IBM Integration Bus for z/OS , V9.0 delivers key enhancements to enable intelligent processing and operational management within an integration solution

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At a glance

IBM® Integration Bus for z/OS® , V9.0, previously known as IBM WebSphere® Message Broker for z/OS , delivers a comprehensive integration solution. In addition to connecting together a wide range of applications, services, and systems across heterogeneous IT environments, it provides the visibility and control capabilities needed to support critical business activities such as monitoring, auditing, process management, and analytics. New enhancements allow clients to:

- Rapidly enable business insight to be applied to in-flight data
- Accelerate creation of integration services for business process management (BPM)
- Increase operational awareness and control over workload
- Gain visibility and insight of integration in application environments

The new capabilities naturally extend the powerful productivity features of IBM Integration Bus for z/OS to develop and manage integration solution deployments, as well as extend its industry-leading performance and scalability.

IBM Integration Bus Standard Edition for z/OS provides a new entry-level option for integration on IBM z/OS .

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: LE001).

Overview

IBM Integration Bus for z/OS , V9.0 provides the capabilities needed to build solutions addressing diverse integration requirements. A rich set of connectors provide broad connectivity to a wide range of data sources, including packaged applications, files, mobile devices, messaging systems, and databases.

A wide variety of data formats are supported, including standards-based formats (such as XML, DFDL, and JSON), industry formats (such as HL7), and custom formats. A comprehensive range of operations can be performed on data, including routing, filtering, enrichment, multicast for publish-subscribe, sequencing, and aggregation. These flexible integration capabilities are able to support your choice

of solution architecture, including service-oriented, event-oriented, data-driven, and file-based (batch or real-time).

IBM Integration Bus for z/OS , V9.0 delivers key enhancements that enable greater visibility and insight of data as it flows through the bus. These facilitate more intelligent data processing and operational management of an integration solution and allow you to:

- Apply business insight to make near-real-time decisions to influence processing flow
- Rapidly create integration services to meet the needs of process designers
- Manage integration workload to prioritize resources and prevent outages
- Include application-to-application integration in centralized business activities
- Improve elasticity and response time by exploiting flexible caching capabilities
- Monitor and visualize performance statistics in real time
- Exploit new patterns to rapidly integrate Microsoft™ applications
- Import and convert existing integration assets from IBM WebSphere Enterprise Service Bus

The new IBM Integration Bus Standard Edition for z/OS offers the flexibility to fulfill either broad-capability or high-performance needs for entry-level integration solutions on z/OS .

Key prerequisites

Refer to the Hardware requirements and Software requirements sections.

Planned availability date

June 28, 2013

Description

The enhancements delivered in IBM Integration Bus for z/OS , previously known as WebSphere Message Broker for z/OS , are as follows:

Apply business insight to make near-real-time decisions to influence processing flow

Many organizations exploit business rules to improve the quality of transaction- and process-related decisions that are made repeatedly, determining the appropriate course of action for each customer, partner, and internal interaction. When business rules are combined with an integration solution, such decisions are able to influence data as it is being processed in near-real-time, helping to achieve an optimal business outcome.

IBM Integration Bus for z/OS , V9.0 provides built-in capabilities to invoke rules during processing in order to make intelligent routing, validation, and transformation decisions:

- Integration developers can get started quickly and easily using simple rules created using intuitive editors within the IBM Integration Bus for z/OS tooling. Existing or more powerful rules may also be imported from IBM Operational Decision Management tooling.
- Rules are packaged and deployed alongside the integration logic and executed in the same runtime container, minimizing the overhead associated with rule invocation.

- Business users have visibility to rules and the ability to govern and change the business logic without requiring rework or redeployment of the integration logic.
- IBM Decision Center may be used to manage rules running within IBM Integration Bus for z/OS as part of a broader Decision Manager solution.

Existing clients transitioning to the built-in rules support from the "IAM9: WebSphere Decision Service Node" SupportPac will benefit from improvements in usability, installability, and deployment. For more information about licensing requirements, refer to the IBM Business Rules for z/OS topic in the Terms and conditions section.

Rapidly create integration services to meet the needs of process designers

Business process management (BPM) enables organizations to automate, manage, measure, and continuously improve the processes that drive their business. For a given process, this involves choreographing a series of steps that may include human tasks, business rules, and integration services that trigger requests to underlying applications and systems.

IBM Integration Bus for z/OS , V9.0 simplifies and accelerates the creation of integration services in support of a BPM solution:

- A prebuilt development pattern allows integration developers to rapidly build a new integration service to the exact specification supplied by a process designer. Alternatively, existing integration logic can be easily encapsulated as an integration service for reuse by BPM.
- IBM BPM tooling allows process designers to discover an integration service implementation, select from the available operations, automatically map the input and output elements, and perform testing from within the BPM development environment.

Manage integration workload to prioritize resources and prevent outages

The scope of integration solutions is broadening to extend beyond enterprise boundaries, enabling an explosion of new endpoints (such as mobile applications, cloud applications, and sensors) to have access to enterprise applications and services. This enables a broad spectrum of new opportunities from increasing productivity and responsiveness to deeper customer engagement and loyalty. With these opportunities come the challenges of maintaining availability of business-critical systems in the face of increasing demand or spikes in activity, and effectively managing resources to reflect workload priorities.

IBM Integration Bus for z/OS , V9.0 provides new capabilities that allow operational awareness and control over processing traffic:

- A policy-based approach to controlling the processing rate for integration flows. Policies are defined at design time and can be updated operationally.
- Individual policies that define thresholds (in messages per second) along with actions to be triggered in order to maintain a desired processing rate. For example, the breaching of a threshold can be configured to trigger subsequent workload to be delayed or rejected in order to protect downstream systems.
- The ability to send a notification to operational personnel as a threshold is breached.

Include application-to-application integration in centralized business activities

Application developers are increasingly required to connect applications they create with existing applications to deliver a new composite solution. To assist with this, they need a lightweight integration framework that allows them to quickly and easily enable applications for connectivity and configure common tasks without the need for deep integration skills.

IBM Integration Bus for z/OS , V9.0 and IBM WebSphere Application Server V8.5.5 deliver new capabilities and productivity aids that provide a simple way for an

application developer to compose applications. Once in place, integration between applications can be instrumented, and events flowed to IBM Integration Bus for z/OS for inclusion in centralized monitoring, audit, or analytics activities:

- Simple connectivity tasks for application developers (such as service versioning) are supported by drag-and-drop graphical data mapping and prebuilt developer patterns. This enables applications to connect to each other, as well as to external standard interfaces such as XML, REST, JSON, and web services.
- Integration logic developed in the Application Server environment can emit events that can be captured by IBM Integration Bus for z/OS . This data can then be flowed to business activity monitoring (BAM) solutions, stored in a system of record for audit purposes, or sent to a data warehouse for processing by business analytics engines.

Improve elasticity and response times by exploiting flexible caching capabilities

Caching is a fundamental technology that facilitates the building of scalable infrastructure to support growth in the demand for services. For an integration solution, a distributed cache provides a repository for data reuse and sharing across the network. This creates an elastic processing network able to respond to a request from any available node, and minimizes the amount of data retrieved from back-end systems.

IBM Integration Bus for z/OS , V9.0 includes an embedded IBM WebSphere eXtreme Scale global cache, along with new options to connect securely to an external cache:

- Out-of-the-box capabilities to use embedded cache to store state for integrations and maintain a predictable response time even as the number of clients increases.
- Support for connecting securely over SSL to an external cache such as IBM WebSphere DataPower® XC10, enabling a single cache to be shared by multiple products.

Monitor and visualize performance statistics in real time

IBM Integration Bus for z/OS , V9.0 provides powerful new tools to graphically view operational performance statistics. This provides operational personnel with access to:

- Highly configurable views of integration throughput rates in a line chart or tabular form.
- The facility to drill down to an appropriate level of detail, scoping statistics to an execution group, a thread, or even an individual node.
- Foundational BAM capabilities such as the ability to assign and view the business context of particular data, for example its value.

Exploit new patterns to rapidly integrate Microsoft applications

IBM Integration Bus for z/OS , V9.0 delivers additional productivity aids enabling Microsoft applications to be rapidly integrated as part of a heterogeneous integration solution. Prebuilt patterns for Microsoft Dynamics CRM allow transformation and synchronization of client data with another CRM application. This facilitates sharing of the state of business relationships and transactions consistently across an organization, while preserving data quality:

- A prebuilt pattern assists with the integration of Microsoft Dynamics CRM with a SAP system. Updates to customer data from create, read, update, and delete operations via a SAP BAPI can be easily reflected in a matching Dynamics CRM Account Entity.
- A second prebuilt pattern builds upon the first by allowing a Microsoft Dynamics CRM application to be updated using a variety of other mechanisms, including WebSphere MQ messages, HTTP, or flat files.

Import and convert existing integration assets from WebSphere Enterprise Service Bus

IBM Integration Bus for z/OS represents IBM's strategic Enterprise Service Bus (ESB) offering and is the successor product for existing clients of both WebSphere Message Broker for z/OS and WebSphere ESB for z/OS .

IBM Integration Bus for z/OS provides tooling that facilitates the conversion of existing WebSphere Enterprise Service Bus assets so they can run on IBM Integration Bus for z/OS . The tooling enables:

- WebSphere Enterprise Service Bus Project Interchange files to be imported and viewed.
- Common flow primitives to be converted automatically whilst maintaining the flow structure.
- An understanding of remaining manual tasks via a task list.
- Resulting flows to be modified and deployed.

The conversion tooling is built upon an extensible framework enabling further enhancements that reduce the number of manual tasks required.

WebSphere MQ for z/OS

WebSphere MQ for z/OS , V7.1 is a prerequisite for IBM Integration Bus for z/OS . Clients must acquire a separate, unrestricted license for Proof of Entitlement for this product. For information about WebSphere MQ for z/OS , refer to Software Announcement 211-394, dated October 04, 2011 .

WebSphere Adapters

For the convenience of clients with multiplatform environments, IBM Integration Bus for z/OS and IBM Integration Bus Standard Edition for z/OS include the following:

- WebSphere Adapter for SAP Software V7.5
- WebSphere Adapter for Siebel V7.5
- WebSphere Adapter for PeopleSoft V7.5
- WebSphere Adapter for JD Edwards V7.5

Note: Only WebSphere Adapter for SAP Software is supported on z/OS .

These adapters are available for both development and production usage.

Modes of operation

- **IBM Integration Bus for z/OS** enables clients to run in advanced mode. It is the full-feature advanced edition with no function or capability restrictions imposed.
- **IBM Integration Bus Standard Edition for z/OS** offers the choice of a full-feature mode of operation, which is limited to one process, or a restricted mode of operation without capacity restrictions. This edition offers the flexibility to fulfill either broad-capability or high-performance scenarios.

Maximizing the value of your IBM software investment

IBM Software Subscription and Support is one of the most cost-effective ways for your business to ensure that your users have access to the latest technology. Whether you choose to upgrade and how you choose to upgrade are always up to you. You manage your upgrade cycles in the way that works best for your business. A comprehensive product upgrade and technical support solution, IBM Software Subscription and Support delivers:

- Product upgrades
- New releases and new versions

- Phone and technical support

For information on the benefits of migrating to IBM Integration Bus for z/OS or IBM Integration Bus Standard Edition for z/OS , visit

http://www.ibm.com/integration-bus

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Section 508 of the US Rehabilitation Act

IBM Integration Bus for z/OS , V9.0 and IBM Integration Bus Standard Edition for z/OS , V9.0 are capable, as of June 28, 2013, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it. A US Section 508 Voluntary Product Accessibility Template (VPAT), containing details on the products accessibility compliance, can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Value Unit-based pricing

Value Unit pricing for eligible IBM System z® IBM International Program License Agreement (IPLA) programs enables a lower cost of incremental growth and enterprise aggregation. Each System z 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 you. For each System z 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 offer additional price benefits. The quantity of each System z IPLA program that you have acquired is referred to as **entitled license capacity.** If you wish to grow your entitled license capacity for a System z IPLA program, the calculation to determine additional needed Value Units is based upon the number of Value Units already acquired.

For each System z 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 Value Units 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 website

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 System z IPLA program you selected, refer to the Terms and conditions section.

Product positioning

IBM Integration Bus for z/OS , previously known as WebSphere Message Broker for z/OS , makes full use of the transport and connectivity options provided by WebSphere MQ. It delivers additional routing and transformation capabilities, and other functionality to implement or extend an integration solution.

The new IBM Integration Bus Standard Edition for z/OS offers the choice of a full-feature mode of operation (limited to one process) or a restricted mode of operation without capacity restrictions.

For additional information about IBM Integration Bus for z/OS , visit

http://www.ibm.com/integration-bus

Reference information

For information about IBM Integration Bus V9.0 (distributed software for multiplatforms), refer to Software Announcement 213-133, dated April 23, 2013 .

For information about WebSphere MQ for z/OS , refer to Software Announcement 211-394, dated October 04, 2011 .

For information about IBM Operational Decision Manager for z/OS , refer to Software Announcement 213-127, dated April 23, 2013 .

For information about IBM Business Process Manager for z/OS , refer to Software Announcement 213-140, dated April 23, 2013 .

For more information about WebSphere Adapters, refer to

- Software Announcement 212-233, dated June 12, 2012
- Software Announcement 211-092, dated April 05, 2011

Availability of national languages

Description	Availability date	Language
IBM Integration Bus for z/OS, V9.0 and IBM Integration Bus Standard Edition for z/OS, V9.0	June 28, 2013	Multilingual: Chinese Simplified Chinese Traditional English US French German Italian Japanese Korean Polish Portuguese Brazilian Russian Spanish Turkish

Program number

```
Program name                        Program number

IBM Integration Bus                 5655-IBB
 for z/OS, V9.0

IBM Integration Bus Standard Edition  5655-IBC
 for z/OS, V9.0

IBM Integration Bus Standard Edition  5655-IBD
 for z/OS, Subscription and Support
```

Product identification number

```
                    Subscription and
Program PID number  Support PID number

5655-IBB            5655-I59

5655-IBC            5655-IBD
```

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).

   https://www.ibm.com/partnerworld/mem/sla.jsp?num=213-136

Education support

The core training offerings that were available for WebSphere Message Broker are
updated for IBM Integration Bus V9. The updated courses are described below. Many
countries will offer these courses in classroom, instructor-led online, and self-paced
formats. Refer to your country's IBM education delivery organization for specific
course codes and class schedules.

The skills learned in these courses are appropriate for both distributed platforms and
z/OS . However, student labs will be performed on a distributed platform in most
countries.

- **IBM Integration Bus System Administration**

  This course teaches students how to perform essential configuration and
  administrative tasks for the IBM Integration Bus environment. This includes
  installing and configuring the environment, creating and configuring a
  broker, ensuring efficient operation of a broker, backing up and restoring the
  environment, configuring security parameters, and using tracing and debugging
  tools for problem determination and resolution. Additional topics include
  product requirements planning and performance monitoring and tuning. Lab
  exercises also provide hands-on experience with the publish-subscribe message
  topology, web services and security, and extending the base functionality of IBM
  Integration Bus by implementing user-defined extensions and SupportPacs.

- **IBM Integration Bus Application Development I**

  This course provides intermediate-level skills in the use of IBM Integration Bus to
  develop, deploy, and support platform-independent message flow applications.
  These applications will use various messaging topologies to transport messages
  between service requestors and service providers, and also allow the messages
  to be routed, transformed, and enriched during processing. Students learn
  about the components of the IBM Integration Bus development and runtime
  environments. The course explores message flow problem determination, with an

emphasis on identifying and recovering from errors in message flows. Students then learn how to construct message flows that use extended Structured Query Language (ESQL), Java™ , and PHP Hypertext Preprocessor (PHP) to transform messages.

The course also explores how to control the flow of messages using various message processing nodes, and how to use databases and maps to transform and enrich messages during processing. Various messaging transports are reviewed at a high level, so that students gain a basic understanding of how message flows can use web services, Java Message Service (JMS), and other transport mechanisms. In addition, students learn to write efficient message flows by applying the concepts of message parsing, serialization, and message modeling. Finally, students explore advanced topics, such as how to extend the functionality of IBM Integration Bus by using adapters and other WebSphere products.

- **IBM Integration Bus Application Development II**

  This course provides for a continuation of the topics that were introduced in IBM Integration Bus Application Development I. This course extends your knowledge of the IBM Integration Bus product, focusing on using IBM Integration Bus to develop, deploy, and support platform-independent message flow applications. Topics in this course include writing message flows that use web services, working with JMS transports, modeling and testing messages with the Data Format Description Language (DFDL), and aggregating messages from multiple sources.

  You also learn how to extend message flows to interact with FTP servers and other products, and how to use the publish/subscribe messaging topology as well as how to implement built-in patterns and develop, test, and deploy user-defined patterns. Finally you will learn how IBM Integration Bus interacts with other products, and how to use the record and replay facility to capture and view messages during processing. Extensive labs throughout the course enable you to practice your new skills.

For additional information, or to check for the latest updates, visit the IBM training web page at

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

Select your country to view the available offerings. This site has links to descriptions for all classroom, instructor-led online, and self-study courses available in each country. The web page also contains information on course schedules and enrollment procedures.

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

Offering Information

Product information is available via the Offering Information website

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

Publications

A *Documentation CD* (LCD7-4499) is shipped with these programs.

Online product documentation is integrated within each product and is also supplied on the Documentation CD.

The *Program Directory* (GI13-3314) is available as softcopy and can be downloaded from the Publications Center.

IBM Publications Center

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the US) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

Technical information

Specified operating environment

Hardware requirements

Any server capable of running one of the following IBM z/OS releases:

- IBM z/OS V1R12 RSU1211, or later
- IBM SMP/E for z/OS V3R3, or later (5655-G44)

For the latest information, visit

http://www.ibm.com/integration-bus

Software requirements

- IBM z/OS V1R12 RSU1211, or later
- IBM SMP/E for z/OS V3R3, or later (5655-G44)
- Java : 64-bit SDK for z/OS , Java 2 Technology Edition, V7 SR4
- WebSphere MQ for z/OS , V7.1 RSU1211 (5655-R36)

Note: Before installing any new products, ensure that you review your current Preventative Service Planning (PSP) information.

For detailed requirements for IBM Integration Bus for z/OS and IBM Integration Bus Standard Edition for z/OS , visit

http://www.ibm.com/integration-bus

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.

Planning information

Customer responsibilities

You must provide at least the minimum hardware and software environments in which the licensed programs operate.

Problem determination (PD) is a customer responsibility. PD is an assessment of whether a problem is caused by hardware or software. It is complete only when the cause of the problem is identified. This assessment includes examination of available symptoms using the PD procedures documented in the product.

Problem source identification (PSI) is a customer responsibility. PSI begins when software is determined to be the source of the problem. It includes tracing the source of the program to a host system control program (SCP), an application

program, or another source. Assisting the client with PSI is an IBM service and support responsibility.

Packaging

The package contains:

- Installation tapes (3590 uncompressed) for IBM Integration Bus for z/OS , V9.0
- IBM Integration Bus CD-ROMs for IBM AIX® , Solaris on SPARC, Solaris on x86-64, Linux™ on System z , and Linux on Power®
- IBM Integration Bus DVDs for HP-UX on Itanium™ , Microsoft Windows™ on x86, Microsoft Windows on x86-64, Linux on x86, and Linux on x86-64
- WebSphere MQ V7.5 DVDs
- License Information CD (GC34-2929)
- IBM Integration Bus for z/OS Kit Assembly (LK4T-2696)
- Documentation CD (LCD7-4499)

The program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Software Services

IBM Software 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. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

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

Ordering z/OS through the Internet

Shopz 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). Shopz is available in the US and several countries in Europe. In countries where Shopz 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 Shopz website at

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

```
5655-IBB    IBM Integration Bus for z/OS, V9.0

5655-I59    IBM Integration Bus for z/OS
             Software Subscription and Support

5655-IBC    IBM Integration Bus Standard Edition for z/OS, V9.0

5655-IBD    IBM Integration Bus Standard Edition for z/OS
             Software Subscription and Support
```

Charge metric

Program name	PID number	Charge unit description
IBM Integration Bus for z/OS, V9.0	5655-IBB	Value Unit
IBM Integration Bus Standard Edition for z/OS, V9.0	5655-IBC	Value Unit
IBM Integration Bus Standard Edition for z/OS, Subscription and Support	5655-IBD	Value Unit SW S&S

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 System z 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.

Basic license

On/Off CoD

The programs are eligible for On/Off CoD with a temporary use charge calculated based on MSUs per-day usage.

```
Program name:  IBM Integration Bus for z/OS, V9.0
Program PID:   5655-IBB

Entitlement                             License option/
identifier      Description             Pricing metric

S01778H         IBM Integration Bus     Basic OTC, Per MSU-day TUC
                   for z/OS, V9.0



Program name:  IBM Integration Bus Standard Edition for z/OS, V9.0
Program PID:   5655-IBC

Entitlement                             License option/
identifier      Description             Pricing metric

S0177NP         IBM Integration Bus     Basic OTC, Per MSU-day TUC
                   Standard Edition
                   for z/OS, V9.0


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 Integration Bus for z/OS, V9.0
Program PID: 5655-IBB

Entitlement                             License option/
identifier    Description               Pricing metric

S01778H       IBM Integration Bus       Basic OTC, Value Units
                 for z/OS, V9.0


Orderable supply ID    Language         Distribution medium

S01778G                Multilingual     3590 tape


Program name: IBM Integration Bus Standard Edition for z/OS, V9.0
Program PID: 5655-IBC

Entitlement                             License option/
identifier    Description               Pricing metric

S0177NP       IBM Integration Bus       Basic OTC, Value Units
                 Standard Edition
                 for z/OS, V9.0


Orderable supply ID    Language         Distribution medium

S0177NN                Multilingual     3590 tape
```

Subscription and Support PID: 5655-I59

```
Entitlement                         License option/
identifier    Description           Pricing metric

S00WWTM       IBM Integration Bus   Basic ASC, per Value Unit SW S&S
               for z/OS, V9.0 -     No charge, decline SW S&S
               Subscription & Support Per MSU SW S&S Registration


Orderable supply ID    Language                 Distribution medium

S00WWSV                Multilingual             Hardcopy pub
```

Subscription and Support PID: 5655-IBD

```
Entitlement                         License option/
identifier    Description           Pricing metric

S0177NL       IBM Integration Bus   Basic ASC, per Value Unit SW S&S
               Standard Edition     No charge, decline SW S&S
               for z/OS, V9.0 -     Per MSU SW S&S Registration
               Subscription & Support


Orderable supply ID    Language                 Distribution medium

S0177NK                Multilingual             Hardcopy pub
```

Subscription and Support

To receive voice technical support via telephone 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 Software Maintenance. This offering:

- Includes and extends the support services provided in the base support to
  include technical support via telephone.
- Entitles you to future releases and versions, at no additional charge. Note that
  you are not entitled to new products.

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

The combined effect of the IPLA license and the Agreement for Acquisition of
Software Maintenance gives you rights and support services comparable to those
under the traditional ICA S/390® and System z license or its equivalent. To ensure
that you continue to enjoy the level of support you are used to in the ICA business
model, you must order **both** the license for the program **and** the support for the
selected programs at the same Value Unit quantities.

Customized Offerings

Product deliverables are shipped only via CBPDO and ServerPac. These customized
offerings are offered for Internet delivery in countries where Shopz product ordering
is available. Internet delivery reduces software delivery time and allows you to

install software without the need to handle tapes. For more details on Internet delivery, refer to the Shopz help information at

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

You choose the delivery method when you order the software. IBM recommends Internet delivery. In addition to Internet and DVD, the supported tape delivery options include:

- 3590
- 3592

Most products can be ordered in ServerPac the month following their availability in CBPDO. z/OS can be ordered via CBPDO and ServerPac at general availability. Many products will also be orderable in a Product ServerPac without also having to order the z/OS operating system or subsystem.

Shopz and CFSW will determine the eligibility based on product requisite checking. For more details on the Product ServerPac, visit the Help section on the Shopz website at

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

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after general availability.

Terms and conditions

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage® Agreement, and IBM Agreement for Acquisition of Software Maintenance.

Licensing

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.

Agreement for Acquisition of Software Maintenance

The following agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

These programs are licensed under the IBM International Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide for support with ongoing access to releases and versions of the program. These programs have a one-time license charge for use of the program and an annual renewable charge for the enhanced support that 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.

IBM System z Operational Support Services - SoftwareXcel is an option if you desire added services.

License Information number

```
Program name                       LI number

IBM Integration Bus for z/OS, V9.0      L-ACRR-942EDF

IBM Integration Bus Standard
 Edition for z/OS, V9.0                  L-ACRR-942EDF
```

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

   http://www.ibm.com/software/sla/sladb.nsf

Limited warranty applies

Yes

Limited 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. For further information, consult the *IBM Software Support Handbook* found at

   http://www.ibm.com/support/handbook

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

Program support

Enhanced support, called Subscription and Support, includes telephone assistance, as well as access to updates, releases, and versions of the program as long as support is in effect. You will be notified of discontinuance of support with 12 months' notice.

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 clarification, note that for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Volume orders (IVO)

No

Passport Advantage applies

No

Usage restriction

Yes

IBM Integration Bus for z/OS and IBM Integration Bus Standard Edition for z/OS , the Programs, include components from other programs. Some of these other components have usage restrictions, such as being used only for development and functional test purposes. Refer to the Program license for further details and usage definitions.

Development and functional test use

Under development and functional test use, the Program or components can be deployed only as part of Licensee's internal development, unit, and functional testing environments. Functional test is limited to activities that ensure that the Program can be used to connect to local or remote endpoints, and that a sample of data sent between those endpoints is processed correctly. Licensee is not authorized to use the Program or components for system-level integration testing, processing production workloads, simulating production workloads, or testing the scalability of any code, application, or system.

IBM Business Rules for z/OS and IBM Decision Server for z/OS

IBM Integration Bus for z/OS , the Program, includes a Decision Service node. This node allows the Program to invoke business rules that run on a component of IBM Decision Server that is provided with the Program. Use of this component is supported only via Decision Service nodes. The Program license provides entitlement for licensees to make use of Decision Service nodes for development and testing. Refer to the IBM Integration Bus for z/OS License Information text for details of program-unique terms.

For usage beyond development and functional test, you must purchase a separate license entitlement for either IBM Business Rules for z/OS or IBM Decision Server for z/OS . For more details about these products, including ordering information, refer to Software Announcement 213-127, dated April 23, 2013 .

IBM WebSphere MQ File Transfer Edition

The Program includes nodes called FTEInput and FTEOutput. These allow the Program to fully participate in the transfer of files using WebSphere MQ File Transfer Edition. Using the nodes in this way, the Program operates as the equivalent of a WebSphere MQ File Transfer Edition Client Device. A separate license for a WebSphere MQ File Transfer Edition Client Device is not required in this instance. However, a license for a WebSphere MQ File Transfer Edition Server is needed elsewhere in the infrastructure.

Software Subscription and Support applies

No. For operating system software, the revised IBM Operational Support Services - SoftwareXcel offering will provide support for those operating systems and associated products that are not available with the Software Subscription and Support (Software Maintenance) offering.

This will ensure total support coverage for your enterprise needs, including IBM and selected non-IBM products. For complete lists of products supported under both the current and revised offering, visit

   http://www.ibm.com/services/sl/products

IBM Operational Support Services - SoftwareXcel

Yes

Other support

SoftwareXcel

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Yes. A 15% education allowance applies to qualified education institution customers.

Sub-capacity terms and conditions

For each System z 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 System z 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 System z IPLA program you selected, refer to the Ordering information section.

```
Program
number      Program name      Terms

 5655-IBB   IBM Integration   Execution-based
            Bus for z/OS,
            V9.0

 5655-IBC   IBM Integration   Execution-based
            Standard Edition
            Bus for z/OS,
            V9.0
```

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 System z IPLA program with these terms equals the MSU-rated capacity of the machines where the System z IPLA program executes.

For more information on mainframe MSU-rated capacities, visit

http://www-1.ibm.com/servers/eserver/zseries/library/swpriceinfo/

Reference based: The required license capacity of a System z IPLA program with these terms equals the license capacity of the applicable monthly license charge (MLC) program. This MLC program is called the parent program.

Sub-capacity mainframes

In cases where sub-capacity is applicable, the following terms apply.

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

For more information on mainframe MSU-rated capacities, refer to the IBM System z Machines Exhibit (Z125-3901) or visit the Mainframes section of the System z Exhibits website.

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

Sub-capacity eligibility

To be eligible for sub-capacity charging on select System z 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 System z (or equivalent). On that machine:

- All instances of the OS/390® operating system must be migrated to the z/OS operating systems.
- Any licenses for the OS/390 operating system must be discontinued.
- All instances of the z/OS operating 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 System z Software Pricing website

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 System z Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for IBM System z 890 and 800 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 IBM System z9® and System z Programs Sub-Capacity Pricing (Z125-6929). Once the amendment is signed, the terms in the amendment replace any and all previous System z IPLA sub-capacity terms and conditions.

IBM Getting Started Sub-capacity Pricing for z/OS IPLA Software applies.

IBM Integrated Workload Pricing for z/OS Software applies.

Sub-capacity utilization determination

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 (CoD)

To be eligible for On/Off CoD pricing, you must be enabled for temporary capacity on the corresponding hardware, and the required contract, Attachment for IBM System z On/Off Capacity on Demand (Z125-7883), must be signed prior to use.

Statement of good security practices

IT system security involves protecting systems and information through prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective. IBM does not warrant that systems and products are immune from the malicious or illegal conduct of any party.

Prices

Information on charges is available at

http://www.ibm.com/support

Choose the option entitled Purchase/upgrade tools.

```
Program name: IBM Integration Bus for z/OS, V9.0
Program PID:  5655-IBB

Entitlement                            License option/
identifier    Description              Pricing metric

S01778H       IBM Integration Bus      Basic OTC, per Value Unit
               for z/OS, V9.0          Basic OTC, per MSU-day TUC

Subscription and Support PID: 5655-I59

Entitlement                            License option/
identifier    Description              Pricing metric

S00WWTM       IBM Integration Bus      Basic ASC, Value Units SW S&S
               for z/OS                No charge, decline SW S&S
               Subscription and Support Per MSU SW S&S Registration


Program name: IBM Integration Bus Standard Edition for z/OS, V9.0
Program PID:  5655-IBC

Entitlement                            License option/
identifier    Description              Pricing metric

S0177NP       IBM Integration Bus      Basic OTC, per Value Unit
               Standard Edition        Basic OTC, per MSU-day TUC
               for z/OS, V9.0

Subscription and Support PID: 5655-IBD

Entitlement                            License option/
identifier    Description              Pricing metric

S0177NL       IBM Integration Bus      Basic ASC, Value Units SW S&S
               Standard Edition        No charge, decline SW S&S
               for z/OS, V9.0          Per MSU SW S&S Registration
               Subscription and
               Support V1.1
```

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Note: Shipments will begin after the planned availability date.

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