



IBM Toolkit for Swift -Linux on z Systems, V3.0 offers an enterprise-ready, on-premises solution for developing Swift applications

Table of contents

1 Overview	3 Publications
2 Key prerequisites	3 Technical information
2 Planned availability date	4 Ordering information
2 Description	6 Terms and conditions
3 Product positioning	9 Prices
3 Program number	9 Order now

At a glance

IBM[®] Toolkit for Swift -Linux[™] on z Systems[™], V3.0 includes:

- The Swift 3.0 compiler that is packaged for deployment to the Linux on z Systems environment
- The Swift Runtime for executing Swift applications in the Linux on z Systems environment
- The Swift Core Libraries that includes Foundation, libdispatch and XCTest libraries for the Linux on z Systems environment
- The Swift LLDB debugger to aid in problem determination in application development
- The Swift Package Manager to simplify the distribution of Swift source code
- A sample application that demonstrates various features of Kitura, a light-weight web framework, which allows users to easily build web services with complex routes
- World-class IBM service and support

Overview

Toolkit for Swift -Linux on z Systems, V3.0 is designed for enterprise clients who need modern technologies to develop applications for Linux on z Systems. By embracing the Swift programming language, enterprise clients gain access to millions of Swift developers worldwide. They can leverage the same technology and pool of skills across their application frontends and backends. Swift-enabled enterprise applications would also exhibit performance improvements when executed on-premises with IBM z Systems[™] stored data. The toolkit enables development and deployment of Swift applications to the Linux on z Systems environment and includes:

- The Swift 3.0 compiler
- The Swift Runtime
- The Swift Core Libraries
- The Swift LLDB debugger
- The Swift Package Manager

- A sample application that demonstrates various features of the Kitura web framework

IBM provides support for clients who use the Toolkit for Swift with access to the expertise and scale of the global IBM support team. With IBM support, questions and issues with the Toolkit for Swift will be answered by compiler experts, to help reduce the risk to clients' businesses.

Key prerequisites

- IBM z Systems servers that support Ubuntu Server 16.04 LTS for IBM z Systems
- Required hard disk space: 1 GB

Planned availability date

March 17, 2017

Description

New Toolkit for Swift -Linux on z Systems

The newest addition to the IBM compiler family, Toolkit for Swift -Linux on z Systems, V3.0, brings an enterprise-level, Swift compiler product for clients who embrace the Swift programming language in the Linux on z Systems environment. Enterprise clients gain access to millions of Swift developers worldwide. This enables clients to leverage the same technology and pool of skills across their application frontends and backends. Swift-enabled enterprise applications would also exhibit performance improvements when executed on-premises with z Systems stored data.

The toolkit includes:

- The pre-built Swift 3.0 compiler for easy deployment to the Linux on z Systems environment
- The Swift Runtime for execution of Swift applications on z Systems
- The Swift Core Libraries for z Systems that include:
 - Foundation framework for basic functionalities
 - libdispatch (or Grand Central Dispatch) for comprehensive support of concurrent code execution on multicore hardware
 - XCTest library framework for writing unit tests
- The Swift LLDB debugger for debugging applications in the z Systems environment
- The Swift Package Manager to simplify the distribution of Swift source code
- A sample application that demonstrates various features of Kitura, a light-weight web framework, which allows users to easily build web services with complex routes

With the Toolkit for Swift -Linux on z Systems product, Swift application developers can be productive from the start to develop enterprise Swift applications for the z Systems environment.

IBM Service and Support

Toolkit for Swift -Linux on z Systems brings with it IBM Service and Support. The IBM Service and Support organization is made up of teams of individuals who work together to provide clients with the responsive platform and cross-platform software support that they require. For complex or code-related problems, IBM has specialized, skilled service teams with access to the experts in all IBM development

laboratories. Therefore, clients have access to the right level of IBM expertise when they need it, no matter where they are located.

Product positioning

Portability of Swift programming skills across multiple platforms

Swift is an open source programming language that is available on many platforms and is easy to learn. Mobile and Linux developers who use Swift can easily and seamlessly adapt to programming by using Swift for Linux on z Systems. Toolkit for Swift -Linux on z Systems provides a channel for clients to get an official service offering to enable them to adopt the new Swift programming language for the Linux on z Systems environment.

Infrastructure that matters

The Swift programming language and Linux, in conjunction with z Systems, continues to be a key platform for business applications. Mobile and Linux Swift developers can easily adapt to programming by using Swift on the IBM mainframe, with its proven reliability, availability, security, and performance.

Program number

Program number	VRM	Program name
5737-D21	3.0	IBM Toolkit for Swift -Linux on z Systems

Offering Information

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

More information is also available on the [Passport Advantage^{\(R\)}](#) and [Passport Advantage Express^{\(R\)}](#) website.

Publications

None

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 z Systems servers that support the Ubuntu Server 16.04 LTS for IBM z Systems
- Required hard disk space: 1 GB

Software requirements

Ubuntu Server 16.04 LTS for IBM z Systems

IBM Electronic Support

The IBM Support Portal is your gateway to technical support. This includes IBM Electronic Support tools and resources, for software and hardware, to help save time and simplify support. The Electronic Support tools can help you find answers to questions, download fixes, troubleshoot, automate data collection, submit and track problems through the Service Request online tool, and build skills. All these tools are made available through your IBM support agreement. Read about the Electronic Support portfolio of tools on the [IBM Electronic Support](#) website.

You can also access the [IBM Support Portal](#) page and the online [Service requests and PMRs](#) tool for more support.

Planning information

Packaging

This offering is delivered through the internet. There is no physical media.

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, and 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.

Security, auditability, and control

IBM Toolkit for Swift -Linux on z Systems uses the security and auditability features of the host hardware and software.

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

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

Product group: IBM Toolkit for Swift

Product: IBM Toolkit for Swift -Linux on z Systems, V3.0 (5737-D21)

Product category: Toolkit for Swift

Passport Advantage

Program name/Description	Part number
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU LIC + SW S&S 12 MO	D1SNZLL

Program name/Description	Part number
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU SW S&S REINSTATE 12 MO	D1SP0LL
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU MONTHLY LICENSE	D1SP1LL
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU ANNUAL SW S&S RNWL	E0NIFLL

Cross-platform product for use on z Systems Integrated Facility for Linux (IFL) engines or zEnterprise[®] BladeCenter Extension

Order the part numbers that follow when the product is intended to run on zEnterprise BladeCenter Extension or the Linux operating system on z Systems IFL engines. If the product is not intended to run in these environments, order from the other set of part numbers in this announcement. This set of part numbers provides the identical supply and authorization as the other set in this announcement.

Program name/Description	Part number
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU LINZ LIC + SW S&S 12 MO	D1SP2LL
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU LINZ SW S&S REINSTATE 12 MO	D1SP3LL
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU LINZ MONTHLY LICENSE	D1SP4LL
TOOLKIT FOR SWIFT LINUX ON Z SYSTEMS PVU LINZ ANNUAL SW S&S RNWL	E0NIGLL

Charge metric

Program name	Part number or PID number	Charge metric
IBM Toolkit for Swift -Linux on z Systems, V3.0	5737-D21	PVU

Processor Value Unit (PVU)

PVU is a unit of measure by which the program can be licensed. The number of PVU entitlements required is based on the processor technology (defined within the PVU table by processor value, brand, type, and model number at the website below) and the number of processors made available to the program. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip (socket). A dual-core processor chip, for example, has two processor cores. The PVU table can be found on the [PVU licensing for Distributed Software](#) page. Licensee can deploy the program using either full capacity licensing or virtualization capacity (sub-capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms found on the [Virtualization Capacity License Counting Rules](#) page. If using full capacity licensing, licensee must obtain PVU entitlements sufficient to cover all activated processor cores* in the physical hardware environment made available to or managed by the program, except for those servers from which the program has been permanently removed. If using virtualization capacity licensing, licensee must obtain entitlements sufficient to cover all activated processor cores made available to or managed by the program, as defined according to the Virtualization Capacity License Counting Rules that can be found on the [Virtualization Capacity License Counting Rules](#) page.

* An activated processor core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions.

Notes

- Some programs may require licenses for the program **and** what is being managed. In that case, the following applies. In addition to the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.

- Some programs may be licensed on a managed basis only. In that case, the following applies. Instead of the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.
- A few programs on an exception basis may be licensed on a referenced basis. In that case, the following applies. Rather than obtaining entitlements for the activated processor cores available to the program, licensee must obtain PVU entitlements for this program sufficient to cover the environment made available to the referenced program as if the program itself were executing everywhere the referenced program was executing, independent of the basis on which the referenced program is licensed.

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 the IBM Agreement for Acquisition of Software Maintenance.

This product is only available through Passport Advantage.

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

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

Agreement for Acquisition of Software Maintenance

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

L-MCHN-AJJQ99

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 three 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 updates (modifications or fixes), releases, and versions of the program. You will be notified, through an announcement letter, of discontinuance of support with 12 months' notice. If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

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

Program support

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 (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the program and (2) 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

Yes, information is available on the [Passport Advantage and Passport Advantage Express](#) website.

Software Subscription and Support applies

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

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

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 users.) IBM provides Severity 1 assistance 24 hours a day, 7 days a week. For additional details, see 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, or failures caused by products for which IBM is not responsible under the applicable agreements.

Unless specified otherwise in a written agreement with you, IBM does not provide support for third-party products that were not provided by IBM. Ensure that when contacting IBM for covered support, you follow problem determination and other instructions that IBM provides, including in the [IBM Software Support Handbook](#).

For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, go to the [Passport Advantage and Passport Advantage Express](#) website.

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Not applicable.

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 lawful, 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

Passport Advantage

For Passport Advantage information and charges, contact your IBM representative. Additional information is also available on the [Passport Advantage and Passport Advantage Express](#) website.

Order now

To order, contact your Americas Call Centers, local IBM representative, or your IBM Business Partner. To identify your local IBM representative or IBM Business Partner call 800-IBM-4YOU (426-4968). For more information, contact the Americas Call Centers.

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

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

For IBM representative: callserv@ca.ibm.com

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

Mail:

IBM Teleweb Customer Support
ibm.com^(R) Sales Execution Center, Americas North
3500 Steeles Ave. East, Tower 3/4
Markham, Ontario
Canada L3R 2Z1

Reference:

The Americas Call Centers, 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.

Trademarks

z Systems and IBM z Systems are trademarks of IBM Corporation in the United States, other countries, or both.

IBM, Passport Advantage, System i, Express, zEnterprise and ibm.com are registered trademarks of IBM Corporation in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, and service names may be trademarks or service marks of others.

Terms of use

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at:

[Terms of use](#)

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the [IBM worldwide contacts page](#)

[IBM United States](#)