IBM WebSphere Front Office for Financial Markets V3.0 offers low-latency market data access through a significantly enhanced market data platform

At a glance

WebSphere® Front Office for Financial Markets V3.0 offers:

- Capability to handle over 40 data feeds and consolidated order books
- High throughput and low-latency multicast and point-to-point message transports
- High availability and load balancing features
- Enhanced entitlement services
- Enhanced administrative and monitoring capabilities
- Resolution services providing a single namespace

Overview

WebSphere Front Office for Financial Markets V3.0 offers a rich feed handler portfolio and enhanced platform capabilities benefiting from the recent IBM® acquisition of InfoDyne Corporation and its TPS+Plus market data platform. WebSphere Front Office V3.0 combines capability to handle over 40 data feeds with low-latency messaging and a robust market data platform and can provide ultra-low-latency connectivity to exchanges and electronic markets.

New direct exchange, order book, and consolidated feed handlers

- Dozens of new feed handlers supporting over 40 data feeds, including major U.S. and international data sources
- Consolidated order book capability, combining order book feeds into a single consolidated view

Low-latency, high-throughput messaging transport

- Reliable multicast messaging support for high-speed, one-to-many communication, capable of delivering over 40 million messages per second
- Point-to-point (unicast) messaging support to deliver market data to local or remote office clients
- End-to-end latency has been demonstrated at less than 150 microseconds for a typical market data feed
- Native InfiniBand support, with latency measured within the underlying messaging transport as low as five microseconds for small message sizes
• High availability including failover rules creation and high availability detection and synchronization
• Dynamic load balancing
• Client connection capability through simple APIs to selectively route requests, responses, and update traffic bidirectionally from market data sources to customer applications
• A development toolkit that includes application integration components, utilities, documentation, and sample code on Linux®, Windows®, and Solaris

Robust platform

• Entitlement services, providing the ability to manage and authenticate users, control data access, and generate usage reports
• Enhanced administrative and monitoring, featuring administrative components and Simple Network Management Protocol (SNMP) utilities that provide an extensive range of operational management capabilities.
• Resolution services providing a single namespace so applications need not be aware of where services or data are sourced

Key prerequisites

Refer to the Hardware requirements and Software requirements sections.

Planned availability date

September 19, 2008 (electronic software delivery)

Description

WebSphere Front Office V3.0 adds a new level of performance and capability relative to previous versions, incorporating a rich feed handler portfolio and platform enhancements based on the recently acquired InfoDyne TPS+Plus platform. WebSphere Front Office V3.0 offers a vendor-neutral choice for market data delivery, and can address these challenges:

• Ever-increasing market data and trade volumes in financial markets
• Rise in algorithmic trading
• Market fragmentation
• Growth in options
• Regulatory changes such as Regulation National Market System (RegNMS) and MiFid

Rich feed handler portfolio

WebSphere Front Office V3.0 offers dozens of new feed handlers supporting over 40 data feeds, including major US and international data sources, with connectivity to exchanges, electronic communication networks (ECNs), and consolidated data providers. In addition to the distribution of market data, WebSphere Front Office feed handlers can provide data normalization, blending, value-added calculations, and custom data integration including call-out, contributions, and publication.

Exchange server feed handlers receive, normalize, cache, manage, and distribute real-time Level 1 market data directly from exchanges. The following feed handlers offer access to quote, trade, and other value-added data feeds:

• WebSphere Front Office Exchange Feed Handler for CME ², ITC ³, supporting CME floor data, Globex, CBOT ⁴, Nymex, Dow Jones, KCBT ⁵, and MGEX ⁶ Level 1 feeds
• WebSphere Front Office Exchange Feed Handler for NASDAQ ⁷ MFDS ⁸
• WebSphere Front Office Exchange Feed Handler for NASDAQ NIDS ⁹
• WebSphere Front Office Exchange Feed Handler for NASDAQ NOII
• WebSphere Front Office Exchange Feed Handler for NASDAQ BBDS/TDDS
• WebSphere Front Office Exchange Feed Handler for NASDAQ OMDF
• WebSphere Front Office Exchange Feed Handler for NYSE Alerts
• WebSphere Front Office Exchange Feed Handler for NYSE Quotes
• WebSphere Front Office Exchange Feed Handler for NYSE Trades
• WebSphere Front Office Exchange Feed Handler for NASDAQ Level 2
• WebSphere Front Office Exchange Feed Handler for NASDAQ UTP, which supports both the NASDAQ UQDF and UTDF feeds.
• WebSphere Front Office Exchange Feed Handler for SIAC CTA, which supports both the CTS and CQS feeds.
• WebSphere Front Office Exchange Feed Handler for SIAC OPRA, with support for the FAST protocol
• WebSphere Front Office Exchange Feed Handler for TSX TL1, which supports both the TL1 and CL1 feeds.

Order book feeds handlers receive, normalize, cache, manage, and distribute real-time Level 2 order book data directly from exchanges and ECNs. The following order book feed handlers offer access to full or partial depth quote information:

• WebSphere Front Office Order Book Feed Handler for BATS PITCH
• WebSphere Front Office Order Book Feed Handler for CME RLC, with support for the CME Futures, Options, CBOT, FXMarketSpace, Nymex, KCBT, and MGEX Level 2 feeds
• WebSphere Front Office Order Book Feed Handler for Direct Edge View
• WebSphere Front Office Order Book Feed Handler for NASDAQ TotalView Aggregated
• WebSphere Front Office Order Book Feed Handler for NASDAQ TotalView ITCH, which includes support for the ITCH 2.0, ITCH 2.0a, and ITCH 3.0 versions
• WebSphere Front Office Order Book Feed Handler for NYSE ArcaBook, with FAST protocol support
• WebSphere Front Office Order Book Feed Handler for NYSE OpenBook
• WebSphere Front Office Order Book Feed Handler for Pink Sheets QDIST
• WebSphere Front Office Order Book Feed Handler for TSX TL2, which supports both the TL2 and CL2 feeds

Other available feed handlers include major consolidated feeds. These feed handlers receive, normalize, cache, manage, and distribute consolidated feed data from providers such as Bloomberg. These feed handlers include:

• WebSphere Front Office Feed Handler for Bloomberg B-Pipe, supporting the Bloomberg broadcast feed
• WebSphere Front Office Feed Handler for Bloomberg B-Pipe on Demand, supporting the Bloomberg interactive feed
• WebSphere Front Office Feed Handler for Xasax AlgoFeed

**Consolidated order book**

With the proliferation of market centres and the need for compliance with regulations such as RegNMS and MiFid, it is necessary to see the full market through the merger of order books from major liquidity pools. To address this challenge, WebSphere Front Office V3.0 offers the ability to combine multiple order book feeds such as ARCA, ITCH, OpenBook, DirectEdge, and BATS into a single consolidated view of the market. The consolidated order book can provide a variety of views, including the fully aggregated market size at each price, partial aggregation showing aggregate size at each price in each market centre, consolidation without aggregation, and other views.
Flexible, high-performance messaging middleware for market data distribution

WebSphere Front Office V3.0 includes high-performance, flexible, scalable middleware offering connectivity between data sources and subscribers, with intelligent message routing and APIs for publishing and consuming data. The messaging middleware can be configured at publishing, distribution, and client access tiers to use reliable multicast or point-to-point transports to provide scalable integration between applications. The WebSphere Front Office platform can be deployed over a wide range of physical network designs, and is independent of location. Market data distribution capability extends natively throughout LAN and/or WAN architectures, including VPN, Extranet, and/or Internet implementations.

Reliable point-to-point (unicast) messaging is provided over TCP/IP, with reliability and traffic control provided primarily by the TCP protocol. This alternative provides the ability to reliably deliver a stream of data across a WAN or through a firewall at high speeds.

The IT (Information Technology) Object Distributor, or ITOD, infrastructure component can support many applications, and there can be many in a system. The Object Distributors can dynamically discover each other and communicate via highly efficient and reliable connections, manage services, route requests and responses, and provide load balancing, fail-over.

The distribution tier can also be implemented as a flat multicast architecture, with feed handlers directly publishing to reliable multicast channels. A reliable multicast transport offers high-speed, one-to-many communications through the User Datagram Protocol (UDP) with receiver feedback. Although typical multicast implementations offer only best-effort, unreliable message delivery, WebSphere Front Office low latency multicast includes a choice of receiver feedback to help enable reliable delivery with minimal loss of speed.

Native InfiniBand support

WebSphere Front Office now features Native InfiniBand support for low-latency multicast messaging on Linux. IP over InfiniBand (IPoIB), and has also been tested with Voltaire Multicast Accelerator (VMA) and Cisco Datagram Acceleration Layer (DAL). Throughput as high as 40 million messages per second has been achieved for small message sizes. The new native InfiniBand multicast implementation accesses InfiniBand at the “native verb” layer for improved throughput and latency. The native InfiniBand messaging layer has been demonstrated to have latency as low as five microseconds for 45-byte messages delivered at 10,000 messages per second.

Note: The stated performance numbers are based on measurements using standard IBM benchmarks in a controlled environment. The actual throughput that any application will experience may vary depending upon considerations such as message size, transmission rate, hardware platform, and network configuration. Therefore, no assurance can be given that an individual application will achieve the throughput or latency stated here. Customers should conduct their own testing. For more detailed performance information, consult your IBM sales representative.

High availability and load balancing

The WebSphere Front Office distributed architecture is designed for high availability. No single component failure can cause an interruption in service, and a system can be configured such that multiple component failures do not cause interruptions of service. The system can be configured with redundant components at any or all levels. When an individual component fails, the system will automatically detect the failure and shift all access to the remaining components.

Requests are shared equally among all participating sources of a service, allowing load-balancing across multiple sources of the same data. If the load becomes too high, an additional source is added to solve the problem. No network changes nor client changes are required.

Client connection package

The client connection package is used to selectively route requests, responses, and update traffic bi-directionally between applications. The core API component for client connectivity is the IT Client Library (ITCL), which provides a transport independent API between the middleware infrastructure and client/server applications. The ITCL is an object oriented C++ solution
development kit (SDK), with a simple API to allow client/server applications to participate in the request/response and publish/subscribe distribution tier.

The IT Market Data API (IMDA) is a streamlined API designed to publish and subscribe to market data events, rather than objects as provided by the Client Libraries. Implemented on the same foundation as the Client Libraries, the Market Data API is optimized for real-time interaction with market data events, such as trades, quotes, adds, deletes, and corrections. The Market Data API programming interfaces are available for C++, Java™, and .NET.

**Development toolkit**

The development toolkit provides the components needed to help develop connections between WebSphere Front Office and customer applications. The toolkit includes executables, libraries, and header files required to build, test, and debug connections to C++, Java and.NET applications.

**Entitlement services**

The entitlement system included in WebSphere Front Office Platform Services offers controlled access to market data. This entitlement system authenticates users and requests as they arrive. It helps administrators enforce data policies based on data source, instrument name, or data content (for example, an asset class maintained by individual data servers). The entitlement system is administered via a backend database, with support for DB2® and MySQL.

**Enhanced administrative and monitoring capabilities**

WebSphere Front Office Platform Services offers enhanced administrative capabilities and SNMP utilities that provide a wide range of operational management options.

The IT Administrative Desktop (ITAD) provides useful tools for monitoring and managing components, with menu selections for system monitoring, application configuration, and command/control. Through the Administrative Desktop, an administrator can review a specific application's configuration and modify it as necessary to reflect desired adjustments. The Administrative Desktop also supports command and control options for stopping and restarting applications remotely and controlling various aspects of the application.

The monitoring system provides latency monitoring including latency envelope metrics that are actively collected by SNMP monitoring tools and viewable through the Administrative Desktop, hop-by-hop latency information, and latency threshold reporting through status message events.

The combination of administrative components and SNMP utilities provide a wide range of operational management capabilities, including interoperable subscription and contribution utilities, administrative agents, administrative desktop applications, and standard SNMP publication. Each system component publishes status and statistical information providing broad metrics of each running application and the system in general. Every metric in the system has an associated SNMP Management Information Base (MIB) ID for use with popular industry SNMP utilities, including IBM Tivoli® software. Through the administrative agents, the Administrative Desktop, and SNMP MIBS, operators can be notified in real-time of any interruption of feed service, infrastructure disconnections, component failures, capacity warning, latency breaches, missed messages, and other critical events that may occur in the system.

**Single namespace**

Front Office applications have historically consumed data from consolidated vendor feeds that provide data, regardless of its origin, from a single source or service. But with the growing importance of direct exchange feeds, it can be difficult for an application to know where or how to find an instrument that may be provided by different feeds under different names. The single namespace capability offered by WebSphere Front Office Platform Services combines all feeds entering the system into a single, or multiple, virtual service to shield applications and users from having to know which feed (or server) supplies a particular instrument. In this way, a client application simply subscribes to the data element (symbol) it needs, and resolution services resolve the appropriate source for the data and fastest way of retrieving it, without adding latency to the system.
Leveraged services and support from IBM

Exceptional services are offered from business strategy to IT infrastructure implementation and support. Resources include:

- IBM Global Business Services, with thousands of financial services practitioners
- IBM Software Services and Premium Support
- IBM Global Services Business Transformation and Application Outsourcing

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) can be requested via the IBM Web site


IPLA and Subscription and Support considerations

IPLA licenses can be transferred from one machine to another within, but not limited to an enterprise. You 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 (PoE). 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 will be available in the country in which the agreement is made.

Reference information

Refer to Software Announcement A08-1513, dated September 16, 2008.

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2 Chicago Mercantile Exchange

3 Inter-Exchange Technical Committee

4 Chicago Board of Trade

5 Kansas City Board of Trade

6 Minneapolis Grain Exchange

7 National Association of Securities Dealers

8 Mutual Funds Dissemination Service

9 NASDAQ Index Dissemination Service

10 Net Order Imbalance Indicator

11 Bulletin Board Dissemination Service

12 Trade Data Dissemination Service
OTC (Over-the-counter) Montage Data Feed
New York Stock Exchange
Unlisted Trading Privileges
UTP Quotation Data Feed
UTP Trade Data Feed
Securities Industry Automation Corporation
Consolidated Tape Association
Consolidated Tape System
Consolidated Quotation System
Options Price Reporting Authority
FIX (Financial Information eXchange) Adapted for STreaming
Toronto Stock Exchange
Toronto Level 1
TSX Venture Exchange Level 1
Toronto Level 2
TSX Venture Exchange Level 2
Except Bloomberg B-Pipe
Except Bloomberg BPoD
Except Bloomberg B-Pipe and BPoD

Program number

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Offering Information

Product information is available via the Offering Information Web site

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

Also, visit the Passport Advantage® Web site

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

Publications

No publications are shipped with this product.
Technical information

Specified operating environment

Hardware requirements

Minimum requirements are listed. The actual requirements for your system may be greater depending on the complexity of your specific environment, latency, throughput, and data requirements.

Additional hardware that may be required based on capacity requirements:

- CPUs (processors or multicore processors)
- Memory
- Servers (for added capacity or redundancy)
- Disks

Gigabit network adapters and routers are required for high-speed transport. Native InfiniBand and IP over InfiniBand are also supported.

Hardware requirements for WebSphere Front Office for Financial Markets production systems

Feed Handler, Consolidated OrderBook, and Platform Services products:

- Processor: AMD or Intel® x86 architecture 32- or 64-bit or Sun UltraSPARC, containing two processors or cores of at least 2.5 GHz
- Minimum memory requirements: 3 GB
- Minimum disk space requirements: 2 x 36 GB
- Dual gigabit Ethernet adapters

Additional servers may be required depending on your specific deployment. InfiniBand transport only available when using the embedded WebSphere MQ Low Latency Messaging multicast transport, on a supported Linux operating system with hardware supporting the OpenFabrics Enterprise Distribution (OFED) version 1.2 (and up).

Hardware requirements for client access to WebSphere Front Office for Financial Markets

Authorized User and Application Connection packages:

- Processor: AMD or Intel x86 architecture 32- or 64-bit, or Sun UltraSPARC
- One processor with a minimum processor speed of 2.0 GHz (dual processor or dual core recommended)
- Minimum memory requirements: 1 GB
- Minimum disk space requirements: 18 GB

InfiniBand transport only available when using the embedded WebSphere MQ Low Latency Messaging multicast transport, on a supported Linux operating system with hardware supporting the OpenFabrics Enterprise Distribution (OFED) version 1.2 (and up).
Hardware requirements for WebSphere Front Office for Financial Markets development systems

The minimum hardware requirements for development systems are the same as for production systems.

Software requirements

Software requirements for WebSphere Front Office for Financial Markets Feed Handler, Consolidated OrderBook, and Platform Services production systems

One of the following operating system platforms:

- Red Hat Enterprise Linux AS/ES 4 Update 6 (x86 or x86-64)
- Red Hat Enterprise Linux 5 Server Update 1 (x86 or x86-64)
- SUSE Linux Enterprise Server 10 SP2 (x86 or x86-64)
- Microsoft Windows Server 2003
- Sun Solaris 10 (UltraSPARC)

Software requirements for client access to WebSphere Front Office for Financial Markets production systems

- For C++ clients, one of the following operating system platforms:
  - Microsoft Windows XP SP2 (x86)
  - Microsoft Windows Server 2003 (x86)
  - Red Hat Enterprise Linux AS/ES/WS 4 Update 6 (x86 or x86-64)
  - Red Hat Enterprise Linux 5 Server or Client Update 1 (x86 or x86-64)
  - SUSE Linux Enterprise 10 SP2 Server or Desktop (x86 or x86-64)
  - Sun Solaris 10 (UltraSPARC)
- For .NET clients: Microsoft Windows XP SP2 (x86) or Microsoft Windows Server 2003 (x86) with .NET runtime 3.0 or higher
- For Java clients, one of the following operating system platforms:
  - Microsoft Windows XP SP2 (x86)
  - Microsoft Windows Server 2003 (x86)
  - Red Hat Enterprise Linux AS/ES/WS 4 Update 6 (x86 or x86-64)
  - Red Hat Enterprise Linux 5 Server or Client Update 1 (x86 or x86-64)
  - SUSE Linux Enterprise 10 SP2 Server or Desktop (x86 or x86-64)
  - Sun Solaris 10 (UltraSPARC)

Plus, for Java clients, either the Java Runtime Environment included with the product (IBM) or Sun J2SE 5.0 or higher.

Software requirements for WebSphere Front Office for Financial Markets development systems

These systems are required for developing client applications, callout libraries or custom services. These systems are not required for running WebSphere Front Office.

One of the following operating system platforms:

- Microsoft Windows XP SP2 (x86)
- Red Hat Enterprise Linux AS/ES/WS 4 Update 6 (x86 or x86-64)
- Red Hat Enterprise Linux 5 Client or Server Update 1 (x86 or x86-64)
- SUSE Linux Enterprise 10 SP2 Server or Desktop (x86 or x86-64)
- Solaris 10 (UltraSPARC)
For C++ client applications:

- Native compiler: Linux GCC 4.1 compiler (for Linux platform)
- Microsoft Visual Studio .NET 2005 SR1 Professional (for Windows platform)
- Sun Studio 11 (for Solaris platform)

For Java client applications, IBM Rational® Software Architect 7.0 recommended, Java 5 SDK is required

For .NET client applications: Microsoft .NET 3.0 (latest update)

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a README file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

**Performance considerations**

WebSphere Front Office for Financial Markets is a scalable product. Performance depends on the complexity of the specific environment, volume of data traffic, and the data object size. The stated performance numbers are based on measurements using standard IBM benchmarks in a controlled environment. The actual throughput that any application will experience may vary depending upon considerations such as message size, transmission rate, hardware platform, and network configuration. Therefore, no assurance can be given that an individual application will achieve the throughput or latency stated here. Customers should conduct their own testing. For more detailed performance information, consult your IBM sales representative.

**Planning information**

**Customer responsibilities**

It is strongly recommended that IBM Services be used to assist in the installation, design, implementation, and maintenance of WebSphere Front Office for Financial Markets. To implement client applications, callouts or custom services, the following skills are required:

- Networking
- C++, Java, or .Net programming
- Thorough understanding of the WebSphere Front Office for Financial Markets solution

Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and technical support are provided by the Software Subscription and Support (also referred to as Software Maintenance) offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software, and technical support provides voice and electronic access to IBM support organizations, worldwide.

IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with each program license acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available.

**Packaging**

WebSphere Front Office for Financial Markets is available through electronic distribution only.
Security, auditability, and control

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

Software Services

IBM Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team.

IBM has defined two levels of augmented services for WebSphere Front Office clients. Premium support is the recommended minimum level of support.

Premium support

• Includes on-site or remote assistance
• Offers an augmented level of break and fix support
• Assists in problem characterization
• Manages problems and escalation, if needed
• Delivers a rapid path to senior technical resources
• Supports proactive planning for environment changes
• Enables knowledge transfer and skills sharing

Optional support for:

• Performance tuning
• Capacity planning
• Data access declarations and metering
• Usage reporting
• Entitlements and usage authorization management and support

Custom services can include:

• Application development and integration
• Consultation or development of client-specific feed adapters
• Development of custom display applications or integration with existing display applications
• Platform integration consultation
• Global engineering and deployment

To learn more about IBM Software Services or to contact a software services sales specialist, visit:

http://www.ibm.com/software/sw-services/
Ordering information

This product is only available via Passport Advantage. It is not available as shrinkwrap.

**Product information**

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Orders may be placed by calling ibm.com®, Americas at 1-800-IBM-CALL (426-2255).
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Charge metrics definitions

Server

Server is the unit of measure by which this program is licensed. A Server is a computer system that executes requested procedures, commands, or applications to one or more user or Client Devices. A Proof of Entitlement (PoE) must be obtained for each server regardless of the number of processor cores or partitions in the server on which the program runs or each server managed by the program. Where blade technology is employed, each blade is considered a separate server.

Authorized User

Authorized User is the unit of measure by which this program is licensed. An Authorized User is an individual (named or unnamed) within or outside of your enterprise. The program may be installed on one or more computers or servers and accessed by the number of users authorized by the Proof of Entitlement (PoE). You must have an entitlement for each Authorized User accessing the program or any program component in any manner directly or indirectly (for example, via a multiplexing program, device, or application server) through any means.

Per Feed

The term "Feed" refers to a stream of machine-readable information that is supplied to the Program by an external entity. A Feed may include a redundant stream of incoming machine-readable information. A "Feed Handler" is a program component that handles a particular Feed. In determining the number of PoEs required for Feed Handlers, if:

- A particular Feed is bidirectional between an external entity and the Program, then a single Feed Handler PoE is required.
- A particular Feed is fed as separate streams of machine-readable information, then a separate Feed Handler PoE for each stream is required.

Passport Advantage program licenses

WebSphere Front Office for Financial Markets

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WebSphere Front Office for Financial Markets
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WebSphere Front Office for Financial Markets
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WebSphere Front Office for Financial Markets
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WebSphere Front Office for Financial Markets

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WebSphere Front Office for Financial Markets

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Terms and conditions

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IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

This software license includes Software Subscription and Support (also referred to as Software Maintenance).

**License Information form number**

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The program's License Information will be available for review on the IBM Software License Agreement Web site


**Limited warranty applies**

Yes

**Warranty**

IBM warrants that when the Program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the Program. IBM does not warrant uninterrupted or error-free operation of the Program or that IBM will correct all Program defects. You are responsible for the results obtained from the use of the Program.

IBM provides you with access to IBM databases containing information on known Program defects, defect corrections, restrictions, and bypasses at no additional charge. Consult the IBM Software Support Handbook for further information at


IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

**Program technical support**

Technical support of a program product will be available for a minimum of five years from the general availability date, as long as your Software Maintenance is in effect. This technical support allows you to obtain assistance (via telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Maintenance also provides you with access to updates, releases, and versions of the program. You will be notified, via announcement letter, of discontinuance of support with 12 months' notice. If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

**Money-back guarantee**

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.
For programs acquired under the IBM International Passport Advantage Agreement, this term applies only to your first acquisition of the program.

**Authorization for use on home/portable computer**

The program may be stored on the primary machine and another machine, provided that the program is not in active use on both machines at the same time. You may not copy and use this program on another computer without paying additional license fees.

**Product name**

webSphere Front Office for Financial Markets

No

**Volume orders (IVO)**

No

**Passport Advantage applies**

Yes, and through the Passport Advantage Web site at

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

This product is only available via Passport Advantage. It is not available as shrinkwrap.

**Usage restriction**

Yes. For additional information refer to the License Information document that is available on the IBM Software License Agreement Web site


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