Connector for Financial Information*
  Exchange (FIX) Protocol
Allows CrossWorlds InterChange Server to exchange business
objects with applications that send or receive data in the form of
FIX messages. This means that financial services companies
can enable their business processes to interact according to
FIX industry standards.

Mainframe connectivity

- *IBM CrossWorlds Connector for CICS*
Works with IBM CrossWorlds Mainframe Agent to treat IBM
CICS® programs as though they are stored procedures. A pro-
gram is called through industry-standard mechanisms, and the
input is passed as part of the call. The CICS program returns its
data to the server where it is formatted and returned. Additional
logic and formatting to the data can be applied through custom-
er-developed programs.

- *IBM CrossWorlds Connector for IMS Transaction Manager*
Enables CrossWorlds Mainframe Agent to provide noninvasive,
high-volume and high-performance access to Information
Management Systems (IMS) databases and transactions. This
connector supports standard APIs for integration and client-side
development.

- *IBM CrossWorlds Connector for IMS Database*
Relies on CrossWorlds Mainframe Agent to give secure, high-
volume and high-performance access to IBM IMS™ databases
and transactions. This connector also supports standard APIs
for integration and client-side development.

- *IBM CrossWorlds Connector for Virtual Storage Access Method (VSAM)*
Works with CrossWorlds Mainframe Agent to deliver turnkey
access to VSAM data. This connector requests read-and-write
access to the VSAM file through the call verb. The agent con-
verts SQL commands to native VSAM read/write statements
and manages the connection between the address space and
the appropriate CICS region, in addition to the exchange, trans-
lation and formatting of data.

- *IBM CrossWorlds Connector for DB2*
Enables CrossWorlds Mainframe Agent to provide you with
maximum performance when integrating DB2 data with distrib-
uted or Web applications—without sacrificing flexibility, reliability
or security. This connector provides a robust solution so that you
can easily integrate and leverage DB2 and OS/390 resources.

- *IBM CrossWorlds Connector for Adabas*
Works with the CrossWorlds Mainframe Agent to let you access
Adabas data in a relational model. This connector provides
direct SQL or native access to Adabas, including support for
native Adabas transactional commands, decreasing the need
for additional programming.

IBM CrossWorlds Connectors at a glance

Application connectivity	e-business connectivity
CrossWorlds Connectors for BroadVision • BroadVision, Version 5.0 • BroadVision, Version 5.5	CrossWorlds Serverless Trading Agent
	CrossWorlds Access Framework
CrossWorlds Connectors for Clarify • Clarify, Version 8 • Clarify, Version 8.1 • Clarify, Version 8.5 • Clarify, Version 9 • Clarify, Version 10	CrossWorlds Trading Partner Interchange Solo
	CrossWorlds Trading Partner Interchange On-Ramp
	CrossWorlds Trading Partner Interchange for Trading Networks
	CrossWorlds Resource Adapter for InterChange Server
	CrossWorlds XML Data Handler
CrossWorlds Connector for i2 Active Data Warehouse (ADW) • i2 Active Data Warehouse, Version 4.x • i2 Active Data Warehouse, Version 5.x	CrossWorlds EDI Data Handler
	CrossWorlds Connector for Web Services
	CrossWorlds Access Framework for Enterprise JavaBeans

	Technology connectivity
CrossWorlds Connectors for MetaSolv TBS • MetaSolv TBS, Version 4.x • MetaSolv TBS, Version 5.x	CrossWorlds Connector for JMS
	CrossWorlds Connector for e-mail
CrossWorlds Connectors for Oracle Applications • Oracle Applications, Version 10.7 • Oracle Applications, Version 11 • Oracle Applications, Version 11i	CrossWorlds Connector for MQSeries Integrator, Version 2.0
	CrossWorlds Connector for XML
	CrossWorlds Connector for MQSeries
IBM CrossWorlds Connectors for PeopleSoft • PeopleSoft, Version 7.x • PeopleSoft, Version 8.x	CrossWorlds Connector for JText
	CrossWorlds Connector for JDBC
CrossWorlds Connector for Portal Infranet, Version 6.1	CrossWorlds Connector for MQSeries Workflow
	CrossWorlds Connector for SWIFT
CrossWorlds Connectors for SAP R/3 • SAP R/3, Version 3.x • SAP R/3, Version 4.x	CrossWorlds Connector for FIX Protocol

	Mainframe connectivity
CrossWorlds Connector for Siebel 2000	CrossWorlds Connector for CICS
CrossWorlds Connectors for Vantive • Vantive, Version 7.0 • Vantive, Version 8.x	CrossWorlds Connector for IMS Transaction Manager
	CrossWorlds Connector for IMS Database
	CrossWorlds Connector for VSAM
	CrossWorlds Connector for DB2
	CrossWorlds Connector for Adabas

Business integration building blocks

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 Offering	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.

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.

CrossWorlds software builds on WebSphere e-business infra-
structure 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,
  with-out additional coding*
- *Enabling application-to-application and browser-based
  integration*

From linking applications or systems to integrating and stream-
lining business processes, CrossWorlds software can help you
achieve your current and future business goals.

For more information

To learn more about CrossWorlds Connectors, visit
ibm.com/websphere/crossworlds.

e business software