IBM WebSphere Business Integration Connect
Enterprise and Advanced Editions

Product Overview

Version 4.2.1

Note!

Before using this information and the product it supports, be sure to read the general information under "Notices and Trademarks," on page 33.

Second Edition (December 2003)

This edition applies to Version 4, Release 2, Modification 1, of IBM® WebSphere® Business Integration Connect Enterprise Edition (5724-E87) and Advanced Edition (5724-E75), and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

About this book

This document provides a brief description of the entire IBM(R) WebSphere(R) Business Integration Connect family and then describes, in more detail, the WebSphere Business Integration Connect Enterprise and Advanced editions.

Who should read this book

This book is intended for the reader who wants an overview of the product. "Fast paths" on page 29 describes the documents that provide more detailed information on installing, administering, and using Business Integration Connect.

New in this release

This section describes the changes to Web Sphere Business Integration Connect for the current release (version 4.2.1).

- Additional platform support

  In addition to RedHat Linux Advanced Server Version 2.1, Business Integration Connect Enterprise and Advanced editions can now be installed on the following platforms:

  - Windows 2000
  - Solaris (Version 8)
  - UnitedLinux (Version 1)
  - AIX (Version 5.2)

- Additional database support

  In addition to DB2 Universal Database, Business Integration Connect Enterprise and Advanced editions now work with Oracle 9.2.

- New protocol support

  Business Integration Connect Enterprise and Advanced editions now support the following business protocols:

  - SOAP (passthrough support) for Web services
  - cXML

- Enhancements to RosettaNet support

  The RosettaNet support has been enhanced as follows:

  - Synchronous messaging is now supported.

    - A set of PIP document flow packages is supplied on the Business Integration Connect installation medium. See the Administrator Guide for information on RosettaNet support.
- Attachment Data Handler feature

  This data handler, provided with Business Integration Connect Enterprise and Advanced editions, handles attachments that you send to or from the WebSphere InterChange Server.
- Globalization enablement

Related documents

The complete set of documentation available with this product describes the features and components of WebSphere Business Integration Connect Enterprise and Advanced Editions.

You can download this documentation or read it directly online at the following site:

http://www.ibm.com/software/integration/wbiconnect/library/infocenter

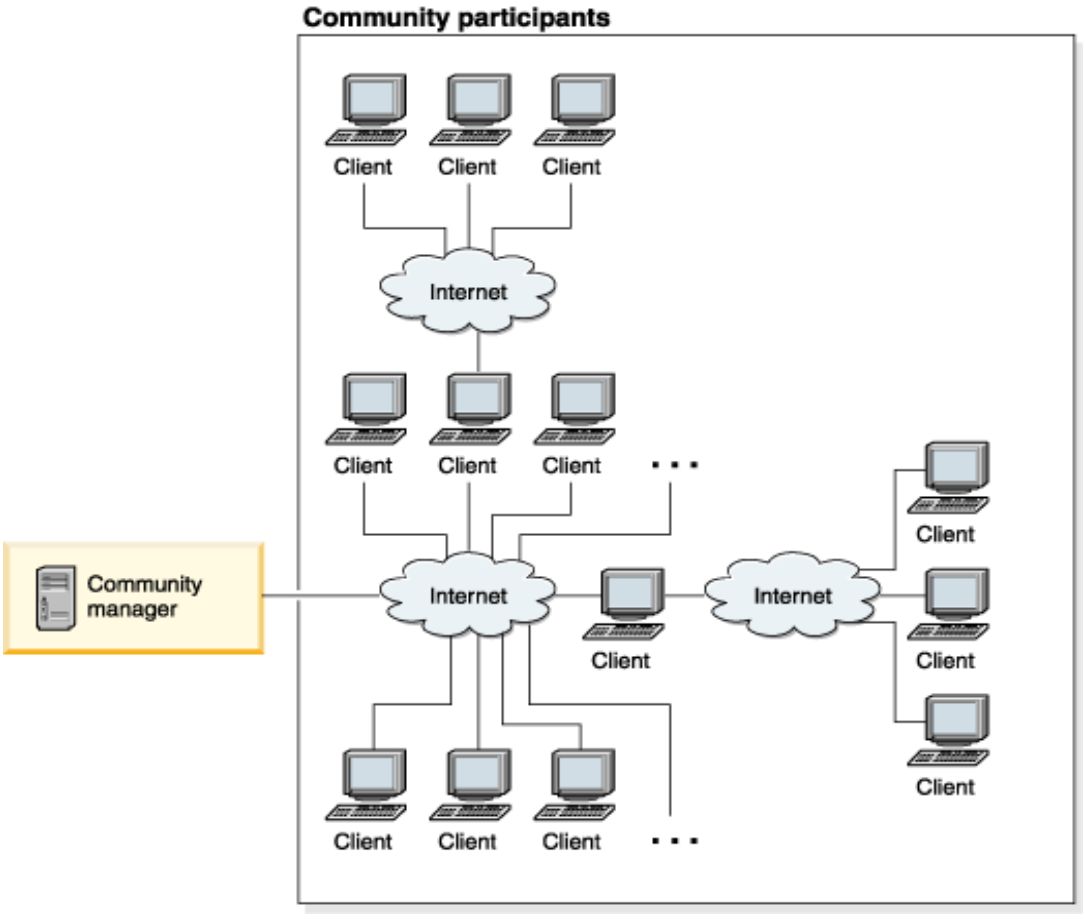
Chapter 1. Product introduction

Business Integration Connect is a business-to-business (B2B) community management solution for companies large and small. The Business Integration Connect solution addresses both the connectivity and the trading-partner enablement needs that are required to establish a mutually beneficial trading community.

With Business Integration Connect, you exchange data and processes within a trading community, crossing enterprise boundaries and extending business integration beyond the enterprise and into the community.

The trading community

A trading community typically revolves around a hub—an enterprise that acts as the Community Manager. Community Participants of various sizes connect to the hub through the Internet. Participants themselves can act as hubs.



A trading community with a Community Manager and Community Participants

Business Integration Connect provides a solution for each type of participant in the trading community.

- WebSphere Business Integration Connect Enterprise Edition is ideal for the larger enterprise that wants to connect to an unlimited number of trading partners using a variety of transports and message formats. This enterprise acts as the Community Manager, establishing the community, getting partners on board, and monitoring the activity of all participants in the community.

- WebSphere Business Integration Connect Advanced Edition is suited to the customer who wants the flexibility of transport and message formats but has a more limited number of trading partners. This type of enterprise can act as a Community Manager (of its own smaller community) as well as a Community Participant in a larger community. The right side of the previous illustration shows an example of a client who is both a Community Participant (to the Community Manager) as well as a hub to its own community.

- WebSphere Business Integration Connect - Express is ideal for the smaller enterprise that needs a quick and easy way to connect to a limited number of community members to exchange business messages. This type of enterprise acts as a Community Participant.

The remainder of this document focuses on Business Integration Connect Enterprise and Advanced Editions. If you want information on Business Integration Connect - Express, see the InfoCenter for WebSphere Business Integration Connect - Express.

Benefits to users

The benefits of participating in a trading community and exchanging business documents electronically include the reduction in cost associated with a traditional, paper-based exchange as well as a reduction in the number of errors inherent in such an exchange. After all, critical transactions involving purchase orders, invoices, shipping notices, and other documents drive your business. The ability to participate in a trading community to exchange this information efficiently and securely is key to success.

Business Integration Connect provides benefits to all types of participants in a trading community. For the Community Manager, it provides real-time visibility into the entire supply chain, which helps improve data accuracy and decrease cycle times. Community Participants who use Business Integration Connect - Express can be enabled in the trading community with minimal cost and effort.

Additional benefits include scalability, ease of setup, and flexibility.

Scalability

Business Integration Connect is scalable. For example, an enterprise acting as the Community Manager can add additional servers to accommodate growth in the trading community. See "Sample configurations" on page 25 for additional details.

The Business Integration Connect - Express customer can purchase and install the Enterprise or Advanced editions should the needs of the enterprise change. For example, the customer who determines a need to support additional message formats or to connect to additional community members can install the Advanced Edition.

Ease of setup

Key to the success of a trading community is the ease with which the Community Manager can establish the community. The planning, setting up, and running of the community can be performed by the enterprise or as a set of Community Integration services from IBM. See your IBM representative for information about these services.

Perhaps even more important is the ease with which a Community Participant can join the trading community. The Community Participant provides basic information (such as the types of protocols it can support), and once a connection with the Community Manager is established, the Community Participant can begin sending test messages. It's that easy.

Further, once established in the community, a Community Participant is able to perform self-administration, subject to the level of authorization defined by the Community Manager.

Whether the Community Participant is using Business Integration Connect - Express or another connectivity tool, the barriers to joining a trading community are virtually eliminated.

Flexibility

Another key factor in the vitality of a trading community is the flexibility of handling diverse transports and message formats.

For example, you might exchange purchase orders with a subset of your trading partners through RosettaNet PIPs. With other trading partners, you might have an agreement to exchange EDI-formatted documents. You can accommodate both types of participants in your trading community.

Similarly, you can use Business Integration Connect to make a Web service available to your Community Participants. You can also access the Web services of your Community Participants. Business Integration Connect acts as a SOAP proxy.

You can exchange a wide variety of documents with your Community Participants, including RosettaNet, SOAP, cXML, XML, EDI, and binary. In addition, Business Integration Connect can send and receive documents to Community Participants over a variety of transport protocols:

- The HTTP or HTTPS transport protocols can be used by all types of documents (except for binary documents with no associated packaging sent from a Community Participant). Note that:
    - RosettaNet documents can use either synchronous or asynchronous communication.
    - SOAP and cXML documents use synchronous communication.
    - XML, EDI, and binary documents sent over AS2 use asynchronous communication, although they can receive Message Disposition Notifications (MDNs) synchronously.

    - XML documents use asynchronous communication.
- The FTP transport protocol can be used for EDI, XML, and binary documents that do not have packaging associated with them.
- The SMTP transport protocol can be used for EDI, XML, and binary documents that conform to the AS1 protocol

You have a variety of choices on how the documents are processed--everything from passthrough routing to translation into custom XML.

For communication with your backend applications, you can exchange RosettaNet Service Content (RNSC), SOAP, cXML, XML, EDI, and binary documents over a variety of transport protocols:

- The HTTP or HTTPS transport protocols can be used by all types of documents (except for binary documents with no associated packaging send from the backend application). Note that SOAP and cMXL documents can use synchronous communication.
- The JMS transport protocol can be used for RNSC, XML, EDI, and binary documents.
- File-based transfer can be used for XML or EDI documents that have no packaging associated with them.

Component overview

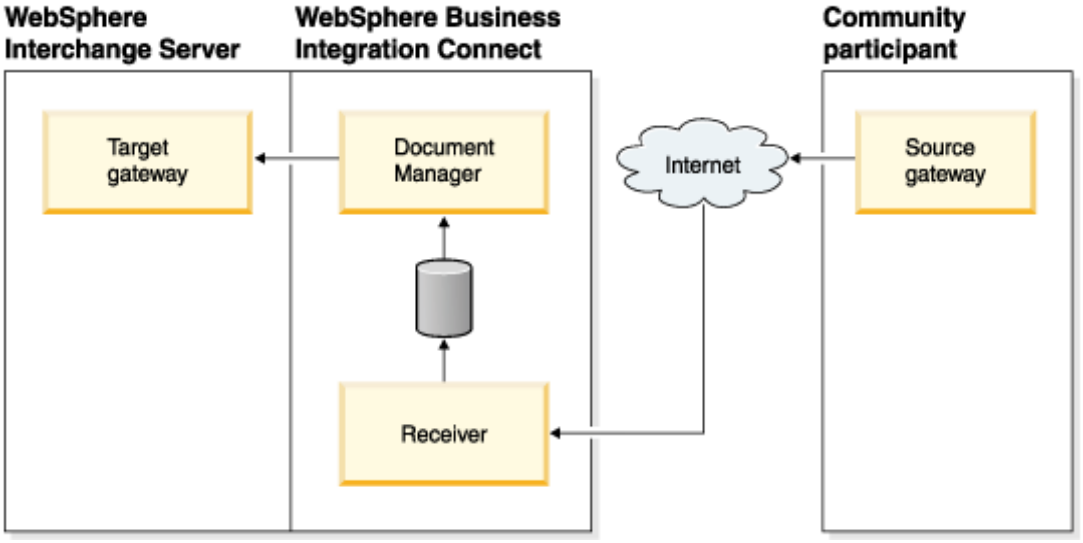
This section briefly describes the components of Business Integration Connect and how they work together to enable you to participate in a trading community.

The three major components of Business Integration Connect are the Receiver, Document Manager, and Console. A brief overview of these components is provided in the following sections. For more detailed information about the components and for a description of prerequisite and related components (such as the database and WebSphere MQ), see "Technical overview" on page 19.

Receiver

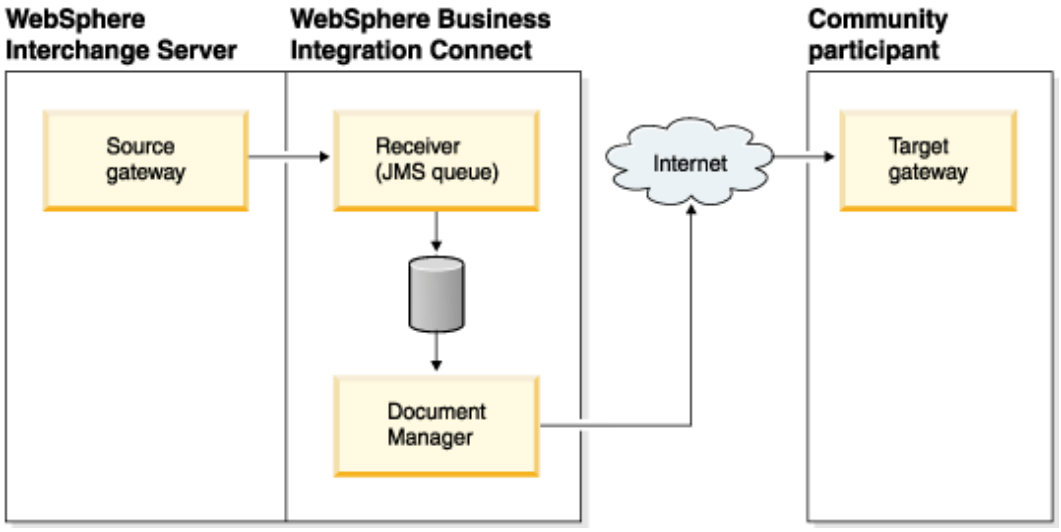
The Receiver is the software component that receives documents from Community Participants and puts the documents in a file system for the Document Manager to process. Documents enter the system through the Receiver.

In the following illustration, a document intended for a collaboration on the WebSphere InterChange Server is sent from the Community Participant to the Receiver.



Document flow through the Receiver and Document Manager

Messages sent from your enterprise to Community Participants reverse the process described in the previous sections. The backend application sends the outgoing document to a directory or through the HTTP, HTTPS, or JMS protocol to a Receiver set up for the directory or protocol type. The Document Manager detects the document and routes it to the Community Participant. In this example, a document sent from the WebSphere InterChange Server is received by the target set up for JMS.



Document flow through a JMS queue and the Document Manager

Document Manager

The Document Manager polls the file system for documents, performs any user-configured validation processing, and then delivers the document to its final destination (in the illustration, a backend application). Validation processing includes validating the received document against a defined map for that document type.

Subsystems of the Document Manager also decrypt the document (if required), perform digital signature verification (if required), perform XML transformation and validation (if required), and log entries about the processing of the document in the DB2 database.

Community Console

The Community Console provides the user administration interface for setting up the trading community and for monitoring the flow of documents and processes within the community. With the Community Console, you can manage and troubleshoot current or past event, document, and process activity.

For example, if you find that documents are failing for the same reason or from the same source, you can use the Community Console to quickly identify and resolve the problem. The Community Console gives you access to detailed reports and analysis on business processes, trends, and exception activity.

The Community Console is available to both the enterprise running Business Integration Connect as well as to all the participants in the trading community. The Community Manager has visibility to the entire community on a 24 x 7 basis. Participants can access the Community Console through a Web browser to get a real-time view of the documents, processes, and events that relate to their trading activities.

Supported platforms

Business Integration Connect Enterprise and Advanced Editions have similar hardware and software requirements. They are available on the following operating systems:

- RedHat Linux Advanced Server (Version 2.1)
- Solaris (Version 8)
- UnitedLinux (Version 1)
- AIX (Version 5.2)
- Windows 2000

They require the DB2(R) Universal Database(TM) 8.1 or Oracle 9.2, which is used as the data repository, and WebSphere MQ Version 5.3 or later, for communication among components. See Installing Business Integration Connect for more specific information on the software requirements.

You need a Web browser to view console information. If you are planning to use the FTP transport, you must have an FTP server installed. Also, if you are planning to use the SMTP transport with Business Integration Connect for AS1 or for sending alerts, you should have an SMTP server installed.

The Business Integration Connect Enterprise and Advanced Edition components and prerequisite products can be installed on one server or can be split among multiple servers. See "Sample configurations" on page 25 for additional details.

For more detailed information about the hardware and software requirements, see Installing Business Integration Connect.

Chapter 2. WebSphere product family overview

This section describes how the Business Integration Connect fits into the WebSphere product family.

WebSphere

WebSphere is the market-leading Internet infrastructure software, or middleware, for creating, running, and integrating e-business applications across a variety of computing platforms.

The WebSphere family of products fall into three categories:

- Business Portals
- Business Integration
- Foundation & Tools

Business Integration Connect is part of the Business Integration family of products, which allows companies to realize the benefits of end-to-end integration through five core capabilities:

- **Model** and simulate business processes
- **Integrate** people, processes, information, and systems
- **Connect** with your customers and partners
- **Monitor** business processes from start to finish
- **Manage** your business more efficiently

As its name implies, Business Integration Connect helps fulfill the Connect capability. Not only does it allow you to communicate with your trading community, it extends the business integration of your enterprise beyond the enterprise.

Integration with enterprise applications

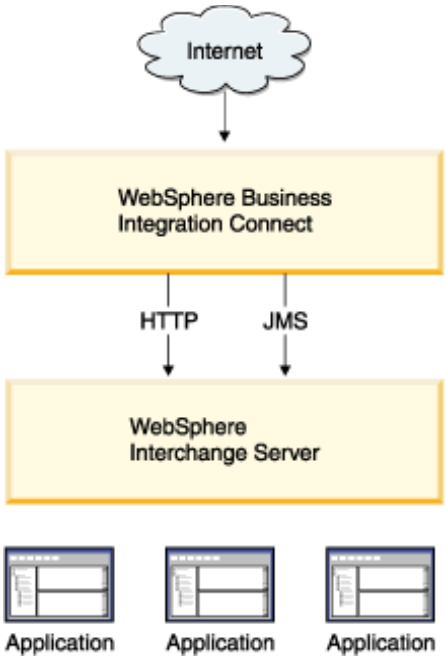
All editions of Business Integration Connect provide the ability to connect to backend integration systems. Business Integration Connect - Express provides file-based integration, while Business Integration Connect Enterprise and Advanced Editions provide both file-based integration and integration over HTTP, HTTPS, and JMS transports.

Business Integration Connect is the entry point for messages and documents coming into the enterprise. Depending on the type of message, Business Integration Connect processes the message and passes it on to another product.

Where there is a need for a direct XML transformation of the content, WebSphere InterChange Server can be used to meet that need.

Where there is a need for a specific type of optimized transformation (EDI transformation), WebSphere Data Interchange can be used.

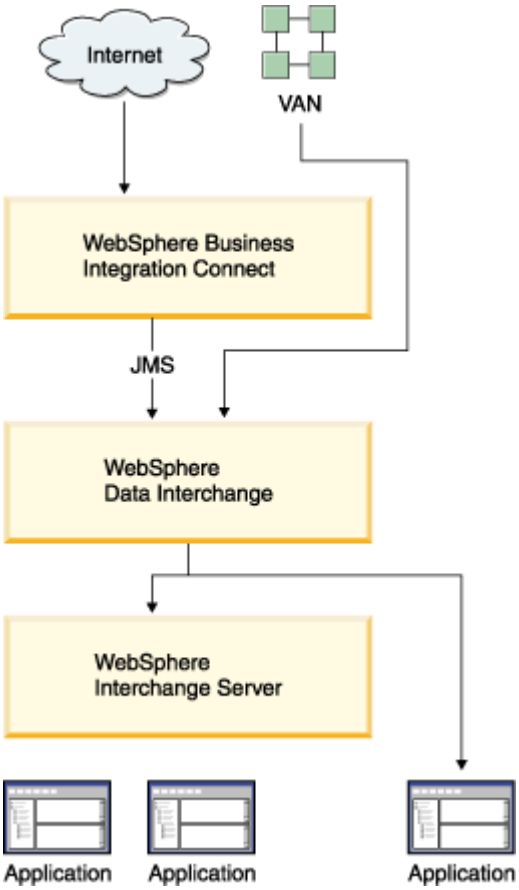
The following illustration shows how Business Integration Connect can be integrated with WebSphere InterChange Server.



Document flow through Business Integration Connect to the InterChange Server

A document intended for the WebSphere InterChange Server can be sent from a community participant in an XML, EDI, RosettaNet, or binary format, and can be sent (after transformation, if necessary) through the HTTP or JMS transport protocol.

The following illustration shows how Business Integration Connect can be integrated with WebSphere Data Interchange.



Document flow through Business Integration Connect to WebSphere Data Interchange

An EDI document intended for WebSphere Data Interchange is sent through the JMS transport protocol. As shown in the illustration, WebSphere Data Interchange can interact with WebSphere InterChange Server or directly with an application. In a typical WebSphere Data Interchange installation, an EDI document can also be delivered directly from a Value Added Network (VAN) to WebSphere Data Interchange.

Integration with backend systems is described in more detail in the Integration Overview.

Chapter 3. Technical overview

This chapter provides an overview of the architecture of Business Integration Connect. It also shows you some sample configurations and explains how scalability is achieved. Finally, it provides a series of sample message flows to illustrate how messages are exchanged between Community Participants and Community Managers.

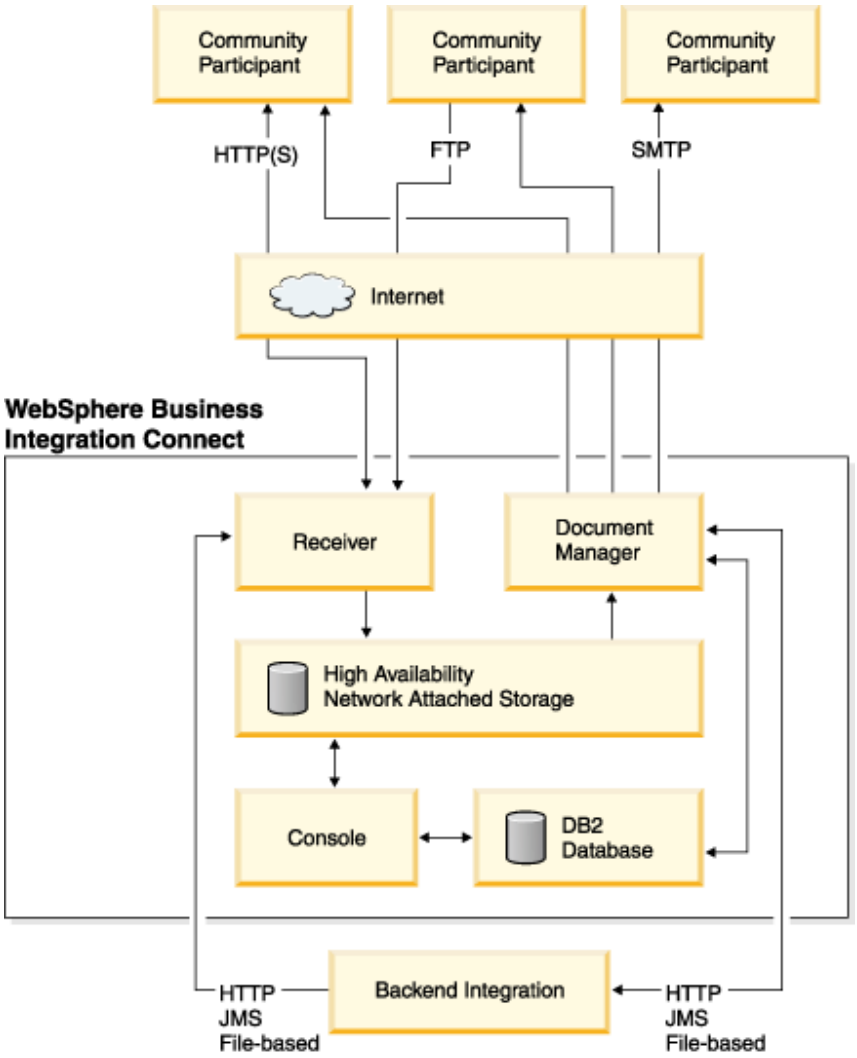
The architecture

Business Integration Connect enables business-to-business (B2B) process integration and data sharing among partners of all types and sizes. It can be thought of as a suite of distributed, multi-tier Java™ applications that are architected from the ground up to exploit the benefits of Java 2 Enterprise Edition (J2EE) and that work together to provide B2B functionality to enterprises. Each Business Integration Connect offering instance is deployed on a per enterprise/community basis. Enterprises and their partners benefit from reduced integration costs and faster deployment of new processes and services, using open standards and proven technology.

As described in Chapter 2, the three major components of Business Integration Connect are the Receiver, the Console, and the Document Manager.

- The Receiver handles secure and reliable receipt of documents, independent of transport protocol.
- The Console is a standard J2EE component that provides Community Console access to the Community Manager and to the Community Participant. The Community Manager can view the entire community. Participants have a more limited view, which allows them to modify their profiles and monitor the flow of their documents.
- The Document Manager function is delivered as one or more routing and processing servers, which implement the reliable routing, validation, and translation services within Business Integration Connect. When validation is required, it is performed through the use of XML schemas. When translation is required, it is performed through the use of XSLT-based transformations, optimized for performance.

The following illustration shows how the components work together:



WebSphere Business Integration Connect components

The components and their relationship to the database and shared storage are described in more detail in the sections that follow. Note that all components must have access to the same file system.

Receiver

The Receiver component accepts documents from community participants and from backend applications and stores them. Specifically, it:

- Receives a document over a supported transport protocol
- Writes the document and metadata relating to the document to shared file services

The Receiver records any transport-specific data (for example, the source IP address and certificate information about the SSL connection) to the metadata file and completes any transport-specific technical acknowledgment (for example, sending a 200 response to an HTTP POST).

Document Manager

The Document Manager retrieves stored data, processes it, and routes it, both to Community Participants and to enterprise applications. Specifically, it:

1. Reads the raw document and metadata and saves the inbound document to the non-repudiation directory on shared storage
2. Processes the data to the destination format (performing tasks such as validation and transformation, if specified) and saves the destination document to the non-repudiation directory on shared storage
3. Delivers data to its intended destination, which could be a JMS queue, a directory, or a URL

The following sections describe how the subcomponents of the Document Manager perform the tasks presented in the previous list.

Document Processing Engine

The Document Processing Engine performs all of the processing of messages. The Document Processing Engine is responsible for:

- Unpacking messages
- Ensuring that the source of the message is authorized
- Filtering out duplicate messages
- Validating the structure and content of the message
- Translating the message into the format required by the destination
- Packaging the message for the destination, including digitally signing and encrypting the message, if needed
- Storing both the original inbound message and the final outbound message in the non-repudiation repository
- Passing the packaged message to the outbound transport engine

State Engine

The State Engine encapsulates the business rules on a per-protocol basis and executes instructions based on those rules (for example, initiating a retry when no acknowledgment has been received in the defined interval).

Alert Engine

The Alert Engine monitors activity and generates e-mail notifications. You can configure the Alert Engine to indicate which alerts are generated, to whom the alerts are sent, and when the alerts are delivered.

Delivery Manager

The Delivery Manager component is responsible for transporting messages to specific destinations, maintaining a separate queue of messages for each destination. A dedicated transport mechanism exists for each destination, so problems delivering to one destination should not affect transport to other destinations.

Community Console

The Community Console is the window into the business process activity and error resolution. It primarily has three different users: the Community Operator, the Community Manager, and the Community Participant. The console provides role-based access control to the various features and views. The features of the console include:

- Tools to quickly connect to the community
- Business-process event and exception monitoring
- Detailed reports and analysis on business process, trend, and exception activity
- Tools to troubleshoot document processing
- Ability to drill down to events and raw documents

The Community Console is a J2EE application.

Database

The prerequisite DB2 Universal Database Enterprise or Oracle 9.2 is used as the data repository. It is here that partner profile information is stored and events are logged. The data repository is also where guidelines and maps (for validation and translation) are stored, where the state of various processes is recorded, and where trading activity is tracked.

The information stored in the data repository is used to give you visibility into the entire trading community.

Note that some information (for example, the raw message data in the non-repudiation and message stores) is kept on the shared file system, as described in "File System" on page 24.

Profile

The participant profile consists of configuration data that is used in document routing and console access. The profile information can be classified as:

- Partner data
- Users
- Contacts

The participant data includes participant names and business identifiers such as DUNS numbers. A single partner can have one or more business identifiers.

Users are accounts that have access to the Business Integration Connect console. A user account gets its permissions to interact with the console based on group membership.

Contacts are similar to users; however, they cannot interact with the console, and they can only be configured to receive notifications from the alert system.

Gateways

Gateways describe the endpoints of a defined connection. When a document is routed through Business Integration Connect, the connection is referenced and the target gateway definition is returned to the system. The gateway defines destination URIs, optional login information, and transport-level settings.

Connections

Connections define valid interactions between Community Participants. They consist of information about the type of document protocol, document type, source participant, target participant, connection type, and source and target gateways. The Document Manager uses the information in the connection to determine if translation is required and to determine the destination gateway information.

Certificates and IP addresses

The following security information is stored:

- Certificate information used to certify the sending Community Participant based on the client certificate used during the SSL connection
- Certificates used for encryption and digital signature validation
- IP addresses used to confirm that the source IP address is correct and that documents can be posted from that address

Alerts configuration

Alerts are defined at a partner level and consist of a variety of attributes to describe event-based alerts or volume alerts.

You can define event-based alerts so that they will be triggered each time the event occurs or so that they will batched, based on an interval. You can also configure the alert with a contact list for notification based on a defined schedule.

Document activity

Business Integration Connect logs information to describe documents as they are routed. Details are logged about the document as it was received and as it was transmitted. The following types of information are logged:

- The format of the document, including the source participant, target participant, source protocol, target protocol, source document type, and target document type
- Metrics that describe the size of the document and the time it was received and transmitted
- The state that is logged against a document, describing whether it was transmitted to the participant

Document events

Business Integration Connect uses events to track activities and logs the events in a central event log. The events, which are classified as Informational, Warning, or Critical Errors, can be generated by different components in Business Integration Connect.

Events can be tied back to document activity when they are in relation to a document that was routed by Business Integration Connect. The events can also track non-document related activities, such as logging into the system.

Summary data

Business Integration Connect summarizes key metrics, which can be displayed in the console. The information that is summarized includes:

- The number of documents received, sent, and failed. These counts are summarized by certain attributes by hour.
- The number of events that were generated. These counts are summarized by certain detail attributes by hour.

These counts are rolled up by hour and can be correlated back to the document activity logs.

File System

The following information is stored in the shared file system:

Non-Repudiation data repository

Documents are stored on a disk that has shared access from all components of Business Integration Connect (Receiver, Console, and Document Manager). The original document (as it was received) and the final document (as it was sent) are stored.

Message data repository

Documents are stored in an unencrypted form for displaying to the console. This disk also has shared access from all components of Business Integration Connect (Receiver, Console, and Document Manager).

Communication via JMS

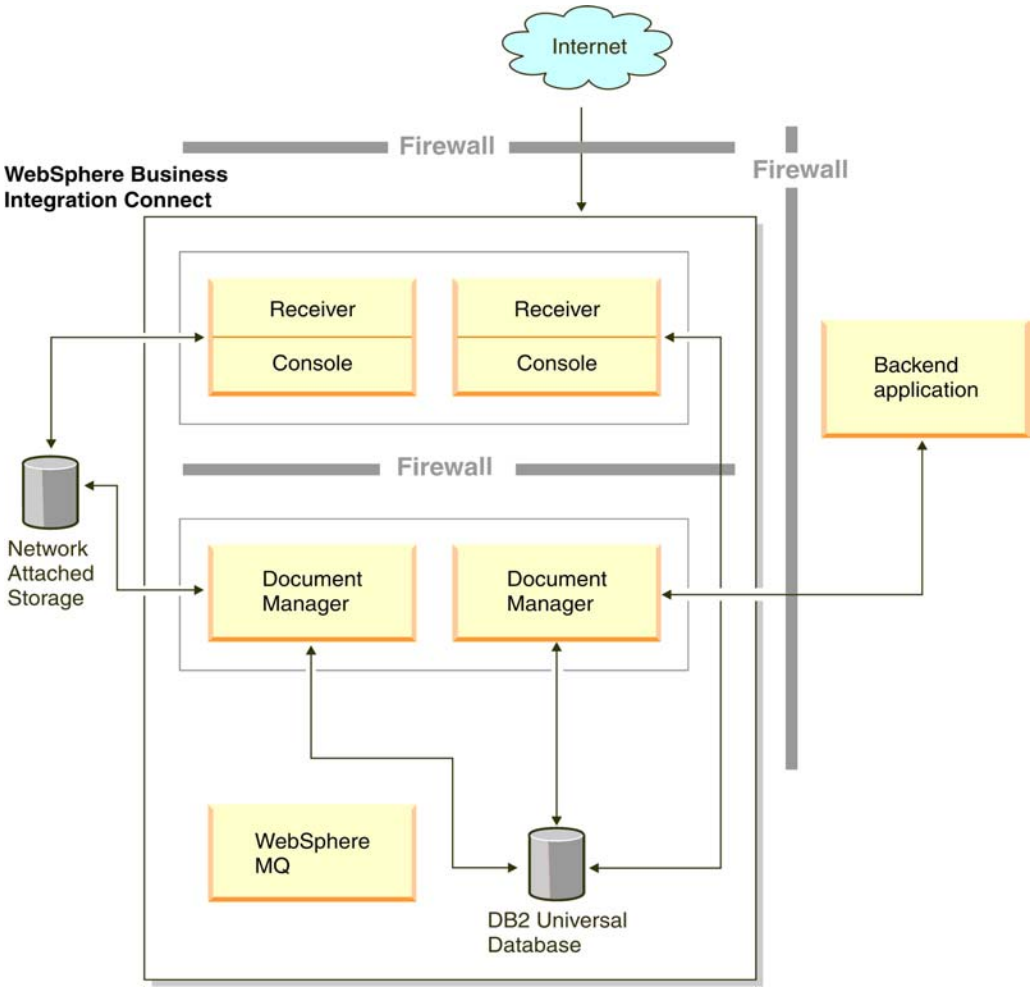
Communication between some components is done via JMS. JMS queues with reliable storage allow the flexibility of locating components on different machines while still maintaining a standard inter-component communication method.

Sample configurations

The component-based structure of Business Integration Connect means that it can be configured in a variety of ways—from a single-server configuration to a redundant configuration for high performance or failover support—to meet the needs of your business.

For example, you can install the Business Integration Connect components on one server and the prerequisite programs on another, with a firewall in front of each server. Or, you can divide the components and programs among three servers.

To achieve scalability and high performance, you might divide the components and programs among six servers. The following illustration shows such a configuration. Two servers contain instances of the Receiver and the Console, two servers contain the Document Manager, one server contains WebSphere MQ, and one server contains the DB2 database. Firewalls are set up between servers as illustrated. Note that network-attached storage, while recommended, is not required.



A sample WebSphere Business Integration Connect configuration

Scaling characteristics

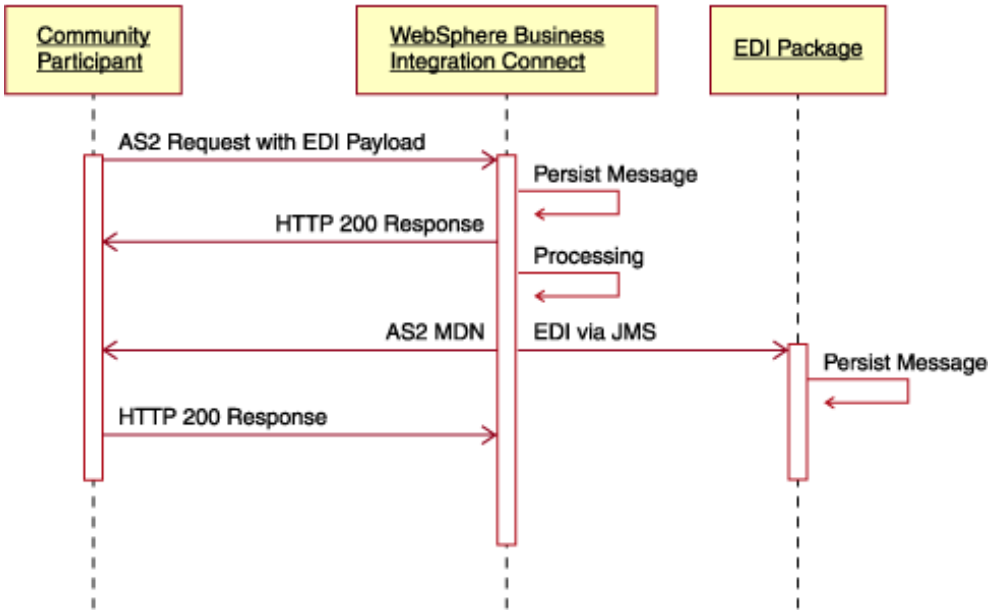
All of the components in Business Integration Connect are designed to scale both horizontally and vertically, where horizontal scaling is characterized as running multiple instances across multiple servers, and vertical scaling is characterized as adding processing power to a single server.

Having the ability to run any of the components on any server allows for greater flexibility with regard to scaling the system. I/O or compute-intensive components can be deployed on servers optimized for their needs. Also, the shared work queue mechanism allows each component to scale independently of other components.

Message flows

This section shows the flow of an EDI document with AS packaging sent over the HTTP transport protocol through the Business Integration Connect server, for eventual delivery to an EDI package at the backend of an enterprise.

In this example, it is assumed that the inbound AS2 message requested an asynchronous MDN.



Sequence diagram of the delivery of an EDI document

1. The AS2 request with the EDI payload enters the Receiver component of Business Integration Connect.
2. The Receiver saves the message to disk.
3. The Receiver returns an HTTP 200 response to the Community Participant.

4. The Document Manager picks up the message for processing by the Document Processing Engine and saves the original message to the non-repudiation database. The Document Processing Engine processes the message, which includes
    a. Performing decryption, de-enveloping, and structure-level validation
    b. Performing authentication and authorization and duplicate checks
    c. Performing content-level validation
    d. Digitally signing or encrypting the message (or both), if specified by the configuration.
    e. Adding header information.
    f. Saving the final packaged message to the non-repudiation database
5. The Delivery Manager sends the message (in this case, using the JMS transport).
6. An MDN is sent to the Community Participant.
7. The Community Participant acknowledges the receipt of the MDN by sending an HTTP 200.

You can find examples of end-to-end flows for RosettaNet documents in the "RosettaNet Support" section of the Administrator Guide.

Chapter 4. Fast paths

This section describes the tasks a Business Integration Connect administrator follows in setting up and using the product. Note that there are three types of administrative users: the Community Manager, the Community Operator, and the Community Participant.

In some enterprises, on behalf of the Community Manager, the day-to-day running of the community will be handled by a third party, the Community Operator. For example, IBM can provide Community Integration Services for your enterprise. See your IBM representative for information on purchasing Community Integration Services.

The enterprise acting as the Community Manager or the Community Operator using the Business Integration Connect Enterprise or Advanced edition must consider community integration tasks, such as:

- Defining the scope of the trading environment
- Defining business interactions
- Connecting businesses to the community
- Adjusting the environment to changing business needs

For information on planning for installation and installing the product, see Installing Business Integration Connect.

After the product is installed, a Community Manager administrative user defines the B2B configuration and then activates specific connections (communication paths that transmit data) between the Community Manager and participants to enable the exchange of electronic business documents. The system generates the connections based on the capabilities defined during configuration.

You can find more detailed information about these tasks in the Administrator Guide and the User Guide for the Community Console.

Appendix A. Comparison of protocol support

This appendix provides you with an at-a-glance comparison of the support Business Integration Connect provides for each type of protocol:

Protocol support in Business Integration Connect

	XML/Binary	AS2	RosettaNet	SOAP	cXML
Supported version			RNIF 1.1 and 2.0	• SOAP version 1.1 • WSDL version 1.1	Version 1.2.009 is preloaded
Synchronous transactions?	No	MDN only	Yes	Both request only and request-response operations are supported	Both cXML asynchronous and request-response (synchronous) are supported
Proxy only or protocol and document translation supported?	Protocol translation supported Document translation supported for XML (XSLT)	Protocol translation supported Document translation supported for XML (XSLT)	Protocol translation supported Document translation supported for RNIF to RNSC and vice versa	Proxy only	Passthrough support is primary usage; however, document translation is possible, but will change the behavior for synchronous cXML.
Attachments supported?	No	No	Yes. Note that Documents exchanged with the WebSphere InterChange Server require use of the Attachment Data Handler.	No	Yes, but custom development might be required.
Specific transactions supported	N/A	N/A	See the Administrator Guide for a list of provided PIPs and for information on PIP customization.	Support for RPC and document-styles	Passthrough support (only) is available for Punchout messages

Protocol support in Business Integration Connect

	XML/Binary	AS2	RosettaNet	SOAP	cXML
Security	HTTPS **Note:** HTTP header authentication is supported for outbound	• HTTPS • Business encryption with triple DES • Digital signature hashing with SHA-1 or MD5	• HTTPS • Business encryption with triple DES, RS5, or RS2 • Digital signature hashing with SHA-1 or MD5	HTTPS	HTTPS
Backend integration options	• JMS • HTTP/S • File	• JMS • HTTP/S • File	• JMS (when using RNSC) • HTTP/S	HTTP/S	HTTP/S
Samples provided?	Yes (See Notes 1 and 2)		Yes (See Note 3)		

Notes:

1. A sample of exchanging documents with WebSphere InterChange Server over the HTTP transport protocol (using the Business Integration Connect-supplied HTTP servlet) is provided in the following location:

   `SAMPLES\integration\wbi\wics\http\samples`

   A Readme file describing the sample is provided in the samples directory.

2. A sample of exchanging documents with WebSphere InterChange Server over the JMS transport protocol is provided in the following location:

   `SAMPLES\integration\wbi\wics\jms\samples`

   A Readme file describing the samples is provided in the samples directory.

3. A sample of exchanging RosettaNet PIPS with WebSphere InterChange Server is provided in the following location:

   `SAMPLES\integration\wbi\wics\rosettanet\samples`

   The PIP Sample document describes the sample.

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