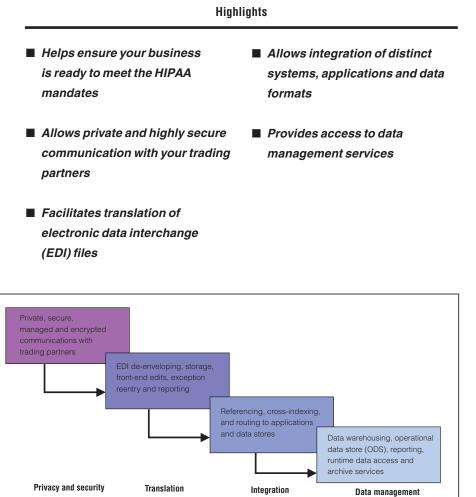


# **IBM WebSphere Business Integration for HIPAA**



WebSphere Business Integration for HIPAA addresses four high-level functions in the transaction processing pattern.

# The HIPAA challenge

A change is taking place in the healthcare industry. Healthcare payers, providers and clearinghouses that process personal health information electronically will soon have to adhere to requirements that eliminate paper processing of patient claims and records. No longer will disparate codes and formats be accepted. Unsecured file transfers will also be prohibited. This change is due to upcoming requirements of the Health Insurance Portability and Accountability Act (HIPAA). With the deadlines looming less than one year away, the time for action is now.

A recent study from Gartner, Inc. stated that the key to successful HIPAA architecture is effective application integration\*. With trusted application integration products and solutions from IBM, you can see that your business is ready today for HIPAA and is prepared for the future as you improve the way you handle electronic files. WebSphere<sup>®</sup> software from IBM takes a four-pronged approach to HIPAA that focuses on privacy and security, file translation, information integration and data management. The products that make up WebSphere Business Integration for HIPAA are IBM WebSphere Business Integration, Verison 4.1 and IBM WebSphere Business Connect. These products contain several IBM software components that add specific functions and smoothly interact with one another to provide a comprehensive solution for HIPAA requirements.

# IBM WebSphere Business Integration for HIPAA product components

# WebSphere Business Integration, Version 4.1

- IBM CrossWorlds InterChange Server
- IBM MQSeries Workflow
- IBM WebSphere MQ Integrator Broker

#### WebSphere Business Connect

- IBM WebSphere Trading Partner Interchange
- IBM WebSphere Data Interchange

According to Title II of HIPAA, there are several regulations you will be required to meet: transaction standardization, protection and security of electronically transmitted health records, as well as standard ways of identifying each provider, employer, health plan and patient. WebSphere Business Integration for HIPAA performs four key functions to get you ready for HIPAA:

- Protection of communication
- Meeting translation standards
- Data integration
- Data management

# Increase customer privacy and security

Medical records contain personal information about patients — information that must remain secure and confidential. The reality is those files are often sent online to other offices, locations and entities. However, wider use of the Internet and intranets has heightened public concern about inappropriate disclosure of medical records — which are more widely available when stored and transmitted electronically.

WebSphere Trading Partner Interchange allows you to meet new HIPAA security standards that require a uniform level of protection for all health information stored and transmitted electronically. It also provides new rights to consumers regarding release of medical information. Limitations will be set for information usage with potential financial penalties for violations. WebSphere Trading Partner Interchange can provide consumer protection and verify delivery of private patient data.

#### Translate EDI files quickly and reliably

Title II of HIPAA requires translation of all electronic exchanges of administrative and financial data into standardized HIPAA formats. IBM WebSphere Data Interchange software can help facilitate quick and accurate acceptance. To maintain customer and trading partner satisfaction, you must efficiently handle e-commerce records and process claims in a timely manner. Manage database information. Customize financial tools like invoices and purchase orders. And as your business grows, keep costs down.

WebSphere Data Interchange is a robust data translation and transaction management solution that can scale with your EDI needs to help improve back-office reporting. The WebSphere Data Interchange client includes a point-and-click GUI that provides access to menus, displays and reporting functions. You can choose from menu lists, rather than typing options. This means that you can process claims faster, since less time will be spent on EDI maintenance tasks.

# Integrate disparate systems and platforms

After meeting HIPAA requirements for privacy, security and formatting of healthcare information, the next step is to reference, cross-index, route and store that data properly. Respond to inquiries with CrossWorlds<sup>®</sup> InterChange Server and WebSphere MQ Integrator Broker.

CrossWorlds InterChange Server can help you prepare for the various code formats and platforms you will encounter by providing a common, multiplatform application programming interface (API) that enables application integration and makes programs portable. With CrossWorlds InterChange Server, business applications can respond to claims inquiries and exchange information-sending and receiving data as messages - across different platforms. When high speed and high volume messages need answering, you can use WebSphere MQ Integrator Broker. These two programs are interoperable—you can mix the two products depending on the type of messaging you need to perform.

# Provide exception handling with data management tools

HIPAA requirements will establish standards for data warehousing, operational data storage, reporting runtime data access and archiving. This means you will need a data management tool to make sure you are efficiently managing exceptions where EDI messages normally couldn't be processed into claims without human intervention. IBM MQSeries® Workflow monitors data queues and automatically expedites incomplete claim requests and invalid content requests. It also has built-in claim escalation procedures, helping your company to become more agile and responsive.

WebSphere MQ Workflow can help you create a competitive edge by aligning your business processes with your business objectives. This can help you accelerate process flow, cut costs and eliminate errors while you improve productivity. MQSeries Workflow can help you capture and disseminate process knowledge across your value chain. And maximize the benefits of your existing IT and organizational infrastructures with a scalable and reliable transactional environment vital to supporting business-critical healthcare solutions.

# Achieve better customer relationships with WebSphere Business Integration for HIPAA

According to the Integration Broker Vendor Magic Quadrant in a recent Gartner report, IBM is listed as a leader in the ability to execute a HIPAA integration solution\*. This means that healthcare payers, providers and clearinghouses making the transition to common privacy and transaction standards, will benefit from document and file transactions that are easier to manage and track. No more paperbased trails.

And time spent interacting with customers can be more valuable, since you can focus on tasks that can increase your bottom line, instead of searching for lost files and trying to decipher unreadable information. Your business can also be better prepared for the future as more efficient methods of file transfers are adopted with WebSphere Business Integration for HIPAA.

# WebSphere software platform:

building on a firm foundation WebSphere Trading Partner Interchange, WebSphere Data Interchange, CrossWorlds InterChange Server, WebSphere MQ Integrator Broker and MQSeries Workflow are all part of the IBM WebSphere software platform—a comprehensive set of integrated, award-winning e-business solutions.

No matter where you are in the e-business cycle, the WebSphere software platform allows you to grow at the speed the market demands. Building on this robust platform, you can connect diverse IT environments to maximize your current investments and leverage existing skills.

Deliver your core business applications to the Web using industry standards like Java<sup>™</sup> technology-based functionality and XML. And create next-generation applications that differentiate you from the competition.

# IBM WebSphere Trading Partner Interchange at a glance

#### Hardware requirements for Windows

- An Intel<sup>®</sup> Pentium<sup>®</sup>-class processor running at 400MHz or faster
- RAM: 256MB recommended, 128MB minimum
- Hard disk drive available space: 250MB<sup>1</sup>
- SVGA monitor
- CD-ROM drive (for installation)
- TCP/IP network interface

#### Hardware requirements for UNIX®

- Random Access Memory (RAM): 256MB recommended, 128MB minimum
- Hard disk drive available space: 250MB1
- CD-ROM drive (for installation)
- TCP/IP network interface

# Software requirements for Windows

• Microsoft<sup>®</sup> Windows NT<sup>®</sup> 4.0 or Windows<sup>®</sup> 2000<sup>2</sup>

#### Software requirements for UNIX

- X Windows and the Sun Solaris 2.6, 2.7 or 2.8 operating system<sup>2</sup>
- <sup>†</sup> Note: At least a 1 GB hard disk drive for both the application and the documents you exchange is recommended. In addition, a local area network (LAN) card and a persistent Internet connection is required.
- <sup>2</sup> Note: Internet Explorer version 4.01 or higher or Netscape Navigator version 4.0 or higher is recommended.

# For more information

To learn more about IBM WebSphere Business Integration for HIPAA, visit: **ibm.com** /websphere/integration/ hipaa, or call 888 685-0947

To learn more about WebSphere Trading Partner Interchange, visit: **ibm.com**/software/integration/cw/ connectors/intertrading

To learn more about WebSphere Data Interchange, visit: **ibm.com**/software/ts/ datainterchange

To learn more about CrossWorlds InterChange Server, visit: **ibm.com**/software/integration/ cw/ics/

To learn more about WebSphere MQ Integrator Broker, visit: **ibm.com**/software/ts/mqseries/ integrator/broker/

To learn more about MQSeries Workflow, visit:

**ibm.com**/software/ts/mqseries/ workflow

# IBM WebSphere Data Interchange at a glance

# Hardware requirements

- Any server capable of running the IBM AIX® or Windows 2000 operating system
- CD-ROM drive for installing the distributed material
- Required network hardware and communication connection

# Additional requirements for Windows 2000

- Pentium III processor at 933 MHz, or faster
- 1024MB memory
- Storage device with a minimum of 8GB available space

# Software requirements

- AIX, Version 4.3.3 or windows 2000
- DB2<sup>®</sup>, Version 7.2 or higher with open database connectivity (ODBC)—provided with product for use with WebSphere Data Interchange only

# Hardware requirements for the client

• Any workstation with an Intel Pentium processor and a storage device with a minimum of 8GB available space

# Software requirements for the client

- 32-bit Windows 95, Windows 98 or Windows 2000 operating system with a minimum of 128MB RAM
- DB2 Connect<sup>™</sup> Personal Edition, Version 7.2—provided with product for use with WebSphere Data Interchange only
- Client/server architecture that has open database connectivity (ODBC) to the server

#### **Complimentary products**

- MQSeries, Version 5.2—provided with product for use with WebSphere Data Interchange only
- IBM WebSphere MQ Integrator for AIX, Version 2.0.2 or WebSphere MQ Integrator for Windows NT, Version 2.0.2 or higher
- IBM expEDIte<sup>™</sup> for AIX, Version 4.5 or expEDIte for Windows, Version 4.6

Hardware requirements for Windows NT and Windows 2000		
Processor speed	• 400MHz, or faster	
Memory	RAM: Minimum 512MB     Hard disk drive: Minimum 900MB	
Clients and servers	Additonal high-availability hardware requirements: • Microsoft certified cluster machine • Shared disk subsystem with RAID	
Hardware requirements for AIX		
Processor speed	• One 300MHz processor RISC/6000 machine, or equivalent	
Memory	RAM: Minimum 512MB     Hard disk drive: Minimum 900MB	
Hardware requirements for Sun Solaris (	operating environment	
Processor speed	One 300MHz UltraSPARC-II module processor	
Memory	RAM: Minimum 512MB     Hard disk drive: Minimum 900MB	
Software requirements for Windows NT	and Windows 2000	
One of these operating systems	<ul> <li>Windows 2000 (Professional, Server, or Advanced Server) with Service Pack 2</li> <li>Windows NT 4.0 Enterprise Edition with Service Pack 6a ( for high availability)</li> <li>Windows NT 4.0 Service Pack 6A (for low availability)</li> </ul>	
One of these databases	<ul> <li>IBM DB2, Version 7.2, Fix Pack 6</li> <li>Oracle DB 8.1.6 or 8.1.7</li> <li>Microsoft SQL Server 7.0 with Service Pack 3</li> <li>SQL Server 2000 with Service Pack 1 on Windows 2000</li> </ul>	
E-mail	<ul> <li>An SMTP mail protocol e-mail system (for example, Microsoft Outlook, Microsoft Exchange, or Eudora)</li> </ul>	
Browser	Microsoft Internet Explorer or Netscape Navigator 4.x required to view HTML documents	
Java compiler	IBM JDK 1.3.1 required for compiling customer-generated maps and collaborations	

# IBM CrossWorlds InterChange Server at a glance (continued)

Software requirements for AIX	
Operating system	• IBM AIX 4.3.3 and 5.1
One of these databases	<ul> <li>IBM DB2, Version 7.2, Fix Pack 6</li> <li>Oracle DB 8.1.6 or 8.1.7</li> <li>Microsoft SQL Server 7.0 with Service Pack 3</li> <li>Microsoft SQL Server 2000 with Service Pack 1 on Windows 2000</li> </ul>
E-mail	<ul> <li>An SMTP mail protocol e-mail system (for example, Microsoft Outlook, Microsoft Exchange, or Eudora)</li> </ul>
Browser	Microsoft Internet Explorer or Netscape Navigator 4.x required to view HTML documents
Java compiler	IBM JDK 1.3.1 required for compiling customer-generated maps and collaborations
Software requirements for Sun Solar	is operating environment
Operating system	• Solaris 8 (2.8) or Solaris 7 (2.7)
One of these databases	<ul><li>IBM DB2, Version 7.2, Fix Pack 6</li><li>Oracle DB 8.1.6 or 8.1.7</li></ul>
E-mail	<ul> <li>An SMTP mail protocol e-mail system (for example, Microsoft Exchange and Ntescape Messaging server or UNIX send-mail)</li> </ul>
Browser	<ul> <li>Microsoft Internet Explorer or Netscape Navigator 4.x, or later, is required to view HTML documents</li> </ul>
Java compiler	Sun JDK 1.3.1 required for compiling customer-generated maps and collaborations
Supported languages	• Java • C • C++

# IBM WebSphere MQ Integrator Broker at a glance

#### Hardware requirements

- Any Year 2000-ready hardware that is explicitly compatible and fully capable of running the specified operating system, the corresponding supporting software and associated applications unmodified; original equipment manufacturer responsible to provide a statement of full compatibility among machines
- Any server capable of running one of the listed operating system releases

#### Software requirements

#### For message broker, user name server and command assistant

- IBM MQSeries for AIX, Version 5.2, IBM AIX, Version 4.3.3 or IBM AIX, Version 5.1
- MQSeries for Sun Solaris operating environment, Version 5.2 and Sun Solaris operating environment, Version 2.8 (requires Fix 109147-06 from Sun)
- MQSeries for HP-UX, Version 5.2 and HP-UX, Version 11.0 (with June 2001 General Patch Level or September 2001 Quality Pack)
- MQSeries for Microsoft Windows NT, Version 5.2.1 and Windows NT Workstation, Version 4.0 with Service Pack 6a or Windows NT Server, Version 4.0 with Service Pack 6a

#### For control center and configuration manager

- Windows NT, Version 4.0 with Service Pack 6a
- Microsoft Windows 2000 Professional Server and Advanced Server, with IBM SP2<sup>®</sup> (Toleration Mode only)

#### For Java support

- Java Runtime Environment (JRE), Version 1.3 for broker
- JRE, Version 1.3 for command assistant
- JRE, Version 1.2.2 for control center
- JRE, Version 1.3 for configuration manager

#### For database support

- IBM DB2<sup>®</sup> Universal Database<sup>™</sup>, Version 6.1 (with Fix Pack 7 or Fix Pack 8), Version 7.1 (with Fix Pack 3 or Fix Pack 4) or Version 7.2 (with general availability level or Fix Pack 4)
- Oracle 8i, Release 2, Version 8.1.6 or Oracle 8i, Release 2, Version 8.1.7
- Microsoft SQL Server, Version 6.5 (with Service Pack 5a) or Version 7.0 (with Service Pack 3)
- Sybase Adaptive Server Enterprise (ASE), Version 12.0

#### For database support including transaction support

- DB2 Universal Database, Version 7.1 or Version 6.1 (all platforms)
- Oracle 8i (all platforms)

#### **Project Information**

- Program number: 5724-D07
- Available on CD-ROM

#### IBM MQSeries Workflow at a glance

#### Hardware requirements for operating environment: buildtime

#### System

- A personal computer with Intel technology-based processor architecture, such as an Intel Pentium 300MHz processor or higher
- Screen: resolution SVGA 800x600 (minimum), 256 colors (minimum)
- 400MHz, or faster

#### Software requirements for operating environment: buildtime

#### One of the following

- Microsoft Windows 2000
- IBM DB2 Universal Database Enterprise Edition, Version 7.1 or Version 6.1; or Microsoft Jet Engine
- Windows NT Workstation, Version 4.0 with Service Pack 6a
- DB2 Universal Database Enterprise Edition, Version 7.1<sup>1</sup> or Version 6.1; or Microsoft Jet Engine
- Windows 98 or Windows Me
- DB2 Universal Database Personal Edition, Version 7.1 or Version 6.1 (standalone or as client); or Microsoft Jet Engine

#### Storage requirements for the databases used for buildtime

# IBM DB2 Universal Dtatbase, version 7.1 or Version 6.1<sup>2</sup>

- Main memory: 96MB
- Hard disk drive: 1GB

#### Microsoft Jet Engine

- Main memory: 96MB
- Hard disk drive: 700MB

#### General recommendations for operating environment: runtime, servers for Windows 2000 and Windows NT

The demand for main memory<sup>3</sup> and hard disk drive space is affected by:

- Number and size of process models and process instances residing in the runtime database
- Number of clients attached to the server concurrently

The performance of IBM MQSeries Workflow, Version 3.3.2 depends on:

- Usage characteristics of the process models and organization definitions
- Average and maximum size of the work lists
- Capacity and utilization of the MQSeries Workflow and database server machines
- Speed and memory size of the server and client machines
- Transmission speed and load on communication channels

#### Hardware requirements for a sample two-tier configuration

The following specification assumes a sample two-tier configuration in which the database and the server reside on the same system. To increase the number of users sharing the same processes, use multiple MQSeries Workflow servers that share the same database. For test demonstration purposes, an IBM ThinkPad® or portable computer can be used to run all MQSeries Workflow components on the same machine.

#### System

• A personal computer with Intel technology-based processor architecture, such as an Intel Pentium 300MHz processor or higher

<sup>1</sup> Note: MQSeries Workflow, Version 3.3.2 includes IBM DB2 Universal Database Enterprise Edition, Version 7.1

<sup>2</sup> Note: Always ensure that there is sufficient swap space

<sup>3</sup> Note: To ensure performance and safety, keep database and log files (table spaces) on separate disks when the servers are being set up. Less memory may be required for systems not used for production processes, for example, systems involved in development, testing or demonstrations.

# IBM MQSeries Workflow at a glance (continued)

#### Software requirements for a sample two-tier configuration

#### Operating system

• Microsoft Windows 2000; or Microsoft Windows NT Workstation or Server, Version 4.0 with Service Pack 6a

#### Communication

One of the following clients:

- IBM MQSeries for Windows, Version 5.2 client (included with the product)
- IBM MQSeries for Windows, Version 5.1 client with corrective service diskette (CSD) number 5
- IBM MQSeries for Windows NT, Version 5.2 client (included with the product)
- IBM MQSeries for Windows NT, Version 5.1 client with CSD number 5

#### Database

One of the following database products:

- DB2 Universal Database for Windows, Version 7.1 (included with the product); or Version 6.1
- DB2 Universal Database for Windows NT, Version 7.1 (included with the product); or Version 6.1

# Storage requirements

- Main memory: 256MB
- Hard disk drive: 2GB

#### Hardware requirements for operating environment: runtime, clients for Windows 2000

#### System

 A personal computer with Intel technology-based processor architecture capable of running the operating system and 64MB of main memory is recommended

#### Software requirements for operating environment: runtime, clients for Windows 2000

# Operating system

• Microsoft Windows 2000

#### Communication

One of the following clients:

- IBM MQSeries for Windows, Version 5.2 client (included with the product)
- IBM MQSeries for Windows, Version 5.1 client with CSD number 5
- To develop programs using the MQSeries Workflow APIs:
- Microsoft Visual C++, Version 6.0
- Lotus Notes® API, Release 4.5

• Java Development Kit (JDK), Version 1.2.2 or Version 1.3 (MQSeries Workflow Client APIs for Java)

To develop programs using the MQSeries Workflow ActiveX Controls:

• Microsoft VisualBasic, Version 6.0

#### Hardware requirements for operating environment: runtime, clients for Windows NT

# System

• A personal computer with Intel technology-based processor architecture capable of running the operating system and 64MB of main memory is recommended

# Software requirements for operating environment: runtime, clients for Windows NT

# Operating system

Microsoft Windows NT Workstsation, Version 4.0 (service Pack 6a required)

# IBM MQSeries Workflow at a glance (continued)

#### Communication

One of the following clients:

- IBM MQSeries for Windows, Version 5.2 client (included with the product)
- IBM MQSeries for Windows, Version 5.1 client with CSD number 5
- To develop programs using the MQSeries Workflow APIs:
- Microsoft Visual C++, Version 5.0 or Version 6.0
- Lotus Notes API, Release 4.5
- Java Development Kit (JDK), Version 1.2.2 or Version 1.3

To develop programs using the MQSeries Workflow ActiveX Controls:

• Microsoft VisualBasic, Version 6.0

# Web application server requirements for operating environment: runtime, clients for Windows NT

To link a Web environment to an MQSeries Workflow server, the MQSeries Workflow Web client requires a computer system with sufficient main memory and mass storage to run:

- WebSphere Application Server Advanced Edition, Version 3.5 or higher
- Servlet container, Servlet API, Version 2.1 or higher
- For Remote Method Invocation Internet Inter-ORB Protocol (RMI-IIOP):
- WebSphere Object Request Broker (ORB)
- IBM JDK, Version 1.2.2 or Version 1.3
- Sun JDK, Version 1.3

# Web user access requirements for operating environment: runtime, clients for Windows NT

To link a Web environment to an MQSeries Workflow server, the MQSeries Workflow Web client requires a computer system with sufficient main memory and mass storage to run:

#### Hardware requirements for operating environment: runtime, clients for Windows Me and Windows 98

System

• A personal computer with Intel technology-based processor architecture capable of running the operating system and 64MB of main memory is recommended

### Software requirements for operating environment: runtime, clients for Windows Me and Windows 98

#### Operating system

Microsoft Windows Me or Microsoft Windows 98

#### Communication

One of the following clients:

- IBM MQSeries for Windows Me, Version 5.2 client (included with the product)
- IBM MQSeries for Windows 98, Version 5.2 client (included with the product)
- IBM MQSeries for Windows Me, Version 5.1 client with CSD number 5
- IBM MQSeries for Windows 98, Version 5.1 client with CSD number 5

To develop programs using the MQSeries Workflow APIs:

- Microsoft Visual C++, Version 5.0 or Version 6.0
- Lotus Notes API, Release 4.5
- Java Development Kit (JDK), Version 1.2.2 or Version 1.3 (MQSeries Workflow Client APIs for Java)

To develop programs using the MQSeries Workflow ActiveX Controls:

• Microsoft VisualBasic, Version 6.0



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\* "Architectures for HIPAA compliance," *Gartner,Inc. Strategic Analysis Report*, W. Rishel and N. Frey, September 26, 2002.

The 2Q02 Gartner Magic Quadrant in this report evaluates integration broker vendors with HIPAA capabilities. According to Gartner, Inc., leaders are vendors who are performing well today, have a clear vision of market direction and are actively building competencies to sustain their leadership positions in the market.

