

*IBM WebSphere Business Integration Connect
Enterprise Edition and Advanced Edition*



Product Overview

Version 4.2.0

Note!

Before using this information and the product it supports, be sure to read the general information under “Notices and Trademarks” on page 21.

First Edition (September 2003)

This edition applies to Version 4, Release 2, Modification 0, of IBM® WebSphere® Business Integration Connect Advanced Edition (5724-E75) and Enterprise Edition (5724-E87), and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. About this book

This document provides an overview of IBM® WebSphere® Business Integration Connect Version 4.2. It briefly describes the entire WebSphere Business Integration Connect family and then describes, in more detail, the WebSphere Business Integration Connect Enterprise and Advanced editions.

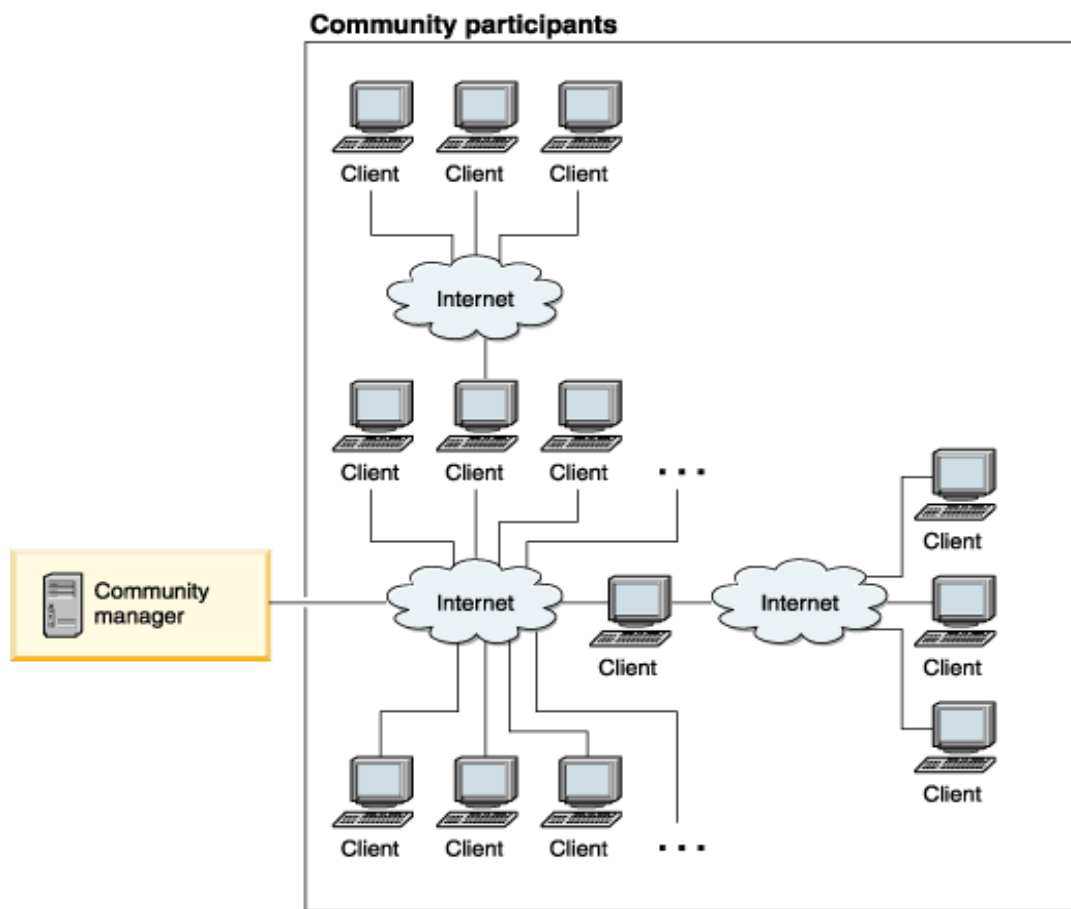
Chapter 2. Product introduction

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 *WebSphere Business Integration Connect - Express Product Overview*.

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 17](#) 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. Business Integration Connect supports a variety of transports (HTTP, HTTPS, SMTP (for the AS1 protocol), and FTP). It supports the following protocols: EDI-INT (AS1 and AS2), RosettaNet (Versions 1.1 and 2.0), XML, flat files (binary), and text files.

Supported platforms

Business Integration Connect Enterprise and Advanced Editions have similar hardware and software requirements. They are available on the RedHat Linux Advanced Server (Version 2.1). They require the DB2^(R) Universal Database 8.1, which is used as the data repository, and WebSphere MQ Version 5.3 or later, for communication among components. See the [Installing Business Integration Connect](#) document for more specific information on the software requirements.

The Enterprise and Advanced Editions are enabled for the optional ProFtp program (a separately purchased program). Other FTP programs can also be used, with modification. You need a Web browser to view console information. 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 17](#) for additional details.

For more detailed information about the hardware and software requirements, see [Installing Business Integration Connect](#).

Chapter 3. 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

As its name implies, Business Integration Connect is part of the Business Integration family of products. WebSphere Business Integration 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

Connecting with partners is at the core of Business Integration Connect. 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

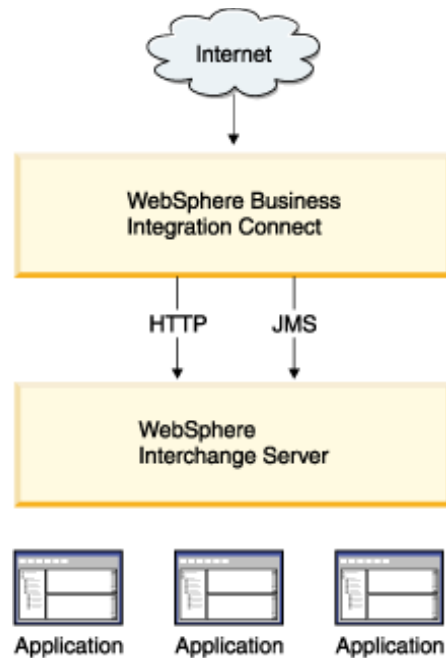
All editions of Business Integration Connect provide the ability to connect to backend integration systems. Business Integration Connect - Express provides file-based integration, while Business Integration Connect Enterprise and Advanced Editions provide both file-based integration and integration over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

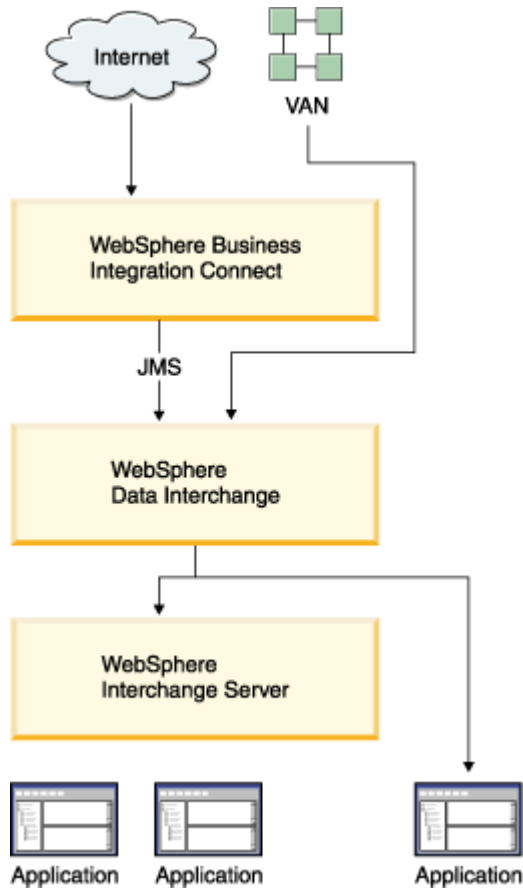
The following illustration shows how Business Integration Connect can be integrated with WebSphere InterChange Server.



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 for WebSphere Business Integration Connect](#).

Chapter 4. Technical overview

The Integration Business Connect Enterprise and Advanced editions provide you with the solid foundation on which to build a trading community. Because Business Integration Connect supports a wide variety of protocols and messaging standards, it makes it easy for participants to join the community.

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.

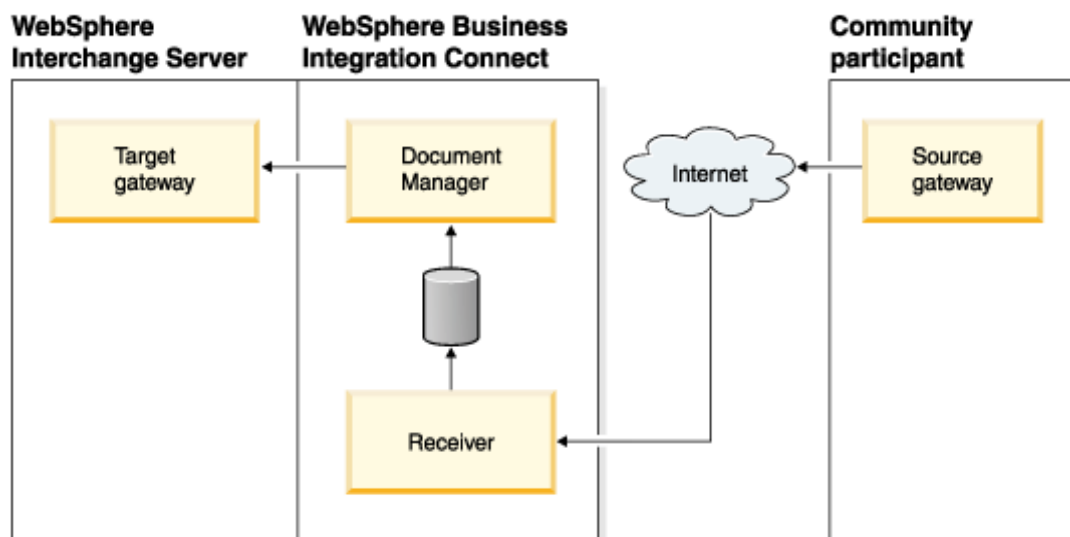
Components of the system

The components of Business Integration Connect are the Receiver, the Document Manager, and the Community Console.

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

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.

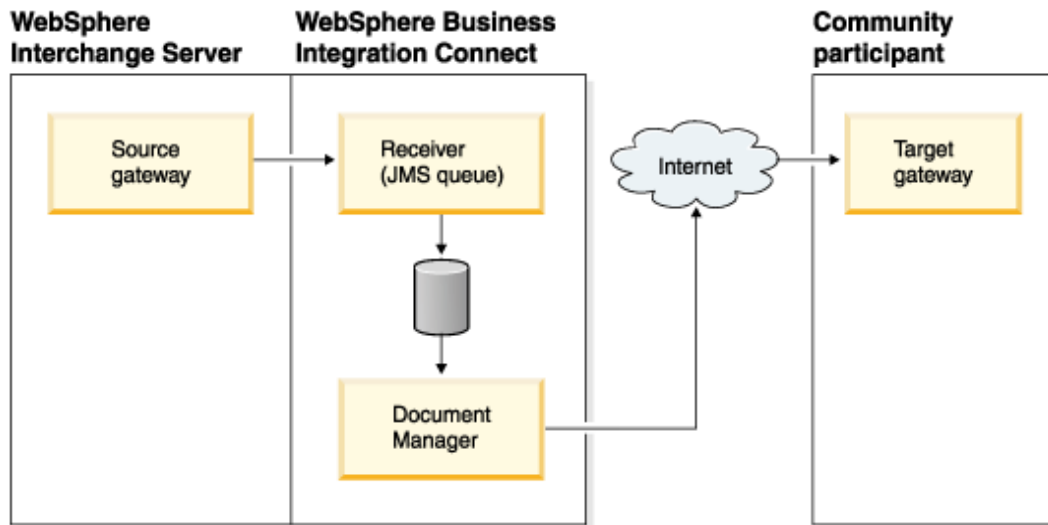
DB2 Universal Database

The prerequisite DB2 Universal Database Enterprise product is used as the data repository. It is here that partner profile information is stored, events are logged, and documents are stored for non-repudiation purposes. 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 (as described above in the description of the Community Console) to give you visibility into the entire trading community.

Document flow from a backend application

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

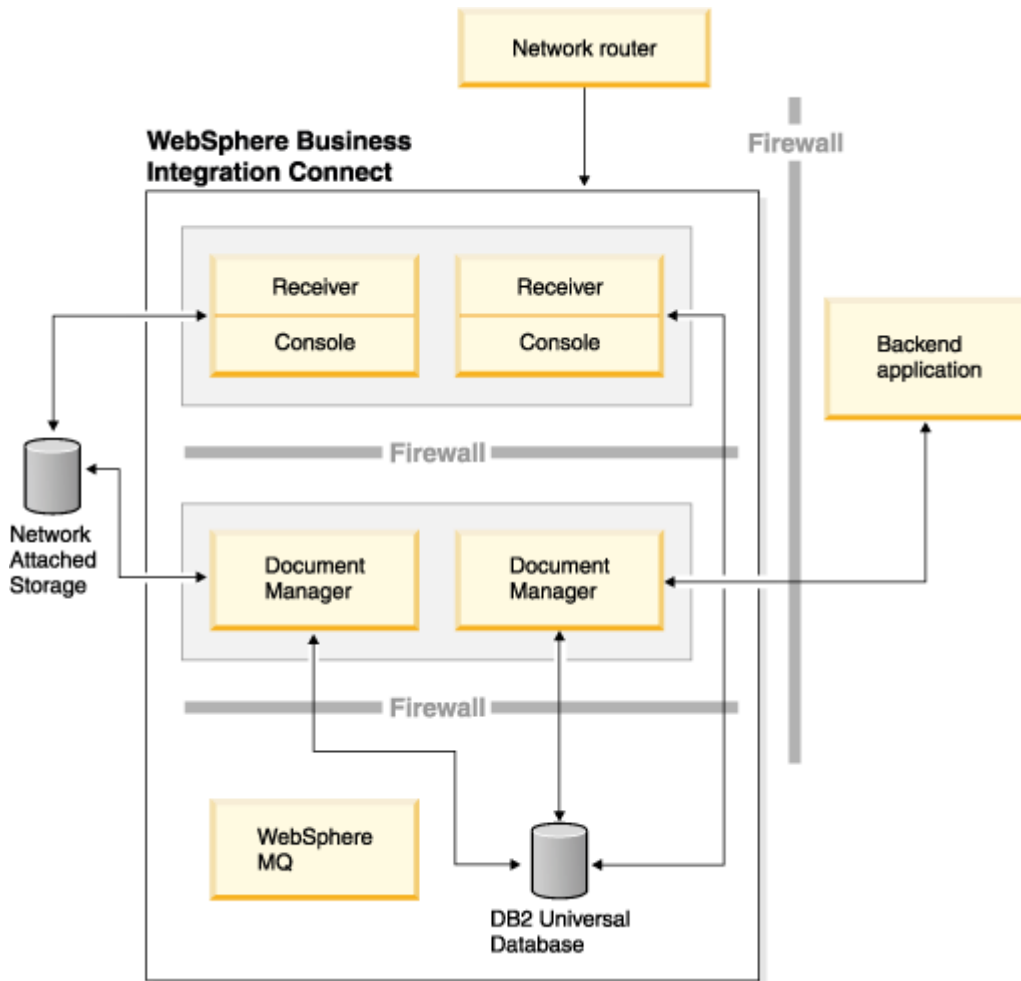
You can find more details about the Business Integration Connect components and capabilities in the [Architecture Overview](#).

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

Chapter 5. 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's Guide](#) and the [User's Guide for the Community Console](#).

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