

IBM Data Virtualization Manager for z/OS allows organizations to virtualize z/OS data with other enterprise data in a form that is readily consumable by analytics, digital applications, and users

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At a glance

IBM^(R) Data Virtualization Manager for z/OS^(R), V1.1 enhances IBM's premier z/OS data integration solution with new capabilities for creating real-time, virtual views of enterprise data, both mainframe and nonmainframe. With Data Virtualization Manager, data remains securely in place, ready when needed in the right format wherever it resides. It unlocks the value of your mainframe data for real-time customer and business insights across your enterprise, without the cost and complexity associated with moving data.

Industry-standard APIs and interfaces include:

- SQL (JDBC/ODBC, Python DB API)
- API/Web Services (REST, SOAP, HTTP)
- NoSQL (JSON/BSON)
- z/OS resident consumers (Db2^(R), CICS^(R), IMSTM, TSO, Batch, MQ)

Supported files and databases include:

- Mainframe: Adabas, Db2 for z/OS, IMS DB, IDMS, Sequential files, VSAM
- z/OS system: SMF record types, log streams, virtual tape, zFS
- Hadoop: Big SQL on Hortonworks, Cloudera, BigInsights^(R)
- IBM distributed: Db2 Warehouse, Db2 Warehouse on Cloud, Db2, Informix^(R)
- Nonmainframe data sources via DRDA: Oracle, SQL Server, Derby, and others

Additional capabilities include:

- Metadata repository for sharing and repurposing metadata maps for faster deployment
- In-memory data caching that delivers real-time information retrieval
- Map/Reduce and parallel I/O data architecture that significantly accelerates query performance
- A multithreaded z/OS data virtualization server that diverts up to 99% of its processing to a specialty engine (zIIP) for optimal mainframe capacity management
- Full optimization for current mainframe platforms, including IBM z14

Overview

IBM Data Virtualization Manager for z/OS, V1.1 is the industry's only data virtualization technology that resides directly on the mainframe. It allows organizations to virtualize z/OS data along with data from other sources in real time to provide comprehensive information in a form readily consumable by analytics, digital applications, and users. The product offers:

- The ability to keep data secure and in place with real-time data virtualization on IBM Z
- Support for a broad range of mainframe and nonmainframe data sources, including popular Hadoop distributions
- Breadth of API and interface support for SQL, JSON, SOAP, HTTP, and REST
- z/OS resident optimization for improved performance and TCO
- An abstraction layer to improve productivity and reduce reliance on mainframe skills

Key prerequisites

IBM Data Virtualization Manager for z/OS operates on any z Systems^(R) hardware configuration that supports the required software. Refer to the [Hardware requirements](#) and [Software requirements](#) sections for details.

Planned availability date

November 3, 2017

Description

IBM Data Virtualization Manager for z/OS, V1.1 delivers a full-featured federation capability that unifies native mainframe data sources with extended data, and other extended data platforms both on premises and in the cloud.

IBM delivers the only z/OS resident data-virtualization technology in the industry optimized for extreme parallelism to deliver real-time operations across huge volumes of nonrelational data. There is no need for costly data extraction, transformation, or loading (ETL) because data stays secure and in place on the IBM Z platform. Disparate enterprise data can be combined regardless of location or format into virtual views that accelerate time to insight with lower overall cost.

IBM Data Virtualization Manager for z/OS supports a broad range of data sources, including mainframe, relational and nonrelational databases and file structures, distributed databases running on Linux^(R), UNIX^(R), and MicrosoftTM WindowsTM platforms, cloud-based relational and nonrelational data, and NoSQL databases and Hadoop distributions. IBM Data Virtualization Manager has a wide range of connectivity options for data consumers, including SQL (JDBC/ODBC/Python DB API), NoSQL (JSON), APIs, and Web Services for SOAP, REST, and HTML.

Key features include:

- Universal Db2 support - Applications using Db2 can now seamlessly integrate with any non-Db2 data source with the same ease of functionality.
- Lower mainframe total cost of ownership (TCO) - Data Virtualization Manager can divert up to 99% of its processing to a specialty engine (zIIP), eliminating capacity usage and charges that would normally hit the mainframe CPU.

- Landing zone support - Data Virtualization Manager can combine disparate data from multiple sources and virtually deliver it to landing zones supporting ETL, Hadoop, analytics, and data quality.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be found on the [Product accessibility information](#) website.

Section 508 of the US Rehabilitation Act

The product in this announcement is capable as of November 3, 2017, 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) can be found on the [Product accessibility information](#) website.

Value Unit-based pricing

Value Unit pricing for eligible IBM z Systems^(R) IBM International Program License Agreement (IPLA) programs enables a lower cost of incremental growth and enterprise aggregation. Each z Systems IPLA product with Value Unit pricing has a single price per Value Unit and a conversion matrix, called a 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 z Systems 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 z Systems IPLA program that you have acquired is referred to as **entitled license capacity**. If you wish to grow your entitled license capacity for a z Systems IPLA program, the calculation to determine additional needed Value Units is based upon the number of Value Units already acquired.

For each z Systems 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, go to the [IBM System z^{\(R\)} Software Pricing](#) website.

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 z Systems IPLA program you selected, refer to the [Terms and conditions](#) section.

Program number

Program number	VRM	Program name
5698-DVM	1.1.0	IBM Data Virtualization Manager for z/OS
5698-DVS	1.1.0	IBM Data Virtualization Manager for z/OS S&S

Product identification number

Program PID number	Subscription and Support PID number
5698-DVM	5698-DVS

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 IBMid).

[BP Attachment for Announcement Letter 217-404](#)

Offering Information

Product information is available on the [IBM Offering Information](#) website.

Publications

The following publications are shipped with the product.

Title	Order number
IBM Data Virtualization Manager for z/OS, V1.1 License Information	GC27-8873
IBM Data Virtualization Manager for z/OS, V1.1 Program Directory	GI13-4693

The following publications will be available on general availability, and are located on [IBM Knowledge Center](#).

Title	Order number
IBM Data Virtualization Manager for z/OS, V1.1, Installation and Customization Guide	GC27-8874
IBM Data Virtualization Manager for z/OS, V1.1, User's Guide	SC27-9301
IBM Data Virtualization Manager for z/OS, V1.1, Developer's Guide	SC27-9302
IBM Data Virtualization Manager for z/OS, V1.1, Administration Guide	SC27-9303
IBM Data Virtualization Manager for z/OS, V1.1, Program Directory	GI13-4693
IBM Data Virtualization Manager for z/OS, V1.1, License Information	GC27-8873

Services

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, contact your Lab Services Sales or Delivery Leader.

Technical information

Specified operating environment

Hardware requirements

IBM z14, z13^(R), z13sTM, zEnterprise^(R) EC12, zEnterprise BC12, zEnterprise 114 (z114), or zEnterprise 196 (z196)

Software requirements

IBM z/OS V2.1, or later

Client drivers

- JavaTM Database Connectivity (JDBC)
 - Java level 1.7 or higher
- Open Database Connectivity (ODBC)
 - WindowsTM; AIX^(R), HP-UX; Linux^(R); Red Hat Enterprise Linux; SUSE Linux

Studio

- Windows
 - Windows 10 (32-bit and 64-bit), Windows 8 (32-bit and 64-bit), Windows 7 (32-bit and 64-bit)
- Linux
 - Ubuntu, Red Hat
- Apple macOS
 - macOS Sierra 10.12
- Hard disk space
 - A minimum of 2 GB is recommended for a full installation.
- System memory
 - A minimum of 4 GB is recommended.
 - A full installation includes the Studio product installer (approximately 1 GB) and bundled Eclipse Kepler 4.3.2 and Java level 1.7.

Planning information

Packaging

The programs in this announcement are distributed with the following content:

- Basic machine-readable material
- Program Directory
- IBM International Program License Agreement (IPLA)
- IBM Agreement for Acquisition of Software Maintenance (IAASM)

Ordering information

The programs in this announcement all have Value Unit-Based pricing.

Program number	Program name	Value Unit Exhibit
5698-DVM	IBM Data Virtualization Manager for z/OS	VUE007

For each z Systems 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 z Systems 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	+	0.20

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 z Systems IPLA product, the applicable Value Units would be:

Tier	MSUs	Multiplied by Value Units per MSU	Equal 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

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). For more details and availability, go to the [Shopz](#) website.

Charge metric

Program name	PID number	Charge metric
IBM Data Virtualization Manager for z/OS, V1.1	5698-DVM	Value Unit

Basic license**On/Off CoD**

IBM Data Virtualization Manager for z/OS, V1.1 is eligible for On/Off CoD with a temporary use charge calculated based on MSUs per-day usage.

Translation from MSUs to Value Units

	MSUs	Value Units/MSU
Base	1-3	5.25
Tier A	4-45	0.83
Tier B	46-175	0.35
Tier C	176-315	0.26
Tier D	316 or greater	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 PID: 5698-DVM

Entitlement identifier	Description	License option/Pricing metric	
S01880H	Data Virtualization Mgr z/OS	Basic OTC, per MSU-day Temporary Use Charge	
		Basic OTC, per Value Unit	
		MultiVersion Measurement No Charge	
Orderable supply ID	Description	Language	Distribution medium
S01880J	IBM Data Virtualization Manager for z/OS	US English	3590 Tape cartridge

Subscription and Support PID: 5698-DVS

Entitlement identifier	Description	License option/Pricing metric	
S01880L	Data Virtualization Mgr S&S	Basic ASC, per Value Unit SW S&S	
		No charge, decline SW S&S	
		Per MSU SW S&S registration	
		MultiVersion Measurement S&S No Charge	
Orderable supply ID	Description	Language	Distribution medium
S01880M	IBM Data Virtualization Manager for z/OS Subscription and Support	US English	Hardcopy publication

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^(R) and z Systems 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 through 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, go to the Help section on the [Shopz](#) website.

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 through 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, go to the Help section on the [Shopz](#) website.

For additional information about the Product ServerPac option, refer to Software Announcement [212-272](#), dated July 31, 2012.

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 four 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

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

License Information number

GC27-8873

See the [License Information documents](#) page on the IBM Software License Agreement website for more information.

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, see the [IBM Software Support Handbook](#).

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

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

Software Subscription and Support applies

Yes. During the Software Subscription and Support period, for the unmodified portion of a program, and to the extent problems can be recreated in the specified operating environment, IBM will provide the following:

- Defect correction information, a restriction, or a bypass.
- Program updates: Periodic releases of collections of code corrections, fixes, functional enhancements, and new versions and releases to the program and documentation.
- Technical assistance: A reasonable amount of remote assistance by telephone or electronically to address suspected program defects. Technical assistance is available from the IBM support center in the organization's geography.

Additional details regarding Technical Assistance, including IBM contact information, are provided in the [IBM Software Support Handbook](#).

Software Subscription and Support does not include assistance for:

- The design and development of applications
- Your use of programs in other than their specified operating environment
- Failures caused by products for which IBM is not responsible under the IBM Agreement for Acquisition of Software Maintenance

Software Subscription and Support is provided only if the program is within its support timeframe as specified in the Software Support Lifecycle policy for the program.

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, go to the [Supported product list](#) website.

IBM Operational Support Services - SoftwareXcel

Yes

Variable charges apply

No

Educational allowance available

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

Multi-Version Measurement

Multi-Version Measurement (MVM) replaces the previously announced Migration Grace Period time limit of six months and allows unlimited time for clients to run more than one eligible version of a software program. Clients may run multiple versions of a program simultaneously for an unlimited duration during a program version upgrade. Clients may also choose to run multiple versions of a program simultaneously for an unlimited duration in a production environment. MVM does not extend support dates for programs withdrawn from service.

For more information about MVM, including requirements for qualification, see the [MVM](#) web page. For a list of eligible programs, see the [IPLA Execution-Based](#) web page.

Sub-capacity terms and conditions

For each z Systems 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 z Systems 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 z Systems IPLA program you selected, refer to the [Ordering information](#) section.

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

For more information on mainframe MSU-rated capacities, go to the [IBM System z Software Contracts](#) website.

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

z/OS based: The required license capacity of a z Systems IPLA program with these terms equals the license capacity of z/OS on the machines where the z Systems IPLA program executes.

Reference based: The required license capacity of a z Systems 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.

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

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

For additional information for products with reference-based terms, z Systems IPLA sub-capacity programs with reference-based terms adds value to the parent program across the environment, regardless of where in the environment the z Systems IPLA program executes.

An environment is defined as either a single or stand-alone machine or a qualified Parallel Sysplex^(R). You may have one or more different environments across the enterprise. To determine the required license capacity for each z Systems IPLA program with referenced-based terms, each environment should be assessed separately.

When a z Systems IPLA sub-capacity program with reference-based terms is used in a qualified Parallel Sysplex environment, the required license capacity of the z Systems IPLA program must equal with the license capacity of the parent program across the Parallel Sysplex. Qualified Parallel Sysplex refers to one where MLC pricing is aggregated across the sysplex.

Sub-capacity eligibility

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

- All instances of the OS/390^(R) 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^(R) (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, go to the [IBM System z Software Pricing](#) website.

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 z Systems Workload License Charges(Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for EWLC, TWLC, zELC, and z/OS.e 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 Amendment for IBM z Systems Programs Sub-Capacity Pricing(Z125-6929).Once the amendment is signed, the terms in the amendment replace any and all previous z Systems IPLA sub-capacity terms and conditions.

Sub-capacity utilization determination

Sub-capacity utilization is determined based on the utilization of a sub-capacity eligible reference product and machine.

On/Off 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 z Systems 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 intrusion 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 regulatory compliant, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

Important: IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

Prices

Registered external customers and IBM Business Partners can access [IBMLink](#) to view pricing information.

Specify "Price type," "Search type," and "Search value," then click "Search."

Note: Enter program number in the "Search value."

You can also contact your local IBM representative or IBM Business Partner for the applicable charges.

IBM Global Financing

IBM Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both IBM and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or go to the [IBM Global Financing](#) website for more information.

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Order now

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Phone: 800-IBM-CALL (426-2255)

Fax: 800-2IBM-FAX (242-6329)

For IBM representative: askibm@ca.ibm.com

For IBM Business Partner: pwcs@us.ibm.com

IBM Digital Sales Offices 1177 S Belt Line Rd Coppell, TX 75019-4642, US

The IBM Digital Sales Center, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

Note: Shipments will begin after the planned availability date.

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[IBM United States](#)

Corrections

(Corrected on October 6, 2017)

Revised Description section.