



IBM WebSphere MQ Workflow V3.6 expands support for large enterprise workflow integration solutions

Overview

WebSphere® MQ Workflow V3.6 expands support for enterprise workflow integration solutions and robust Business Process Management implementations, on z/OS® and distributed platforms. This new release delivers on a number of common functional requirements that simplify the management of large implementations, and provides longer-term vitality and support for growing production implementations.

An On Demand Business is an enterprise whose business processes — integrated end-to-end across the company and with key partners, suppliers, and customers — can respond with speed to any customer demand, market opportunity, or external threat. WebSphere MQ Workflow specializes in the transactional automation of long-running business process workflows as they interact with systems and people, supporting a wide range of front-end access and back-end application systems and leveraging open standards.

WebSphere MQ Workflow operates independently, automating processes that can interact with any external application program, systems, and people in IT, and organization infrastructures supporting a range of open standards. The architecture of WebSphere MQ Workflow natively exploits WebSphere MQ-based infrastructures, providing a natural fit for highly flexible streamlined processes that can be monitored in realtime. Together they enable full transactionality and reliability for controlling workflow transactions, and provide for ultimate platform connectivity throughout service-oriented architectures supporting open standards and high-volume workloads.

This new release of WebSphere MQ Workflow:

- Enhances J2EE compliance supporting native Java™ client applications
- Supports the latest releases of WebSphere Portal and WebSphere Application Server
- Coexists and interoperates with WebSphere BI Server Foundation hosting BPEL processes and composite applications
- Provides new checks for compatibility with BPEL and XML
- Provides continued support for Web services (via SupportPac™), and a service-oriented program execution framework to plug in Java programs

WebSphere MQ Workflow V3.6 continues to deliver advanced enterprise workflow capabilities, leveraging open standards with WebSphere Portal, Application Server and WebSphere MQ-based infrastructures. It is a natural and proven solution supporting high volume workloads for Business Process Optimization, to boost worker productivity and improve customer service.

Key prerequisites

WebSphere MQ Workflow servers are available for:

- Microsoft™ Windows™
- IBM AIX®
- HP-UX
- Sun Solaris
- IBM z/OS

At a glance

This new release makes available new capabilities to support growing production implementations:

- Native Java API
- Workflow Web Client and Workflow Portal Client on Linux™
- Shared queues on z/OS
- Administer staff dynamically
- Improved LDAP replication and Active Directory support
- Enhanced ease of installation and configuration
- Check FDL compatibility with BPEL and XML
- New platform currency support

For ordering, contact:

Your IBM representative, an IBM Business Partner, or the Americas Call Centers at

800-IBM-CALL

Reference: YE001

Planned availability dates

- Workstations program:
 - June 24, 2005, electronic download
 - July 15, 2005, CD-ROM
- July 15, 2005, zSeries® program

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

Description

Native Java clients and enhanced configuration

Exploit native Java API WebSphere MQ Workflow now comes with a native Java API implementation, which is compatible with previous Workflow releases avoiding the need for installing and configuring operating system specific (C, C++) API libraries. API calls from WebSphere MQ Workflow V3.5 are supported in this new release V3.6 without change. It increases thread-safeness, performance, and reliability of Workflow client applications. The WebSphere MQ Workflow Web client that exploits this new implementation, is compatible with previous Workflow Web client versions.

The native Java Workflow client simplifies WebSphere MQ configuration requirements and eases the use of the WebSphere MQ Client rather than the WebSphere MQ Server interface.

This new native Java API implementation was already available for V3.5 as a SupportPac, usage recommended and supported, and has now been productized.

The native Java API is J2EE compliant and exploits the WebSphere MQ Java Messaging Service (JMS) bindings.

WebSphere MQ Workflow Clients on Linux: WebSphere MQ Workflow V3.6 supports both SUSE LINUX and Red Hat Linux on Intel™ compatible processors as well as on zSeries, with the new native Java API including Web client and Portal client applications.

Configure Java clients separately: A standalone, special-purpose, streamlined Java utility is now available to configure Java-based clients for WebSphere MQ Workflow. This new utility runs independently from WebSphere MQ Workflow installations, thereby complementing FMCZUTIL and FMCZACFG utilities supported on distributed platforms; this new utility is usable on systems which have no other workflow code installed. It provides new configuration support for Java-based clients in the following situations:

- Client configuration on z/OS
- Client configuration on client-only Workflow platforms, such as Linux
- Client configuration on systems which have no other workflow code installed, such as most Web server farms

Configure Java clients to work with multiple WebSphere MQ Workflow servers: Requested by large clients running many active WebSphere MQ Workflow server configurations, Web client users can now switch between multiple WebSphere MQ Workflow configurations. The native Java API now enables the implementation of client applications that can connect to multiple servers by switching the workflow configuration.

Delivering on common functional requirements

Display total number of items in a list: A new Result-Set Size API is introduced for all major WebSphere MQ Workflow object types, enabling user clients to return and display how many items exist in a list, independent from thresholds to control transfer of their content. This enables client applications to retrieve the total number prior to deciding how many are requested for transmission or refresh using a threshold. For example, the total number of work items, or the total number of process instances, in a thresholded list can now be

displayed in addition to the first work items and process instances that meet the filter and threshold for that list. The new API call is exploited in the standard Web and Portal clients delivered as part of WebSphere MQ Workflow V3.6.

Administer staff dynamically: A new Staff Administration API provides direct access to staff data in the workflow Runtime database, enabling flexible and spontaneous staff changes in large production systems. A unique WebSphere MQ Workflow system administrator can now quickly modify Runtime staff data online, thereby reducing the need for batch processing and FDL export/import between Buildtime, Runtime and enterprise directories. It allows online updates instead of batch processing for staff administration, and is of particular value to clients using LDAP for enterprise staff directories.

To query staff information from the WebSphere MQ Workflow database, you can also use the Staff Administration API, either by:

- Querying a specific record in the database, or
- Reading all records of a given type, for example reading all person records. Later on, you can query the relations between the records.

Examples: for a given organization, retrieve a list of all child organizations; or query the people who are members of a given role.

The Staff Administration API is implemented in Java and acts as a database client. It makes it easier to replace and delete users that own responsibility for certain work items or processes. It also enhances the LDAP bridge for replication of workflow staff data with enterprise staff directories.

Replicate LDAP staff information more flexibly: Enhancements to the workflow LDAP bridge improve flexibility and functionality of replicating workflow staff data with enterprise directories:

- Replicate members of an LDAP group.

If an organization has a large LDAP directory to administer staff and only a subset of the people defined in this directory are working with WebSphere MQ Workflow, then the LDAP bridge can now be configured such that only members of a specific LDAP group are replicated into the WebSphere MQ Workflow Runtime database.

- Pluggable custom string conversion method.

When replicating staff information, there is often a need to convert the content of specific attributes of the entries in the directory. For example, the user ID of a person in the LDAP directory may have a prefix which should be removed during replication. To achieve this, a custom string conversion method can now be written in Java to be integrated using a user exit to the LDAP Bridge.

- Support of Microsoft Windows 2003 Active Directory.

The LDAP bridge can be configured with a wide range of standard-compliant LDAP directories, now including specific support and a configuration sample for use with Microsoft Windows 2003 Active Directory and its default LDAP schema.

- Staff API-based replication from workflow Runtime.

Exploiting the new workflow staff administration API, the LDAP bridge now offers an additional option for API-based replication, which can improve performance and is easier to configure. This new option complements file-based replication using FDL export and import, which continues to be supported for batch processing, problem determination and audit purposes.

- File-based replication from enterprise directories using LDIF.

The LDAP Bridge can now read directory information provided in Lightweight Directory Interchange Format (LDIF) files. This enables the batch processing of custom filters prior to feeding the LDAP bridge, broadens the range of directories that can be integrated, and adds more flexibility when configuring the LDAP Bridge. The new option complements API-based replication using LDAP clients, and expands on pre-existing support for mapping FDL staff definitions to LDIF.

Full flexibility is supported for combining API-based and file-based replication methods, such as LDAP client and Workflow Staff Administration APIs, as well as LDIF and FDL for file-based interchange formats. While API-based methods are often recommended for direct access and ease-of-configuration, they can be well combined with options to store replication information in files for audit purposes while exploiting the flexible architecture of this LDAP bridge.

Extending support for Open Standards

Check FDL compatibility with BPEL, XML, and Web Services syntax: A new option can be used with FDL Runtime import to verify the most common problems, for example the syntax compatibility of custom definitions with XML standards and BPEL, or blanks in field names.

XML interfaces often impose some restrictions on the syntax that can be used.

- For example, blanks are generally supported by WebSphere MQ Workflow for use with data structure field names but are not supported with XML and can therefore not be used if this data structure is used to describe the XML interface with an external program or Web service.
- In addition, there are restrictions for names when converting FDL to BPEL4WS (Business Process Execution Language for Web services). For example, BPEL names must start with an uppercase letter. If this new option is switched on, then all custom definitions which lead to problems with XML interfaces and BPEL are flagged as errors.

Unifying cross-product problem determination using CBE: WebSphere MQ Workflow system log messages on distributed platforms can now be converted into CBE format, for use by the Log and Trace Analyzer that is a component of the Autonomic Computing Toolkit.

It supports IBM's on Demand strategy for autonomic computing to exploit Tivoli's system management infrastructure and leverage Rational's analyzer tools.

Common Base Event (CBE) is a unifying event management format that has been submitted for standardization to the Organization for the Advancement of Structured Information Standards (OASIS) Web services distributed management technical committee.

CBE enables the combined problem determination analysis of log and trace information from multiple sources, such as the operating system, WebSphere MQ, DB2®, Workflow and others.

This support is available for distributed platforms as an adapter to the IBM Virtualization Engine™, for free download from

<http://www.ibm.com/developerworks/autonomic/overview.html>

For z/OS, similar cross-product problem determination capabilities continue to be provided via the system console; and several WebSphere MQ Workflow error messages have been further improved in this release providing additional details.

Configure multiple raw device names with Runtime database: Raw devices are hard disks managed directly by the relational database, instead of being managed by the operating system, thereby promising performance benefits. Workflow support for raw devices used with Runtime databases has now been extended in terms of platform coverage and configuration functionality. It now covers:

- AIX, as well as HP-UX and Sun Solaris
- DB2, as well as Oracle
- Specification of custom raw device names, instead of predefined names. With custom raw device names, it is now possible to have more than one workflow configuration using raw devices on one machine

Using InstallShield V10 on Windows

Installation on Microsoft Windows is now based on InstallShield V10, removing some limitations that existed with InstallShield V5 supported before, and enabling longer-term support with future releases of Microsoft Windows operating systems.

LPAR-based subcapacity pricing on workstations using ITLM V2.1

WebSphere MQ Workflow supports LPAR-based subcapacity pricing not only on z/OS (using continued support for SCRT and SMF 99) but now also on workstations using IBM Tivoli® License Manager (ITLM) V2.1.

New platform support

WebSphere MQ Workflow V3.6 now supports additional prerequisite and corequisite products, including in particular:

- WebSphere Application Server V6.0 Network Deployment
- WebSphere Application Server V5.1 Network Deployment
- WebSphere Portal V5.1
- WebSphere MQ V6.0
- Linux for Java-based clients, on Intel and zSeries processors, supporting both SUSE LINUX Enterprise Server V9 and Red Hat Enterprise Linux V3

- Microsoft Active Directory
- XML4C Toolkit V1.7 on z/OS
- DB2 UDB Version 8.2 on workstations
- Oracle Database 10.1.0 on UNIX® workstations
- AIX 5L V5.3
- Mozilla-based Web browsers

With upgrade support being available to more recent release levels, obsolete platforms are dropped:

- DB2 V7
- Oracle 8 and Oracle 9.0.1
- OS/390® and z/OS V1.1 and V1.2
- WebSphere Application Server V3.5 and V4
- WebSphere Portal V4

Unique qualities of service on z/OS

Managing multiple workflow server instances by name: Some very large enterprise workflow implementations worldwide exploit the unique capabilities of z/OS to run and manage multiple workflow systems on a single LPAR in production.

Customizable workflow server instance names are now supported on z/OS, allowing system administrators to differentiate unique server instance names for workflow administration, execution, scheduling and cleanup servers to the same or different workflow systems, system groups, other server configurations and LPARs, for example, so that they can be uniquely identified and managed from the system console. This enhances maintainability, error recovery, and cost tracking on z/OS.

Supporting shared queues on z/OS: WebSphere MQ Workflow V3.6 now supports shared queues on z/OS when used in combination with WebSphere MQ V6.0. Shared queues can improve the continuous availability and reliability of WebSphere MQ Workflow servers and connected applications, ensuring the continuous processing of messages even in case an individual queue manager or LPAR fails. Enterprise workflow integration solutions often use XML messages to integrate application programs and Web services. Some of these messages may be larger than 63 kB, and are now supported on shared queues in a Parallel Sysplex®.

Longer term support with the latest z/OS ANSI C++ compiler: The native z/OS implementation of WebSphere MQ Workflow has now been ported to the z/OS V1.2 C++ compiler to improve compatibility with applications integrated using XML4C, for example, as well as for longer term support on the latest z/OS release levels.

Customers who run WebSphere MQ Workflow releases earlier than V3.6 on OS/390 or z/OS releases earlier than V1.3, are strongly encouraged to upgrade their implementations now for continued vitality.

Upgrade seamlessly for investment protection and continued support

WebSphere MQ Workflow V3.6 is the follow-on to previous releases of this product. Upgrades are seamless, including API compatibility and Runtime database migration assistance from Version 3.3.2 or higher to Version 3.6.

New and updated SupportPacs

- Process Engine Interoperability (WA0D — New)

Ensure that FDL and BPEL implementations can work with each other, providing support for WebSphere MQ Workflow, WebSphere Studio Application Developer Integration Edition and WebSphere Business Integration Server Foundation V5.1.1.

- FDL-2-BPEL process template conversion (WA73)

Convert process knowledge from FDL to BPEL templates, supports all releases of IBM WebSphere MQ Workflow V3, IBM WebSphere Studio Application Developer Integration Edition V5, IBM WAS Enterprise V5.0, and IBM WebSphere Business Integration Server Foundation V5.1.1.

- API Samples (WA03 — Updated) includes:

- New programming samples aligned with WebSphere MQ Workflow best practices
- EJB samples (Activity Instance List)
- Activity Instance Lists
- EJB usage bridges the client programming model of BPC and WebSphere MQ Workflow

- Database Maintenance Tools (WC01 — New)

Collection of utilities for Workflow Administrators to interact directly with the Runtime database. It enables functions like Runtime database or process template housekeeping.

- Global Container Maintenance Tool to merge or split (shared) global containers in the Runtime database
- Process Template Deletion Tool to physically remove process templates from the Runtime database

These utilities support all WebSphere MQ Workflow platforms including z/OS.

For a complete list of all WebSphere MQ Workflow SupportPacs, refer to

<http://www.ibm.com/software/integration/support/supportpacs/product.html#wmqwf>

Main Workflow functions supported on platforms

	z/OS	Linux	AIX	HP-UX (PA-RISC)	Sun Solaris (Sparc)	Windows
Buildtime						x
Runtime Server	x		x	x	x	x
PES	x					
PEA			x	x	x	x
Admin Utilities			x	x	x	x
XML API	x	x	x	x	x	x
Client API	x	x	x	x	x	x
Desktop Client						x
Web Client	x	x	x	x	x	x
Portal Client	x	x	x	x	x	x

Withdrawn features offered with previous releases

- Lotus Notes® API
- RMI over IIOP communication
- IPX/SPX communication
- NetBios communication
- APPC (SNA LU6.2) communication

Accessibility by people with disabilities

These products have the following accessibility characteristics:

- Features for vision-impaired users:
 - Supports interfaces commonly used by screen readers (Microsoft Windows only)
 - Allows the user to request more time to complete timed responses
 - Supports customization of display attributes such as color, contrast, and font size
 - Communicates all information independently of color
 - Supports interfaces commonly used by screen magnifiers (Microsoft Windows only)
 - Supports the attachment of alternative output devices
 - Provides documentation in an accessible format
- Features for users with mobility impairments or limited hand use:
 - Allows the user to request more time to complete timed responses
 - Supports the attachment of alternative input and output devices
- Features for the deaf or hearing-impaired users
 - Supports alternative to audio information
 - Supports adjustable volume control
- For the cognitively-impaired users, the user can request more time to complete the activity
- Does not flash the screen at rates that could induce epileptic seizures

Minor limitation: The Web client includes a graphical representation of the process monitor without text equivalent.

Value Unit-based pricing

Value Unit pricing for eligible zSeries IPLA programs enables a lower cost of incremental growth and enterprise aggregation. Each zSeries IPLA product with Value Unit pricing has a single price per Value Unit and a conversion matrix, called Value Unit Exhibit, for converting from some designated measurement to Value Units. Most commonly Millions of Service Units (MSUs) is the measurement designated by IBM to be converted to Value Units. Some other measurements are engines or messages. Since MSUs are the most common measurement, that measurement will be used for the remainder of this description.

Value Unit pricing offers price benefits for customers. For each zSeries IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the "required license capacity." Each of the various Value Unit Exhibits

stipulate that the larger your required license capacity, the fewer Value Units per MSU you will need. Value Unit Exhibits are uniquely identified by a three-digit code and referred to using the nomenclature VUExxx, where xxx is the three digit code.

Subsequent acquisitions of Value Unit priced programs offers additional price benefits for customers. The quantity of each zSeries IPLA program that you have acquired is referred to as "entitled license capacity." If you wish to grow your entitled license capacity for a zSeries IPLA program, the calculation to determine additional needed Value Units is based upon the number of Value Units already acquired.

For each zSeries IPLA program with Value Unit Pricing, you should:

- Determine the required license capacity, in MSUs
- Aggregate the MSUs across the enterprise
- Convert the total MSUs to Value Units, using the applicable Value Unit Exhibit
- Multiply the price per Value Unit by the total number of Value Units to determine the total cost

To simplify conversion from the designated measurement to VUs or vice-versa, use the Value Unit Converter Tool. For additional information or to obtain a copy of the Value Unit Converter Tool, visit the Value Unit Converter Tool Web site

<http://ibm.com/zseries/swprice/vuctool>

Note that Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

To determine the required license capacity for the zSeries IPLA program you selected, refer to the **Terms and conditions** section.

IPLA and subscription and support considerations

IPLA licenses can be transferred from one machine to another within, but not limited to an enterprise. The customer may aggregate the capacity for all the processors the product is operated on to achieve a more economic price. This will result in a single Proof of Entitlement. It is the customer's responsibility to manage the distribution of Value Units within the limits of the entitlement of the product license.

Subscription and Support must cover the same capacity as the product license entitlement. Subscription and Support will be available in the country in which the agreement is made.

Product positioning

WebSphere MQ Workflow V3.6 is a mature, natural, and proven solution to:

- Streamline and optimize business processes
- Boost worker productivity across the company
- Improve customer service

addressing business process optimization and workflow integration needs — top business priorities to many IT initiatives today.

Key characteristics include strong support for:

- Closed loop business process management
- Traditional and new application environments with broad integration options
- High volume workloads
- Service-oriented Architectures, Web services, interoperability with WebSphere Business Integration Server Foundation V5.1, open standards
- Choice of Workflow Web or Workflow Portal client, as well as Microsoft .NET windows desktop client
- Easy-to-use all-graphical tooling with many pre-built options to choose from
- Compatibility with previous releases for longer-term vitality and support

These characteristics make this solution ideally suited for new projects with existing skills and user communities requiring high-end workflow capabilities.

Product positioning — Globalization:

Online menus, images, text, help, and messages have been translated into the following languages:

Components	Messages	Build-time	Windows Runtime	Web + Portal client	Windows Install	Read me
sp						
French	y	y	y	y	y	y
German	y	-	y	y	y	y
Greek	-	-	-	y	-	-
Italian	y	-	y	y	y	y
Spanish	y	-	y	y	y	y
Portuguese	y	-	y	y	y	y
Brazilian Portuguese	y	-	y	y	y	y
Japanese	y	y	y	y	y	y
Korean	y	-	y	y	y	y
Simplified Chinese	y	-	y	y	y	y
Traditional Chinese	y	-	y	y	y	y
Czech	y	-	-	y	-	y
Dutch	-	-	y	y	y	y
Polish	y	-	y	y	-	y
Arabic	y	-	-	y	-	y
Hungarian	y	-	y	y	-	y
Russian	y	-	-	y	-	y
Slovenian	y	-	-	y	-	y
Turkish	-	-	y	y	y	y

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

BP Attachment for Announcement Letter 205-096

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=205-096>

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IBM US Announcement Supplemental Information

April 19, 2005

Services Support and Solutions Offerings

IBM is committed to working with industry vendors to define interfaces for higher-value functions, APIs, tools, and management functions for Business Integration. IBM also provides partnering opportunities for solution providers and system integrators. IBM works with several partners to make available complementary solutions, applications, tools, and system management and monitoring offerings.

System integrators can assist customers with their implementation and integration.

IBM Competency Centers work jointly with Business Partners to provide services to satisfy WebSphere® MQ Workflow customers.

SupportPacs

Generally, IBM makes available, free or for a fee, this category of add-on programs provided by various sources worldwide. For WebSphere MQ Workflow, new features are available without a charge.

IBM is continuously preparing new features that incorporate advanced technical functions. IBM will make them accessible as they become available. To download, visit

<http://www.ibm.com/software/ts/mqseries/txppacs>

Business Process Competency Center services

These centers offer you additional, customized services for a fee:

- **Solutions assurance:** Validates all product components and services based on your expectations.
- **Installation support:** Installs and configures WebSphere MQ Workflow and prerequisites in heterogeneous environments.
- **Migration support:** Helps you upgrade from IBM MQSeries Workflow releases to this current offering:
 - Buildtime process models
 - Runtime data and process instances
- **Application implementation:** Consultants are available for your specific project implementations:
 - ActiveX exploitation: To customize the standard client, and to build customer-based worklists and other process-related applications on Microsoft™ clients.
 - Implementation of the Web Client: To design and develop a Business Process Internet application using the Web Client on an application server.

- **Generic API test and prototyping tools:** Test and tune WebSphere MQ Workflow applications and evaluate their behavior. When you write application programs for APIs in C, Java™, ActiveX, and VisualBasic, these tools provide instant feedback and help in testing and training. The prototyping facility allows for:

- Rapid definition of API scenarios
- Load simulation on servers and clients
- Easy performance measurements

Workflow development generates process models for WebSphere MQ Workflow with the assistance of skilled workflow engineers.

High-availability cluster multiprocessing maximizes system availability with services for:

- Installation
- Configuration
- Customization
- Testing
- Tuning

Proof of concept serves as a commitment between new customers or prospects and IBM to support a statement of work. In most cases it includes a proposal to implement a business process management solution that meets your needs. The typical duration ranges from two to four weeks. You and IBM jointly define the requirements. Both sides provide the resources to ensure success.

For detailed information, visit

<http://www.ibm.com/software/ts/mqseries/workflow>

Education support

IBM Global Services, IT Education Services, provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on the IBM IT Education Services Web site

<http://www-3.ibm.com/services/learning/>

Refer to the IBM IT Education Services Web site for information on course locations and availability dates.

Call IBM Global Services, IT Education Services at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Visit

<http://www-3.ibm.com/services/learning/>

The curriculum includes the enhancements described in this announcement.

For available courses in your country, visit

<http://www-3.ibm.com/services/learning/>

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

IBM Learning Services, selected IBM Business Partners, and authorized Training Partners offer public, scheduled classes that comprise basic concepts and hands-on training on all aspects of WebSphere MQ Workflow. A modular curriculum features:

- Modeling
- Installation
- Deployment
- Administration
- APIs for different categories (container APIs, worklist handler APIs), and languages (ActiveX, Java)

Ask your Business Partner or IBM Representative for details and enrollment. Visit

<http://www.ibm.com/software/ts/mqseries/workflow>

Subject: Education

<http://www.ibm.com/services/learning>

<http://www-3.software.ibm.com/services/learning>

To focus your individual education needs, customized classes can be arranged. Send your request to:

workflow@ibmde
 workflow@de.ibm.com

Call IBM Education and Training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Services designed to assist you in the installation and implementation of WebSphere MQ Workflow in your organization are also available.

Offering Information

Product information is available via the Offering Information Web site

<http://www.ibm.com/common/ssi>

Publications

These publications apply exclusively to the zSeries® program 5655-BPM, available in U.S. English only:

Title	Order number
WebSphere MQ Workflow for z/OS® V3.6 Program Directory	G110-0483
Customization and Administration	SC33-7030
Programming Guide	SC33-7031
Messages and Codes	SC33-7032

A Program Directory in hardcopy is included with the 5655-BPM program package.

The following publications are available in softcopy on the Documentation CD and on the Internet:

Title	Order number
WebSphere MQ Workflow V3.6 Concepts and Architecture (Introduction)	GH12-6285
Getting Started with Buildtime	SH12-6286
Getting Started with Runtime	SH12-6287
Installation Guide	SH12-6288
Administration Guide	SH12-6289
Programming Guide	SH12-6291

In addition, these books can be ordered in hardcopy separately by order number. Contact your Business Partner or IBM representative.

Displayable softcopy publications: These publications are part of the basic machine-readable material and can be displayed with an HTML browser or with Adobe Acrobat Reader. The publications are stored as HTML and PDF files on a CD-ROM dedicated to softcopy documentation, which is shipped with the program CD-ROM.

The files can also be used with an HTML browser or with an Adobe Acrobat Reader to create unmodified printed copies of these manuals. Terms and conditions for use of the machine-readable files are shipped with the files.

Technical information

Hardware requirements

Buildtime (Workflow modelling tool)

Note: WebSphere MQ Workflow Buildtime runs in 32-bit mode only.

- PC with Intel™-based processor architecture (for example, Pentium™)
- Screen resolution: SVGA at 800 x 600 (minimum), 256 colors (minimum)

Operating environment	**** DB2(R) Main memory	UDB **** Hard disk	*** Jet Engine *** Main memory	*** Hard disk
Windows(TM)	512 MB	1 GB	512 MB	700 MB

- **Operating system:** Windows 2000, Windows 2003 Server, or Windows XP Professional Edition
- **Buildtime database:** DB2 Universal Database® Enterprise Server Edition V8.2 (included in the Media Pack), or V8.1 with fixpack 7a; or Microsoft Jet Engine

Runtime environments

Note: On the supported workstations, WebSphere MQ Workflow V3.6 runs in 32-bit mode and supports WebSphere MQ V6.0 on IPv4 networks only.

General recommendations

- The number and size of process models and process instances residing in the Runtime database and the number of clients concurrently attached to the server heavily influence the demand for main memory and hard disk space.
- For systems not used for production (for example, development, test, and demo systems), less main memory may be sufficient.

The following specifications are recommended numbers for a two-tier configuration (database and Runtime server reside on the same system).

Servers for Windows: PC with Intel-based processor architecture

For test or demonstration purposes, a ThinkPad® or portable PC is acceptable.

Operating environment	Main memory	Hard disk
Windows	1 GB	2 GB

- **Operating system:** Windows 2000, Windows 2003 Server, or Windows XP Professional Edition
- **Communication:** WebSphere MQ for Windows V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ for Windows V6.0
- **Database:** DB2 Universal Database Enterprise Server Edition for Windows V8.1 with fixpack 7a, or DB2 Universal Database Enterprise Server Edition for Windows V8.2 (included in the Media Pack)

Clients for Windows: A PC with Intel-based processor architecture capable of running the operating system is required.

- **Operating system:** Windows 2000, Windows 2003 Server, or Windows XP Professional Edition
- **Communication:** WebSphere MQ client for Windows V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ client for Windows V6.0
- **For Desktop access:** a WebSphere MQ Workflow Desktop client (included in the Media Pack)
- **Web application server:** WebSphere Application Server V5.0, or V5.1.0 or a higher mod level, or V6.0
- For a Portal client: WebSphere Portal V5.0, or V5.1
- For the development of programs using the WebSphere MQ Workflow APIs, either:
 - Microsoft Visual Studio .Net 7 2002 (WebSphere MQ Workflow client APIs for C and C++)
 - Java Software Development Kit V1.4.1 or V1.4.2, or Sun Java SDK 1.4.1 or 1.4.2
 - VisualBasic V7 for Windows for WebSphere MQ Workflow ActiveX Controls
- For a WebSphere MQ Workflow standard client, no additional prerequisites

Servers for AIX®

- pSeries® uniprocessor, SMP, or SP™ machine as supported by AIX
- System for AIX 5L with PowerProcessor chip
- Screen: Dedicated graphical display not necessary; the system console is sufficient

Operating environment	Main memory	Hard disk
pSeries	1 GB	2 GB

- **Operating system:** AIX 5L V5.1 with ML06 or a higher maintenance level, or V5.2 with ML04 or a higher maintenance level, or V5.3 with ML01 or a higher maintenance level
- **C++ Runtime environment:** xLC.rte Version 6 or 7
- **Communication:** WebSphere MQ for AIX V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ for AIX V6.0
- **Database:** One of the following:
 - DB2 Universal Database Enterprise Server Edition for AIX V8.2 (included in the Media Pack), or DB2 Universal Database Enterprise Server Edition for AIX V8.1 with fixpack 7a

- If using WebSphere MQ for AIX V5.3, Oracle9i Database Release 2 (9.2.0); if using WebSphere MQ for AIX V6.0, either Oracle9i Database Release 2 (9.2.0) or Oracle Database 10g Release 1 (10.1.0) with patchset 4, or later

- **For a high-availability environment:** HACMP™, refer to WebSphere MQ Workflow SupportPac™ “Integration of WebSphere MQ Workflow in high availability environments” (WC61)

Clients for AIX: Workstation with PowerProcessor chip capable of running the operating system

- **Operating system:** AIX 5L V5.1 with ML06 or a higher maintenance level, or V5.2 with ML04 or a higher maintenance level, or V5.3 with ML01 or a higher maintenance level
- **Communication:** WebSphere MQ client for AIX V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ client for AIX V6.0
- **Web application server:** WebSphere Application Server V5.0, or V5.1.0 or a higher mod level, or V6.0
- For a Portal Client: WebSphere Portal V5.0, or V5.1
- For the development of programs using the WebSphere MQ Workflow APIs, one of the following:
 - IBM C for AIX V6.0
 - IBM XL C/C++ Enterprise Edition for AIX V7.0
 - IBM VisualAge® C++ Professional for AIX V6.0
 - Java Software Development Kit V1.4.1 or V1.4.2

Servers for HP-UX

- HP 9000 workstation with PA-Risc processor
- Screen: A dedicated graphical display is not necessary; the system console is sufficient

Operating environment	Main memory	Hard disk
HP 9000	1 GB	2 GB

- **Operating system:** HP-UX 11i V1
- **Communication:** WebSphere MQ for HP-UX V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ for HP-UX V6.0
- **Database:** One of the following:
 - DB2 Universal Database Enterprise Server Edition for HP-UX V8.2 (included in the Media Pack), or V8.1 with fixpack 7a
 - Oracle9i Database Release 2 (9.2.0) for HP-UX; alternatively Oracle Database 10g Release 1 (10.1.0) for HP-UX if WebSphere MQ V6.0 is used
 - If using WebSphere MQ for HP-UX V5.3, Oracle9i Database Release 2 (9.2.0); if using WebSphere MQ for HP-UX V6.0, either Oracle9i Database Release 2 (9.2.0) or Oracle Database 10g Release 1 (10.1.0) with patchset 4, or later

Clients for HP-UX: A workstation capable of running the operating system.

- **Operating system:** HP-UX 11i V1
- **Communication:** WebSphere MQ client for HP-UX V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ client for HP-UX V6.0

- **Web application server:** WebSphere Application Server V5.0, or V5.1.0 or a higher mod level, or V6.0
- For a Portal Client: WebSphere Portal V5.0, or V5.1
- For the development of programs using the WebSphere MQ Workflow APIs:
 - HP ANSI C++ Compiler V03.50 for HP-UX
 - Adapted IBM Java SDK 1.4.1 or 1.4.2 as feature of WebSphere Application Server

Servers for Sun Solaris

- Sun workstation with SPARC processor
- Screen: A dedicated graphical display is not necessary; the system console is sufficient

Operating environment	Main memory	Hard disk
Sun SPARC	1 GB	2 GB

- **Operating system:** Sun Solaris 8 or 9
- **Communication:** WebSphere MQ for Sun Solaris V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ for Sun Solaris V6.0
- **Database:** One of the following:
 - DB2 Universal Database Enterprise Server Edition for Sun Solaris V8.2 (included in the Media Pack), or DB2 Universal Database Enterprise Server Edition V8.1 with fixpack 7a
 - If using WebSphere MQ for Sun Solaris V5.3, Oracle9i Database Release 2 (9.2.0); if using WebSphere MQ for Sun Solaris V6.0, either Oracle9i Database Release 2 (9.2.0) or Oracle Database 10g Release 1 (10.1.0) with patchset 4, or later

Clients for Sun Solaris: A workstation capable of running the operating system.

- **Operating system:** Sun Solaris V8 or 9
- **Communication:** WebSphere MQ client for Sun Solaris V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ client for Sun Solaris V6.0
- **Web application server:** WebSphere Application Server V5.0, or V5.1.0 or a higher mod level, or V6.0
- **For Portal client:** WebSphere Portal V5.0, or V5.1
- **For the development of programs using the WebSphere MQ Workflow APIs:**
 - Sun ONE Studio 8 C++ Compiler on Sun Sparc
 - Sun Java 2 SDK 1.4.1, or 1.4.2, or adapted IBM Java SDK 1.4.1 or 1.4.2 as feature of IBM WebSphere Application Server

Servers for z/OS (included in 5655-BPM)

Note: On z/Series, WebSphere MQ Workflow for z/OS V3.6 runs in 31-bit mode and supports WebSphere MQ V6.0 on IPv4 networks only.

- Machine requirements are those as defined for the operating system.
- **Operating system:** z/OS V1 R4, or higher (5694-A01)
- **Communication:** One of the following:
 - WebSphere MQ V5.3.1 (5655-F10), or higher, with Client Attachment Feature

- WebSphere MQ V6.0 (5655-L82), or higher, with Client Attachment Feature

- **Database:**
 - IBM DB2 Universal Database for z/OS V8.1 (5625-DB2), or higher
- **For the development of programs using the Workflow APIs:**
 - IBM Enterprise COBOL for z/OS V3R2 (5655-G53), or higher
 - IBM SDK for z/OS, Java 2 Technology Edition V1.4.1 or V1.4.2 (5655-I56)
- **To use the External Call Interface:** CICS® Transaction Server for z/OS V2.3 (5697-E93), or higher
- **To use the CPIC:** IMS/ESA® V7.1 (5655-B01), or higher

Corequisite for z/OS: IBM XML Toolkit for z/OS V1.7 only (5655-J51)

Clients for z/OS: To link a Web environment to a WebSphere MQ Workflow Server, the WebSphere MQ Workflow for z/OS client requires a computer system with sufficient main memory and mass storage to run:

- **Web client:** WebSphere Application Server for z/OS V5.0 or V5.1 (5655-I35), or V6.0 (5655-N01) with separately installed SDK for z/OS, Java 2 Technology Edition V1.4.1 or V1.4.2 (5655-I56)
- **Portal client:** WebSphere Portal Enable for z/OS V5.1 (5655-M44)

Clients for Linux™

- A hardware system with Intel 32-bit processor architecture or IBM z/Series 31-bit application support on 64-bit
- **Operating system:** One of the following:
 - Red Hat Enterprise Linux V3
 - SUSE LINUX Enterprise Server V9
- **Communication:** WebSphere MQ client for Linux V5.3 (included in the Media Pack) with CSD08 or a higher CSD, or WebSphere MQ client for Linux V6.0
- **For a WebSphere MQ Workflow Web client:** WebSphere Application Server V5.0, or V5.1.0 or a higher mod level, or V6.0
- **For a WebSphere MQ Workflow Portal client:** WebSphere Portal V5.0, or V5.1
- **For the development of programs using the WebSphere MQ Workflow APIs:**
 - Java Software Development Kit V1.4.1 or V1.4.2

Corequisite software

For process modeling and monitoring

- WebSphere Business Integration Workbench V4.2.4
- WebSphere Business Integration Modeler V4
- WebSphere Business Integration Monitor V4.1
- WebSphere Business Integration Modeler V5

For LDAP bridge: One of the following:

- IBM Tivoli® Directory Server V5.2
- Microsoft Active Directory (feature of Windows 2003 Server)

Supported Web browsers

- For Web user access to the Portal client: a browser supporting HTML 4 with Cascading Style Sheets (CSS) and supporting W3C DOM, such as Mozilla Navigator V1.7 or higher, or Firefox 1.0, or Netscape Version 7, or Microsoft Internet Explorer V6.0, or higher
- For Web user access to the Web client: a browser supporting HTML 4 with CSS, such as Mozilla Navigator V1.7 or higher, or Firefox 1.0, or Netscape Version 7, or Microsoft Internet Explorer V6.0, or higher

Compatibility: Process models created under previous releases can be imported to WebSphere MQ Workflow V3.6.

Applications developed under previous releases can be recompiled and relinked as long as WebSphere MQ Workflow V3.6 supports the programming languages affected.

Limitations: To plan for optimum performance and capacity and for possible limitations, contact your IBM representative or Business Partner for a Solution Assurance review with a Business Process Competency Center expert.

Performance considerations: The performance of WebSphere MQ Workflow V3.6 depends heavily on:

- Usage characteristics of the process models and organization definitions
- Average and maximum size of worklists
- Capacity and utilization of the WebSphere MQ Workflow and database server machines
- Speed and memory size of the server and client machines
- Transmission speed and load of the communication channels

To increase the number of users sharing the same processes, consider the use of multiple workflow servers sharing the same database.

This announcement partially satisfies requirements from several of the worldwide user group communities that include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Planning information

Value Unit-based pricing on zSeries

Value Unit-based pricing helps to align the price of 5655-BPM and 5655-WFL to the principle of the PSLC pricing curve, which provides for a lower price per MSU (millions of service units per hour) for larger capacities.

There is also a price benefit when you grow your capacity. Additional capacity is based on the number of Value Units (MSUs) you already have installed; for example, additional capacity is not priced starting at the base with a higher price per unit, but on the capacity that is already installed.

Note that Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

IPLA and subscription and support considerations

IPLA licenses can be transferred from one machine to another within, but not limited to an enterprise. You can aggregate the capacity for all the processors the product is operated on to achieve a more economic price. This will result in a single Proof of Entitlement. It is your responsibility to manage the distribution of Value Units within the limits of the entitlement of the product license.

Subscription and support must cover the same capacity as the product license entitlement. Subscription and support are available in the country in which the agreement is made.

Workstations program (5697-FM3)

Workstation licensing per processor: For WebSphere MQ Workflow V3.6, customers pay a license charge based on the number of processors in the Runtime and database server machine, regardless of whether all these processors are used to run the program; the charge unit is the Processor License Unit (PLU).

Charging: Charges for authorized use of WebSphere MQ Workflow V3.6 are based on PLUs. The use of WebSphere MQ Workflow V3.6 on any Runtime and database server machine requires one PLU to be acquired (from IBM or an IBM Business Partner) for each processor contained in the Runtime and database server machine on which any copy of the WebSphere MQ Workflow V3.6 is to run; usage of WebSphere MQ Workflow Buildtime is free.

PLUs are required for every Runtime and database server machine on which the WebSphere MQ Workflow V3.6 is installed. You are also required to obtain a corresponding number of additional PLUs if the WebSphere MQ Workflow V3.6 installation is moved to a server machine with a greater number of processors, or if any additional processors are added to the Runtime and database server machine on which the WebSphere MQ Workflow V3.6 is installed.

Failure to comply with the requirement for the appropriate number of PLUs will invalidate the terms of this license.

If you require licensing for machines with five or more processors, charges are eligible for Special Bid, contact your IBM Business Partner or IBM representative.

Refer to the terms and conditions supplied with your copy of WebSphere MQ Workflow V3.6.

Transferability: Customers who upgrade from an earlier release of WebSphere MQ Workflow V3.6 under Passport Advantage® do not need to order any additional PLUs if they retain the same number of processors.

Customers who upgrade from an earlier release of WebSphere MQ Workflow V3.6 under Passport Advantage and have a greater number of processors can use their existing CUs and then acquire additional PLUs to satisfy the licensing requirements. The CUs from the previous release will be converted to PLUs (at a rate of two capacity units to one PLU) and counted as all or part of the customer entitlement.

Any "spare" CUs can be used towards other WebSphere MQ Workflow V3.6 entitlement, but are not refundable.

Customers without a Passport Advantage contract having acquired a number of CUs should retain their printed entitlement card from the original product as proof of entitlement.

Note that the pricing is based on the number of processors in the Runtime and database server machine, regardless of whether they are all being used to execute the program.

Migration: Customers with CU-based licenses should migrate at the time of maintenance renewal. A standard conversion rate of two CUs to one PLU will be used. In the majority of situations, this conversion will ensure that customers have the correct number of licenses on the processor license unit metric.

However, when machines have five or more processors (and in a few other cases), the standard conversion will not give the required number of licenses. In this case, when contacted by IBM, you should discuss acquiring additional licenses so that you are correctly licensed under the processor based pricing model. You will not be charged for additional licenses granted under this process, but maintenance renewal prices will be based on the number of processors that are licensed.

If you require licensing for machines with five or more processors, charges are eligible for special bid. Contact your IBM Business Partner or IBM representative.

For additional information, visit

<http://www.ibm.com/websphere/integration/pricing>

Usage restriction for WebSphere MQ Workflow V3.6 (on workstations)

Usage of WebSphere MQ: WebSphere MQ Workflow contains a copy of IBM WebSphere MQ V5.3 (WSMQ) which each licensed user is only authorized to use in association with the licensed use of WebSphere MQ Workflow.

Licensed users of the WebSphere MQ Workflow may use WSMQ on any machine that is:

- Covered by PLUs for WebSphere MQ Workflow; this includes custom messaging applications using a WSMQ queue manager, as long as this queue manager runs on the same machine as a WebSphere MQ Workflow Server; and
- Not covered by PLUs for the WebSphere MQ Workflow, as long as any usage of WSMQ is only by means of WebSphere MQ Workflow applications or APIs.

Any other use of WSMQ, specifically with custom messaging applications, is not permitted without a full separate license for WSMQ.

A licensed user may transfer the copy of WSMQ included with WebSphere MQ Workflow, but only:

- To a person who at the same time takes over all the corresponding WebSphere MQ Workflow materials from the licensed user, and accepts all these license terms
- If the licensed user transfers all copies to such other person, and does not retain any copies of such materials for its own or any other use

Usage of DB2 Universal Database components: WebSphere MQ Workflow includes components of IBM DB2 Universal Database (DB2). Licensed users of WebSphere MQ Workflow are authorized to install and use these DB2 components only in association with their licensed use of WebSphere MQ Workflow for the storage and management of data used and generated by WebSphere MQ Workflow, and not for other data management purposes, except retrieving the data

generated by the WebSphere MQ Workflow required for monitoring and report generation.

Licensed users are authorized to install and use these DB2 components only with and on workstations running WebSphere MQ Workflow Buildtime or Runtime Servers and Buildtime or Runtime Databases.

A licensed user of WebSphere MQ Workflow may transfer the copy of DB2 included with WebSphere MQ Workflow, but only:

- To a person who at the same time takes over all the corresponding WebSphere MQ Workflow materials from the licensed user, and accepts all these license terms
- If the licensed user transfers all copies to such other person, and does not retain any copies of such materials for its own or any other use

If you acquire the WebSphere MQ Workflow as a program upgrade, after you install the upgrade you may not use WebSphere MQ Workflow from which you upgraded or transfer it to another party. Your use of the DB2 components is subject to the terms and conditions of the license agreement which accompany the components except as limited in this license. The DB2 components may not be used for any other purpose. Contact your DB2 Reseller if your needs exceed this license agreement, to obtain a full DB2 UDB program.

Usage restriction for WebSphere MQ Workflow for z/OS V3.6

On CD-ROMs included with WebSphere MQ Workflow for z/OS:

1. Buildtime

A license for WebSphere MQ Workflow for z/OS includes a license to use the modelling tool of WebSphere MQ Workflow ("Buildtime") by any number of persons associated with the licensed user's organization. For the usage of the Buildtime, you are authorized to install and use components of IBM DB2 Universal Database (DB2) for Windows from the CD-ROM included with WebSphere MQ Workflow for z/OS.

2. Usage of WebSphere MQ Workflow Runtime Clients

Included with WebSphere MQ Workflow for z/OS V3.6 are CD-ROMs that contain WebSphere MQ Workflow Runtime server and client code running on workstations. Usage of such client is authorized for any number of persons, provided they are all associated with the licensed user's organization.

Usage of such Runtime server code is authorized only for a maximum of one trial period, not exceeding thirty days. The provisions of the *IBM International License Agreement for Evaluation of Programs* (IBM Form Number Z125-5543 (11/2002) — or any later edition — apply exclusively to any such trial period usage. Beyond thirty (30) days, you are not entitled to make any use of the WebSphere MQ Workflow Runtime server code for workstations which is also present on these CD-ROMs; in order to install and run these, a license for the "IBM WebSphere MQ Workflow for multiplatforms" product must first be obtained.

2.2 Included with this WebSphere MQ Workflow for z/OS are CD-ROMs that contain IBM WebSphere MQ V5.3 (WSMQ) for several workstations. To manage the

communication of business processes with Workflow Runtime clients, any workstation that runs such Workflow Runtime client in the licensed user's organization is authorized to use WSMQ.

Any other use of WSMQ, specifically with custom messaging applications, is not permitted without a full separate license for WSMQ.

A licensed user may transfer the copy of WSMQ included with WebSphere MQ Workflow for z/OS, but only:

- To a person who at the same time takes over all the corresponding WebSphere MQ Workflow for z/OS materials from the licensed user, and accepts all these license terms
- If the licensed user transfers all copies to such other person, and does not retain any copies of such materials for its own or any other use

Usage of DB2 Universal Database components

IBM WebSphere MQ Workflow for z/OS includes components of IBM DB2 Universal Database (DB2) for Windows. Licensed users of WebSphere MQ Workflow for z/OS are authorized to install and use these DB2 components only in association with their licensed use of WebSphere MQ Workflow for z/OS for the modelling of business processes used by WebSphere MQ Workflow for z/OS, and not for other data management purposes.

Licensed users are authorized to install and use these DB2 components only with and on workstations running WebSphere MQ Workflow Buildtime Database for Windows.

A licensed user of WebSphere MQ Workflow for z/OS may transfer the copy of DB2 for Windows included with WebSphere MQ Workflow for z/OS, but only:

- To a person who at the same time takes over all the corresponding WebSphere MQ Workflow for z/OS materials from the licensed user, and accepts all these license terms
- If the licensed user transfers all copies to such other person, and does not retain any copies of such materials for its own or any other use

If you acquire WebSphere MQ Workflow for z/OS as a program upgrade, after you install the upgrade you may not use WebSphere MQ Workflow for z/OS from which you upgraded or transfer it to another party.

Your use of the DB2 components is subject to the terms and conditions of the license agreement which accompany those components, except as limited in this license. The DB2 components may not be used for any other purpose. Contact your DB2 Reseller if your needs exceed this license agreement, to obtain a full DB2 UDB program.

Customer responsibilities

Installation and maintenance: On all workstation platforms, WebSphere MQ Workflow V3.6 is installable from CD-ROM.

Communication protocols: The components of WebSphere MQ Workflow communicate with each other via WebSphere MQ and DB2 UDB that support TCP/IP.

Packaging

On workstations (multiplatforms): The Passport Advantage media pack includes:

- One CD-ROM for Microsoft Windows containing all national language versions supported
- One CD-ROM for AIX containing all national language versions supported
- One CD-ROM for HP-UX containing all national language versions supported
- One CD-ROM for Sun Solaris containing all national language versions supported
- One CD-ROM containing the WebSphere MQ Workflow V3.6 softcopy documentation for the six workstations manuals in all national language versions supported, for the zSeries manuals in U.S. English only
- WebSphere MQ V5.3 servers and clients for all supported workstations
- DB2 Universal Database Enterprise Server Edition V8.2 program code for all supported workstations

The platform-specific workflow CD-ROMs include a JavaClient directory for a thin client installation on the specified platform or on Linux.

The documentation CD-ROM includes six WebSphere MQ Workflow V3.6 manuals in softcopy:

- Concepts and Architecture
- Getting Started with Buildtime
- Getting Started with Runtime
- Installation Guide
- Administration Guide
- Programming Guide

CBPDO for 5655-BPM: These components are included:

- WebSphere MQ Workflow for z/OS V3.6 server program code on 3480 IBM cartridge
- One Proof of Entitlement
- WebSphere MQ Workflow V3.6 workstations clients and Buildtime on CD-ROM
- Hardcopy documentation: Program Directory
- Softcopy documentation:
 - Program Directory
 - Customization and Administration
 - Programming Guide
 - Messages and Codes
- International Program License Agreement (Z125-3301)
- License Information G119-0016-04
- Service Statement
- Customer registration card

The workstations program 5697-FM3 when downloaded from a Web site, contains the applicable IBM license agreement, and License Information (LI), if appropriate, and will be presented for acceptance at the time of installation of the program. The license and LI will be stored in a directory such as LICENSE.TXT for future reference.

Security, auditability, and control

The security and auditability features are:

- Access to WebSphere MQ Workflow program and data files is protected via local operating system security mechanisms.

- User authentication is provided by means of a WebSphere MQ Workflow user ID and password. Passwords are not transmitted over the line, neither at user logon nor when users change their passwords. No clear text password is stored in the WebSphere MQ Workflow server databases.
- DB2 security applies for access control to WebSphere MQ Workflow databases.
- WebSphere MQ security applies for access control to WebSphere MQ Workflow queues.
- Users must be authorized via FDL and WebSphere MQ Workflow Buildtime to access WebSphere MQ Workflow resources, such as processes, and to administer the system.
- Auditing is provided via operating system security logs and WebSphere MQ Workflow audit log.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

The workstations program 5697-FM3 is only available via Passport Advantage. It is not available as shrinkwrap.

Product Group: AIM

	Program number
WebSphere MQ Workflow for Multiplatforms for z/OS	5697-FM3 5655-BPM

Product category: Business Process Management

WebSphere MQ Workflow is available on workstations as a client/server program. The total number of processors in the machines that run the Runtime servers and databases determine the license charge specified in Processor License Units (PLUs); clients are not chargeable.

WebSphere MQ Workflow for z/OS is available on IBM eServer® zSeries servers as a client/server program. The machine capacity of the Runtime server determines the license charge calculated in Value Units (VU); clients are not chargeable.

A license for the Runtime server entitles you to a free number of Buildtime users.

Value Unit-Based pricing applies for:

Program number	Value Unit Exhibit	Program name
5655-BPM	VUE007	IBM WebSphere MQ Workflow for z/OS V3.6

For each zSeries IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the "required license capacity." Your required license capacity is based upon the following factors:

- The zSeries IPLA program you select
- The applicable Value Unit Exhibit
- The applicable Terms

- Whether your current mainframes are full-capacity or sub-capacity

Value Unit Exhibit VUE007

	MSUs minimum	MSUs maximum	Value Units/MSU
Base	1	3	1
Tier A	4	45	0.45
Tier B	46	175	0.36
Tier C	176	315	0.27
Tier D	316	+	0.2

Value Units for mainframes without MSU ratings:

Hardware	Value Units/machine
MP3000 H30	6
MP3000 H50	8
MP3000 H70	12
ESL Models	2

Ordering example: The total number of Value Units is calculated according to the following example.

If your required license capacity is 1,500 MSUs for your selected zSeries IPLA product, the applicable Value Units would be:

Translation from MSUs to Value Units				
MSUs	*	Value Units/MSU	=	Value Units
Base	3	1.00	=	3.00
Tier A	42	.45	=	18.90
Tier B	130	.36	=	46.80
Tier C	140	.27	=	37.80
Tier D	1,185	.20	=	237.00
Total	1,500			343.50

When calculating the total number of Value Units, the sum is to be rounded up to the next integer.

Ordering z/OS through the Internet: ShopzSeries provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S. and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at

<http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp>

IBM WebSphere MQ Workflow V3.6 (workstations program)

Passport Advantage

Program name/Description	Part number
IBM WebSphere MQ Workflow V3.6 — Media Pack, multilingual	BA0DZML

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the programs listed below are entitled to receive the corresponding media pack.

Entitled maintenance offerings

IBM WebSphere MQ Workflow V3.5, and lower

Media Pack description	Part number
IBM WebSphere MQ Workflow V3.6 — Multilingual	BA0DZML

Basic license

On/Off Capacity on Demand

IBM WebSphere MQ Workflow for z/OS V3.6 is eligible for On/Off Capacity on Demand (On/Off CoD) with a Temporary Use Charge (TUC) calculated based on MSUs-per day usage.

Program name IBM WebSphere MQ Workflow for z/OS V3.6

Program PID 5655-BPM

Entitlement identifier	Description	License option / Pricing metric
S00VXRW	WebSphere MQ Workflow for z/OS V3.6	Basic OTC, per Value Unit Basic OTC, per MSU-day TUC

Translation from MSUs to Value Units

	MSUs	Value Units/MSU
Base	1-3	1.00
Tier A	4-45	0.45
Tier B	46-175	0.36
Tier C	176-315	0.27
Tier D	316+	0.20

To order, specify the program product number and the appropriate license or charge option. Also, specify the desired distribution medium. To suppress shipment of media, select the license-only option in CFSW.

Program name: IBM WebSphere MQ Workflow for z/OS V3.6

Program PID: 5655-BPM

Entitlement identifier	Description	License option / Pricing metric
S00VXRW	WebSphere MQ Workflow for z/OS Version 3.6	Basic OTC, per Value Unit

Orderable Supply ID	Language	Distribution medium
S00V4N7	U.S. English	3480 cartridge

Subscription and Support PID: 5655-WFL

Entitlement identifier	Description	License option / Pricing metric
S00VXCP	WebSphere MQ Workflow for z/OS V3.6 Sub&Sup	Basic OTC, per Value Unit

Orderable Supply ID	Language	Distribution medium
S00V4VN	U.S. English	Hardcopy publication

Subscription and Support: To receive voice technical support via telephone during normal business hours and future releases and versions at no additional charge, Subscription and Support must be ordered. The capacity of Subscription and Support (Value Units) must be the same as the capacity ordered for the product licenses.

To order, specify the Subscription and Support program number (PID) referenced above and the appropriate license or charge option.

IBM is also providing Subscription and Support for these products via a separately purchased offering under the terms of the IBM International Agreement for Acquisition of Support (IAAS). This offering:

- Includes and extends the support services provided in the base support to include technical support via telephone during normal business hours.
- Entitles customers to future releases and versions at no additional charge. Note that the customer is not entitled to new products.

When Subscription and Support is ordered, the charges will renew automatically annually unless cancelled by the customer.

Replacement program information: On July 15, 2005, release V3.6 replaces WebSphere MQ Workflow for z/OS V3.5.

Customized offerings

Product media is shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac®). Non-customized items (CDs, diskettes, source media, media kits) will continue to be shipped via the stand-alone product.

Terms and conditions

IBM WebSphere MQ Workflow V3.6 (workstations program) is only available via Passport Advantage. It is not available as shrinkwrap.

IBM WebSphere MQ Workflow for z/OS V3.6 (5655-BPM) is only available as Custom Built Program Delivery Option (CBPDO). It is not available via Passport Advantage.

Agreement: IBM International Program License Agreement. Proofs of Entitlement are required for all authorized use.

Program support for WebSphere MQ Workflow for z/OS V3.6 (5655-BPM)

The following agreement applies for Subscription and Support and does not require customer signatures:

- IBM Agreement for Acquisition of Support (Z125-6011)
- Addendum for Enhanced Support (Z125-6435)

This program has a one-time license charge for use of 5655-BPM and an ongoing recurring charge (5655-WFL) for the Enhanced Support that includes telephone assistance (voice support for defects during normal business hours) as well as Subscription and Support that is access to updates, releases, and versions of the program. Subscription and Support will be available for a minimum of three years from the general availability date. IBM will discontinue support with 12 months notice.

IBM Operational Support Services — SoftwareXcel: Yes

Additional technical support

If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or Business Partner. This extension may be available for a fee.

License information form number: For 5655-BPM: G119-0016-04

Limited warranty: Yes

Warranty: These programs have warranty for a minimum of one year from acquisition from IBM or authorized IBM Business Partner. The warranty provided to the customer, for at least one year from acquisition, is access to databases (read Web sites) for program information and FAQs, including any known fixes to defects, which the customer can download or obtain otherwise and install at leisure.

Program support: Enhanced Support, called Subscription and Support, includes telephone assistance (voice support for defects during normal business hours) as well as access to updates, releases, and versions of the program as long as support is in effect. The customer will be notified of discontinuance of support with 12 months' notice.

Money-back guarantee: If for any reason you are dissatisfied with the program, return it within 30 days from the invoice date to the party (either IBM or its reseller) from whom you acquired it for a refund. This applies only to your first acquisition of the program.

Copy and use on home/portable computer: No

Volume orders (IVO): No

Passport Advantage applies: Yes, for the workstations program (5697-FM3) and through the Passport Advantage Web site at

<http://www.ibm.com/software/passportadvantage>

Usage restriction: Yes. Refer to the **Usage restriction** sections in the **Planning information** section.

Software Maintenance applies: Yes

Software Maintenance for WebSphere MQ Workflow V3.6 (workstations program)

Software Maintenance, previously referred to as Software Subscription and Technical Support, is now included in the Passport Advantage Agreement. Installation and technical support for the products announced in this letter is provided by the Software Maintenance offering of the IBM International Passport Advantage Agreement. This fee service enhances customer productivity by providing voice and/or electronic access into the IBM support organizations.

IBM includes one year of Software Maintenance with the initial license acquisition of each program acquired. The initial period of Software Maintenance can be extended by the purchase of a renewal option.

While your Software Maintenance is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions; and

code-related questions. IBM provides assistance via telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. For additional details, consult your IBM Software Support Guide at

<http://techsupport.services.ibm.com/guides/handbook.html>

Software Maintenance does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under this agreement.

For additional information about the Passport Advantage Agreement, visit the Passport Advantage Web site at

<http://www.ibm.com/software/passportadvantage>

All distributed software licenses include Software Maintenance (Software Subscription and Technical Support) for a period of 12 months from the date of acquisition, providing a streamlined way to acquire IBM software and assure technical support coverage for all licenses. Extending coverage for a total of three years from date of acquisition may be elected. For additional information, refer to Changes to Distributed Software Products Model for Products Outside Passport Advantage Software Announcement 201-201, dated July 10, 2001.

Variable charges apply: No

Educational allowance available: Yes, 15% education allowance applies to qualified education institution customers.

Sub-capacity terms and conditions for 5655-BPM

For each zSeries IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the "required license capacity." Your required license capacity is based upon the following factors:

- The zSeries IPLA program you select
- The applicable Value Unit Exhibit
- The applicable Terms
- Whether your current mainframes are full-capacity or sub-capacity

For more information on the Value Unit Exhibit for the zSeries IPLA program you selected, refer to the **Ordering information** section.

Program number	Program name	Terms
5655-BPM	WebSphere MQ Workflow for z/OS	Execution-based

Full-capacity mainframes: In cases where full-capacity is applicable, the following terms apply:

Execution-based, z/OS-based, full-machine-based: The required capacity of a zSeries IPLA program with these terms equals the MSU rated capacity of the machines where the zSeries IPLA program executes.

For more information on mainframe MSU rated capacities, refer to “The System/370™, System/390®, and zSeries Machine Exhibit” (Z125-3901) or visit the “Mainframes” section of the zSeries Exhibits Web site

<http://ibm.com/zseries/library/swpriceinfo/>

Sub-capacity mainframes: In cases where sub-capacity is applicable, the following terms apply:

Execution-based: The required capacity of a zSeries IPLA sub-capacity program with these terms equals the capacity of the LPARs where the zSeries IPLA program executes.

z/OS-based: The required license capacity of a zSeries IPLA program with these terms equals the license capacity of z/OS (and z/OS.e) on the machines where the zSeries IPLA program executes.

Full machine-based: The required license capacity of a zSeries IPLA program with full machine-based terms equals the MSU rated capacity of the machines where the zSeries IPLA program executes.

For more information on mainframe MSU rated capacities, refer to *The System/370, System/390, and zSeries Machine Exhibit* (Z125-3901) or visit the “Mainframes” section of the zSeries Exhibits Web site

<http://ibm.com/zseries/library/swpriceinfo/>

For more information on sub-capacity zSeries IPLA terms and conditions, refer to Software Announcement 204-184, dated August 10, 2004.

Additional Information for Products with Reference-Based Terms zSeries IPLA sub-capacity programs with reference-based terms adds value to the parent program across the environment, regardless of where in environment the zSeries IPLA program executes.

An environment is defined as either a single/stand-alone machine or a qualified Parallel Sysplex®. Customers may have one or more different environments across their enterprise. To determine the required license capacity for each zSeries IPLA program with referenced-based terms, each environment should be assessed separately.

When a zSeries IPLA sub-capacity program with reference-based terms is used in a qualified Parallel Sysplex environment the required license capacity of the zSeries IPLA program must equal with the license capacity of the parent program across the Parallel Sysplex. Qualified Parallel Sysplex refers to one

1. That meets the criteria defined in Hardware Announcement 198-001, dated January 13, 1998.
2. Where MLC pricing is aggregated across the Sysplex

Sub-capacity eligibility: To be eligible for sub-capacity charging on select zSeries IPLA programs, you must first implement and comply with all terms of either sub-capacity Workload License Charges (WLC) or sub-capacity Entry Workload License Charges (EWLC). To implement sub-capacity WLC or EWLC, a machine must be zSeries (or equivalent). On that machine:

- All instances of the OS/390® operating system must be migrated to the z/OS (or z/OS.e) operating systems
- Any licenses for the OS/390 operating system must be discontinued
- All instances of the z/OS operating (or z/OS.e) systems must be running in z/Architecture™ (64-bit) mode

For that machine, you must create and submit a Sub-Capacity Report to IBM each month. Sub-Capacity Reports must be generated using the Sub-Capacity Reporting Tool (SCRT). For additional information or to obtain a copy of SCRT, visit the zSeries Software Pricing Web site

<http://ibm.com/zseries/swprice>

You must comply with all of the terms of the WLC or EWLC offering, whichever is applicable:

- The complete terms and conditions of sub-capacity WLC are defined in the IBM Customer Agreement — Attachment for zSeries Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement — Attachment for z800 and z890 Software License Charges (Z125-6587).

Additionally, you must sign and comply with the terms and conditions specified in the amendment to the IPLA contract — *Amendment for zSeries Platform Programs Sub-Capacity Pricing* (Z125-6929-02, or higher). Once the amendment is signed, the terms in the amendment replace any and all previous zSeries IPLA sub-capacity terms and conditions.

Sub-capacity pricing terms and conditions (workstations program)

To be eligible for Sub-Capacity Pricing, the machine on which the eligible products are installed and running must be eligible for Sub-Capacity pricing terms and conditions. Software pricing at less than full machine capacity for eligible products apply when running

- AIX 5L V5.1, or later, on an IBM eServer pSeries 690 or equivalent partition capable operating system and machine
- OS/400® V5.1, or later, running on an IBM eServer iSeries™ Server
- Linux running in an LPAR under AIX 5L V5.1, OS/400 V5.1, or in a partition on an equivalent partition capable operating system and Server

Sub-Capacity Pricing for eligible products is based on the current Program pricing methodology but the number of processors will be determined based on the sum of processors for all partitions where the Program is defined(used). To obtain pricing at less than full machine capacity for eligible products, you are required to:

- Install and use, when available, IBM’s license use management program which installs with eligible IBM Programs.
- Install available updates to the operating system and eligible products such that license use can be accurately managed.
- If the use of Sub-Capacity Pricing terms results in a reduced requirement for entitlements, you can reallocate the entitlement difference by distributing entitlements across a larger or different set of systems, or reserve then for future growth. There will be no refunds for these “freed up” entitlements. Subscription, Software Maintenance and Support volumes and entitlements for existing contracts will continue at the same levels as the acquired licenses.

Sub-capacity utilization determination

Sub-capacity utilization is determined based on the utilization of an eligible operating system and machine (for example, z/OS running in z/Architecture (64 bit) mode on a zSeries (or equivalent) server).

Sub-capacity utilization is determined based on the product's own execution as reported to IBM in accordance with the requirements for reporting sub-capacity utilization for products.

On/Off Capacity on Demand

To be eligible for On/Off Capacity on Demand pricing, customers must be enabled for temporary capacity on the corresponding hardware, and the required contract — Z125-6611, Attachment for Customer Initiated Upgrade and IBM eServer On/Off Capacity on Demand — Software — must be signed before use.

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The IBM Electronic Service Agent is a no-additional-charge software that resides on your IBM eServer system. It is designed to proactively monitor events and transmit system inventory information to IBM on a periodic, customer-defined timetable. The IBM Electronic Service Agent tracks system inventory, hardware error logs, and performance information. If the server is under a current IBM maintenance service agreement or within the IBM warranty period, the Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to provide proactive service that maintains higher system availability and performance. In addition, information collected through the Service Agent will be made available to IBM service support representatives when they are helping answer your questions or diagnosing problems.

To learn how IBM Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

Prices

Passport Advantage for the workstations program

For Passport Advantage information and charges, contact your IBM representative or authorized IBM Business

Partner. Additional information is also available on the following Passport Advantage Web site

<http://www.ibm.com/software/passportadvantage>

Variable charges: The applicable processor-based one-time charge will be based on the group of the designated machine on which the program is licensed for use. If the program is designated to a processor in a group for which no charge is listed, the charge of the next higher group listed applies. For movement to a machine in a higher group, an upgrade charge equal to the difference in the then-current charges between the two groups will apply. For movement to a machine in a lower group, there will be no adjustment or refund of charges paid.

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