

IBM Multi-Factor Authentication for z/OS, V1.3 expands authentication options for creating a layered defense

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At a glance

IBM^(R) Multi-Factor Authentication for z/OS^(R) raises the level of assurance of your mission-critical systems with a flexible and tightly integrated multi-factor authentication solution. The Multi-Factor Authentication for z/OS product and z/OS Security Server RACF^(R) help to create a layered defense by requiring selected IBM z/OS users to authenticate with multiple authentication factors:

- Something they know: A password or security question
- Something they have: An ID badge or cryptographic token device
- Something they are: Such as a fingerprint or other biometric

Multi-Factor Authentication for z/OS, V1.3 supports many token types:

- RSA SecurID hard and soft tokens
- IBM TouchToken app for Time-based One-time Passwords (TOTP)
- PassTicket support and application-level granularity
- Smart card certificate-based authentication (one of the supported types is Personal Identity Verification/Common Access Cards (PIV/CAC))
- Generic RADIUS support
- SafeNet RADIUS support
- RSA SecurID RADIUS support
- Generic TOTP support

Multi-Factor Authentication for z/OS also supports:

- Running multiple instances of the Multi-Factor Authentication Web Services started task in a sysplex
- The ability to configure Multi-Factor Authentication to operate in a strict PCI-compliant mode
- New integration through a new SAF API that enables Express^(R) Logon Facility to work with Multi-Factor Authentication
- Compound authentication, which allows the specification of more than one authentication factor in the authentication process

Overview

Multi-Factor Authentication for z/OS, V1.3 (IBM MFA) is enhanced with new functionality and support.

New RADIUS-based factors

In addition to the existing RSA SecurID support, IBM TouchToken support, and Personal Identity Verification and Common Access Card support, IBM now includes support for three new RADIUS-based factors:

- A generic RADIUS factor that enables interoperability with generic RADIUS servers
- A SafeNet RADIUS factor that is designed to operate with Gemalto SafeNet Authentication Service servers
- An RSA SecurID RADIUS factor that is optimized to communicate with RSA Authentication Manager servers using the RADIUS protocol

The support for generic RADIUS and Gemalto SafeNet is available for Multi-Factor Authentication for z/OS, V1.2 with the PTF for APAR PI82734.

Generic TOTP support

The time-based, one-time password factor has been enhanced to support more generic TOTP token applications. This introduces support for standard-compliant TOTP third-party applications that run on Android and Microsoft™ Windows™ devices.

Compound In-band Authentication support

In some cases, it may be desirable to authenticate with both an IBM MFA credential and a RACF password. If this support is activated, the user enters their token code and their RACF password or password phrase into the password phrase field of applications.

The support for Compound In-band Authentication is available for Multi-Factor Authentication for z/OS, V1.2 with the PTF for APAR PI86469.

IBM MFA Express Logon Facility support

New integration has been provided, through a new SAF API, that enables Express Logon Facility users to interface with the IBM MFA smart card support. This enhancement requires the presence of a user's smart card when authenticating. It prevents RACF user ID-only authentication attempts.

The support for Express Logon Facility is available with the PTF for APAR PI86470.

High-Availability IBM MFA Web Services support

IBM MFA now supports running multiple instances of the IBM MFA Web Services started task in a sysplex. Thus if an LPAR running IBM MFA Web Services has to be rebooted or is otherwise out of service for planned maintenance, users can continue to preauthenticate with IBM MFA Web Services on one of the remaining instances running within the sysplex. Additionally, this eliminates the need to explicitly configure the host name of the LPAR for IBM MFA Web Services and IBM TouchToken registration.

The support for High-Availability IBM MFA Web Services is available with the PTF for APAR PI82735.

Bulk provisioning support

IBM MFA now includes scripts that enable a large number of users to be easily provisioned. In particular, this simplifies provisioning PIV/CAC users who can be provisioned and enabled immediately, eliminating the self-service provisioning step

available in IBM MFA V1.2. Note that the self-service provisioning capability is still available for sites that are unable to use the new bulk provisioning capability.

Strict PCI compliance support

IBM MFA now includes the ability to configure IBM MFA to operate in a strict PCI-compliant mode. When this mode is activated, messages that "leak" information are not returned and the out-of-band preauthentication process always requires entry of all factor credential data before returning any information about the preauthentication attempt.

Key prerequisites

- z/OS Security Server RACF
- RSA Authentication Manager 8.1 for RSA SecurID exploitation
- SafeNet Authentication Service 3.5.4, or later

Planned availability date

November 17, 2017

Description

Configuring RACF for IBM MFA

z/OS Security Server RACF supports integration with IBM MFA, which provides for a higher level of authentication assurance for z/OS applications.

In order to begin using IBM MFA with z/OS Security Server RACF, a number of configuration steps must be completed. IBM MFA should be installed as described in the IBM MFA product publications. Similarly, install the IBM RACF PTFs that provide the infrastructure services used by IBM MFA. The supported authentication factors must be defined, and RACF users must be altered to add IBM MFA data with the RACF ALTUSER command.

An IBM MFA factor is defined to RACF by creating a profile in the MFADEF class with the name FACTOR.<FactorName>. Supported authentication factors are named in the IBM MFA product documentation.

IBM MFA factor data can be added to z/OS users by using the ALTUSER command to alter their respective RACF user profiles. This helps the z/OS security administrator plan the phasing in of multi-factor authentication on their z/OS systems.

When a user has an active IBM MFA factor and attempts to log on, RACF will call IBM MFA to evaluate the credentials during the user authentication process.

Accessibility by people with disabilities

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

Reference information

For information about the IBM Z family servers, see the following announcements:

- Hardware Announcement [117-044](#), dated July 17, 2017(IBM z14)
- Hardware Announcement [115-001](#), dated January 14, 2015(IBM z13^(R))
- Hardware Announcement [115-001](#), dated January 14, 2015(IBM z13sTM)
- Hardware Announcement [112-155](#), dated August 28, 2012(IBM zEnterprise^(R) EC12)
- Hardware Announcement [113-121](#), dated July 23, 2013(IBM zEnterprise BC12)

For information about the latest z/OS announcement, see Software Announcement [217-246](#), dated July 17, 2017.

Program number

Program number	VRM	Program name
5655-162	1.3.0	IBM Multi-Factor Authentication for z/OS
5655-163	1.1.0	IBM Multi-Factor Authentication for z/OS S&S

Product identification number

Multi-Factor Authentication for z/OS

Program PID number	Subscription and Support PID number
5655-162	5655-163

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 217-446](#)

Education support

Here is a partial list of courses that are currently available and planned for z/OS education:

Course code	Course title	Course type
ESC8G	z/OS 2.3 Review and Migration	Classroom
ESCS8G	z/OS 2.3 Review	Digital
ESE0G	Blockchain on z Systems ^(R)	Classroom
ES05	Introduction to z/OS Environment	Classroom
ES10	Fundamental System Skills for z/OS	Classroom
ES15	z/OS Facilities	Classroom
ES27	z/OS System Operators	Classroom
ES41	z/OS Installation Using ServerPac	Classroom
ES54	Basic z/OS Tuning Using the Workload Manager (WLM)	Classroom
ES19	Basics of z/OS RACF Administration	Classroom

Course code	Course title	Course type
OP05	Introducing z/OS UNIX ^(R) System Services	Classroom
ES90	Advanced Parallel Sysplex ^(R) Operations and Recovery	Classroom
ES42	Parallel Sysplex Implementation Workshop	Classroom
ESB1	z/OS Management Facility Implementation and Use	Classroom
ES52	z/OS REXX Programming Workshop	Classroom

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers can be found on the [IBM Training and Skills](#) website.

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

Offering Information

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

Publications

The product documentation includes these publications:

Title	Order number
IBM Multi-Factor Authentication for z/OS Program Directory V1.3.0	GI13-4316-30
IBM Multi-Factor Authentication for z/OS Installation and Customization	SC27-8447-30
IBM Multi-Factor Authentication for z/OS User's Guide	SC27-8448-30

IBM Knowledge Center provides access to the IBM MFA documentation in HTML format at the [z/OS Welcome Page](#).

z/OS Internet Library provides access to the IBM MFA documentation in PDF format at the [z/OS Internet Library](#) website.

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 MFA requires one of the following Z family servers:

- IBM z14
- IBM z13
- IBM z13s
- IBM zEnterprise EC12 (zEC12)
- IBM zEnterprise BC12 (zBC12)

Software requirements

IBM MFA requires:

- z/OS V2.1 Security Server RACF 2.1, or later, with PTFs for APAR OA53002
- For generic RADIUS support, access to an external server that supports the RADIUS PAP protocol
- For SafeNet support, access to an external Gemalto SafeNet Authentication Service server
- For RSA SecurID exploitation, access to an external RSA Authentication Manager 8.1 server

Limitations

Authentication requests using IBM MFA are expected to be slower than non-IBM MFA authentication requests. At the very least, IBM MFA authentication will incur extra path length when calling Multi-factor Authentication Services. Depending on the factor type, there may be additional considerations such as network calls to external authentication servers. Non-IBM MFA authentication requests should have little to no noticeable performance degradation.

See the [Terms and conditions](#) section of this announcement or the License Information document that is available on the [IBM Software License Agreement website](#).

Planning information

Packaging

The IBM MFA product package is distributed with the following:

- IBM Multi-Factor Authentication for z/OS Installation and Customization (SC27-8447-05)
- IBM z^(R)/OS User's Guide (SC27-8448-05)

Direct customer support

For technical support or assistance, contact your IBM representative or go to the [IBM Support Portal](#) website.

Security, auditability, and control

The IBM MFA product is closely integrated with z/OS Security Server RACF and centralizing authentication factor information in the RACF database. IBM MFA relies on the RACF Security Administrator to identify which users are subject to requiring

IBM MFA policy. IBM MFA relies on the integrity, security, and the auditability features and functions of z/OS and the Z platform hardware.

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

Ordering information

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

Program number	Program name	Value Unit exhibit
5655-162	IBM Multi-Factor Authentication for z/OS	VUE023

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.

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

Pricing Metric Description

Program name	Program number	Pricing metric description
IBM Multi-Factor Authentication for z/OS	5655-162	Per Value Unit
IBM Multi-Factor Authentication for z/OS S&S	5655-163	Per Value Unit

User Value Unit (UVU)

UVU is a unit of measure by which the program can be licensed. UVU Proofs of Entitlement (PoEs) are based on the number and type of users for the given program. Licensee must obtain sufficient entitlements for the number of UVUs required for licensee's environment as specified in the program-specific table. The UVU entitlements are specific to the program and type of user and may not be exchanged, interchanged, or aggregated with UVU entitlements of another program or type of user. Refer to the program-specific UVU table.

Basic license

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 Multi-Factor Authentication for z/OS

Program PID: 5655-162

Entitlement identifier	Description	License option/Pricing metric
S017ZB1	IBM Multi-Factor Authentication for z/OS	Basic OTC, per Value Unit
	IBM Multi-Factor Authentication for z/OS	MultiVersion Measurement NC
Orderable supply ID	Language	Distribution medium
S017V1K	US English	3590 Tape

Subscription and support PID: 5655-163

Entitlement identifier	Description	License option/Pricing metric
S017ZB2	IBM Multi-Factor Authentication for z/OS S&S	Basic ASC, per Value Unit
	IBM Multi-Factor Authentication for z/OS S&S	No charge, decline SW S&S
	IBM Multi-Factor Authentication for z/OS S&S	MultiVersion Measurement S&S NC
Orderable supply ID	Language	Distribution medium
S017V1G	US English	Paper

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 System z^(R) 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 International Program License Agreement, IBM International Passport Advantage^(R) 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.

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

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.

License Information number

GI13-4317-00

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).

Program technical support

Technical support of a program product version or release will be available for a minimum of two years from the general availability date, as long as your Software Subscription and Support (also referred to as Software Maintenance) is in effect.

This technical support allows you to obtain assistance (by telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to versions, releases, and updates (CD releases, Long Term Support Releases or fixes) of the program. You will be notified, through an announcement letter, of discontinuance of support with six 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.

For additional information on the IBM Software Support Lifecycle Policy, see the [IBM Software Support Lifecycle Policy](#) website.

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, which includes 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.

Yes. All distributed software licenses include Software Subscription and Support (also referred to as Software Maintenance) for a period of 12 months from the date of acquisition, providing a streamlined way to acquire IBM software and assure technical support coverage for all licenses. Extending coverage for a total of three years from date of acquisition may be elected.

While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short-duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance by telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. For additional details, go to the [IBM Support Handbooks](#) page.

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, or failures caused by products for which IBM is not responsible under this agreement.

For more information about the Passport Advantage^(R) Agreement, go to the [Passport Advantage and Passport Advantage Express](#) website.

IBM Operational Support Services - SoftwareXcel

No

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.

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

Information on charges is available on the [IBM Support Portal](#) website.

Program name: IBM Multi-Factor Authentication for z/OS

Program PID: 5655-162

Entitlement identifier	Description	License option/Pricing metric
S017ZB1	IBM Multi-Factor Authentication for z/OS	Basic OTC, per Value Unit
	IBM Multi-Factor Authentication for z/OS	MultiVersion Measurement NC

Subscription and Support PID: 5655-163

Entitlement identifier	Description	License option/Pricing metric
S017ZB2	SW Subscription and Support Reseller One Year	Basic ASC, per Value Unit
		No charge, decline SW S&S
		MultiVersion Measurement S&S NC

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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

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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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Corrections

(Corrected on November 7, 2017)

The "Publications" section was revised.