



IBM Tivoli System Automation for z/OS V3.4 offers auto-discovery and other migration capabilities to enable comprehensive policy based automation for System z and zEnterprise environments

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At a glance

IBM® Tivoli® System Automation for z/OS® V3.4 provides enhancements to policy-based automation.

IBM Tivoli System Automation for z/OS V3.4 helps:

- Eliminate the need for manual setup steps during policy customization by auto-discovering parameters needed to set your policies.
- Detect problems simply and quickly through the new IBM Tivoli Enterprise Portal (TEP) topology view
- Enable you to include new applications in SA based automation via the support of joblog messages
- Manage zEnterprise™ landscape availability including BladeCenters™, virtual hosts, and virtual servers

In addition, it provides several new command enhancements to enable you to more effectively manage day-to-day operations and administration.

For ordering, contact Your IBM representative or an IBM Business Partner.
For more information contact the Americas Call Centers at
800-IBM-CALL (426-2255).

Reference: LE001

Overview

IBM Tivoli System Automation for z/OS V3.4 offers a single point of control for a broad range of systems management functions. With Tivoli System Automation for z/OS, you get the visibility, control, and automation of a large range of system elements spanning both the hardware and software resources of enterprises in a sysplex. This mature, solid approach to automating system and application start up, shut down, recovery, response to problems, and disaster recovery is a key component in helping improve availability and costs on z/OS.

IBM Tivoli System Automation for z/OS V3.4 provides enhancements in system automation focused on helping users' efforts reduce the costs of IT operation, lower risk, and improve system and application availability.

IBM Tivoli System Automation for z/OS V3.4 enhancements:

- The amount of time required to set up Tivoli System Automation can be reduced through a new auto discovery tool.
- System IPLs can be divided into stages, simplifying "partial" IPLs for maintenance or disaster recovery.
- Automation flexibility is improved with access to Joblogs and spooled output from jobs.
- Versatile interfaces improve access to information, including topology views of related resources.
- The same sets of user interfaces are provided to support an integrated solution for zEnterprise. This allows the activation and deactivation of blade machines using the same external interface currently available for IBM System z®, which gives Tivoli System Automation for z/OS a single point of control capability to manage the entire data center. You can manipulate zEnterprise BladeCenter® Extension (zBX) objects, such as blade servers, BladeCenters, and virtual servers (including automation scripts for activation and deactivation) that may lead to quicker implementation and improved productivity.

IBM Tivoli System Automation for z/OS V3.4 provides a policy-based automation tool that manages systems and applications on z/OS:

- Cluster-wide automation policies that help to reduce complexity, implementation time, coding, and support efforts
- Comprehensive Parallel Sysplex® management and automation functions including single system image, single point of control, and unique Parallel Sysplex application automation
- Comprehensive zEnterprise automation from a single point of control
- Policy-based automation that can start, stop, monitor, and recover traditional z/OS as well as UNIX™ applications and resources
- Integration with Tivoli software enterprise solutions including IBM Tivoli Monitoring, IBM Tivoli Workload Scheduler (TWS), and network management
- Alarm capabilities by means of integrating with Tivoli System Automation for Integrated Operations Management
- Easy-to-use graphical user interface (GUI)
- Comprehensive automation for IBM IMS™, CICS®, TWS, DB2®, SAP, OMEGAMON®, Geographically Dispersed Parallel Sysplex™ (GDPS®), and WebSphere®

IBM System Automation for z/OS consists of the following components:

- System operations (SysOps) to manage system and application resources on z/OS
- Processor operations (ProcOps) to manage hardware changes through Hardware Management Console (HMC) and Service Element (SE)
- I/O operations (I/O Ops) to manage I/O switch configuration and changes

Key prerequisites

Refer to the [Technical information](#) section.

Planned availability date

April 27, 2012

Description

IBM Tivoli Enterprise Portal (TEP) topology view

The new TEP topology view that combines the dependency graph with the resource status and other important run-time data about the resource managed and automated by IBM Tivoli System Automation for z/OS allows operators to notice odd system behavior. The view can also be used by the automation administrator to spot misconfiguration but also to verify the correct relationship definitions previously made in the System Automation customization dialog.

JobLog Monitoring

Messages produced by an application and written to the Joblog or a spooled dataset but not write-to-operator initiated to the syslog can be made available for automation. A new attribute for the APL policy object is added that defines whether joblog monitoring should be done and the filter criteria for such a message. Only messages matching the filter criteria are caught by System Automation and the actions as defined in the policy are taken. It also helps to reduce the need for the installation to modify the application so that messages relevant for automation are written to the system console by WTO messages.

Garbage collector

The INGCLEAN command removes policy objects that become obsolete from the runtime data model. The command can be used by the installation when required, usually after refreshing the configuration. It helps reduce the effort and potential human errors when deleting obsolete parts manually, for example, obsolete GDPS scripts.

Sample policy enhancements

Several new sample policies focus on replication software and the components necessary to run a active/active environment to help users set up their data centers such that they can run active/active workloads efficiently.

Relational Data Services

A new command INGRDS provides a simple relational data management facility for automation scripts running within a System Automation z/OS configured Netview. The INGRDS command provides basic access methods for relational data tables. It is close to the concept of relation data framework but without the full SQL language parser.

Concurrent batch command receiver

The batch command receiver has been enhanced to enable concurrent usage of the command receiver. This allows parallel processing of the commands submitted from batch jobs. This can improve the job throughput since a job submitting a command no longer needs to wait till a previously started job has completed the processing of its submitted commands.

Extended status command enhancements

New policy controls take action when the resource reaches the "up" state based on the state (up or down) of another resource. This is useful for resources that are dependent on each other.

Customization dialog enhancements

- The visualization of the minor resource automation flag and thresholds are changed to show whether the settings are inherited from the class definitions.
- Any automation table override specified or modified is checked for the correct automation table syntax. This helps improve the quality of the generated

automation table significantly since typographical errors and other errors are detected at data entry time rather than automation table load time.

- The flat file update function creates and updates the system, MVS™ component, and group objects. Furthermore, objects can now be linked to other objects by means of the where-used attribute.

SDF user interface enhancements

The dynamic panel generation function composes a panel showing different aspects of the system, for example, subsystem data, exceptional message, and write to operator with replies (WTORs). This is done by supporting multiple body sections in a panel. It simplifies and helps reduce the manual effort for generating the installation tailored SDF panels as well as navigating through these panels.

- A new exit AOFEXX05 command allows the installation to replace user variables defined in the SDF tree and panel definitions based on the system for which the tree and panels are generated.
- Processor Operations (ProcOps) managed resources such as processors, logical partitions (LPAR), and ensembles are stored in SDF.

Runmode support

The concept of runmodes enables a staged IPL or system shutdown where only a subset of the resources are started or stopped. The concept can also be used to switch from one environment to another, for example, from a normal mode into a disaster recovery mode or switching from a weekday configuration to a weekend configuration. It eliminates the need to have multiple policy databases, for example, production environment vs. disaster recovery. Maintaining just one policy can help reduce the labor effort and help reduce input errors.

zEnterprise BladeCenter Extension (zBX) support

A new command called ISQECMD allows the operator or an automation script to manipulate zBX objects such as BladeCenters, blade servers, virtual hosts, virtual servers, and so on. The command acts as an API and can be used to activate and deactivate blades servers and virtual servers or to query the settings of the various objects. Taking direct influence on zBX objects such as blades or virtual servers by user written automation scripts can lead to reduced time-to-value (TTV) and improve productivity.

Rolling recycle

A new parameter called CHUNK for the INGGROUP RECYCLE command enables the operator to recycle more than one member of a server group in parallel. It helps improve the performance since it now takes a lot less time to recycle all active members of a server group.

Support for screen sizes

- 24*80, 32*80, 42*80, 27*132, 62*160

All Tivoli System Automation for z/OS commands (SysOps) are modified to exploit the entire space of the physical screen for the command output. It can reduce the need for the operator to do extensive scrolling since more of the data is shown initially.

Additional command enhancements

- AOFCPMSG enables the deletion of one or more messages that became obsolete while capturing a new message.
- The DISPGW command shows additional information for the remote systems such as primary and backup focal point, sysplex name, system name, SMFid, and so on.
- The INGAMS command shows additional information about the automation manager.

- The INGCFG command allows the deletion of the history data associated with a resource.
- The INGDATA command supports additional filter criteria similar to the filter parameters of the INGLIST command.
- The INGEXEC command supports the resource description as filter criteria as well as enhanced wildcarding for the SUBTYPE parameter.
- The TERMMMSG and CORRWAIT parameters better control the command submission.
- The INGIMS command displays the IMS dependent regions of the control region as well as the time-controlled operations information associated with the control region.
- The INGLIST command supports additional filter criteria such as jobname, runtoken, description, and so on.
- The INGMSGSGS command enables the deletion of previously captured messages based on several criteria such as message ID or age.
- The INGSET command introduces the EXPIRED option that allows the cancellation of start/stop requests when exceeding a certain age.
- The INGTHRES command allows the deletion of the threshold definitions in linemode.
- The MDFYSHUT can be called from the IBM Tivoli NetView® automation table to shorten and enlarge the shutdown interval or to abort the shutdown process.
- A new monitoring routine INGRMON focuses on better managing the z/OS UNIX (OMVS).
- The INGDATA command now returns more information the resource such as jobname.

Accessibility by people with disabilities

A U.S. 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

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.

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=212-111>

Program number

Program number	VRM	Program name
5698-SA3	V3.4	IBM Tivoli System Automation for z/OS

Product identification number

Program PID number	Subscription and Support PID number
5698-SA3	5698-S48

Education support

Comprehensive education for IBM Tivoli products is offered through Worldwide Tivoli Education Delivery Services. A wide range of training options are available, including classes led by instructors, learning on demand, on-site training, and blended learning solutions.

For additional information, visit

<http://www-306.ibm.com/software/tivoli/education/>

Offering Information

Product information is available via the Offering Information website

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

Publications

One copy of each of the following publications is supplied in soft copy with the basic machine-readable material on DVD (SK3T-4271) for IBM Tivoli System Automation for z/OS V3.4 (5698-SA3):

Title	Form number
Product Automation Programmer's Ref and Operator's Guide	SC34-2643
Customizing & Programming	SC34-2644
Planning and Installation	SC34-2645
Defining Automation Policy	SC34-2646
User's Guide	SC34-2647
Messages and Codes	SC34-2648
Operator's Commands	SC34-2649
Programmer's Reference	SC34-2650
TWS Automation Programmer's Reference	SC34-2651
End-to-End Automation Adapter	SC34-2652
Monitoring Agent Configuration and User's Guide	SC34-2653

A license information document and a program directory, in hard copy form are supplied automatically with the basic machine-readable material.

Title	Form number
License Information	GI11-9705
Program Directory	GI11-2718

A license information document and a program directory, in hard copy form are supplied automatically with the basic machine-readable material.

The IBM Publications Center

<http://www.ibm.com/shop/publications/order>

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 U.S.) 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

IBM Tivoli System Automation for z/OS V3.4 runs in a virtual storage environment on any IBM or non-IBM system configuration with sufficient storage to support the z/OS operating system.

Software requirements

IBM Tivoli System Automation for z/OS is executed as an application on the z/OS operating system.

Programming requirements for all functions:

- IBM z/OS V1.11, or later
- IBM Tivoli NetView for z/OS (5697-ENV) V5.3, or later

- Other optional functional programming requirements

For additional information, refer to the Program Directory (or Planning and Installation manual).

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

Direct customer support

Direct customer support is provided by IBM Operational Support Services - SoftwareXcel. This fee service enhances your productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services - SoftwareXcel helps answer questions pertaining to usage and suspected software defects for eligible products.

Installation and technical support is provided by Global Services. For more information call 800-IBM-4YOU (426-4968).

For technical support or assistance, contact your IBM representative or visit

<http://www.ibm.com/support>

Packaging

IBM Tivoli System Automation for z/OS V3.4 is distributed with:

- International Program License Agreement (Z125-3301)
- License Information
- 3590 tape cartridge
- Publications (refer to the [Publications](#) section)

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 Tivoli System Automation for z/OS V3.4 uses the security and auditability features of the operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Software Services

IBM 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

IBM Tivoli software products are priced using IBM Tivoli's Enhanced Value-Based Pricing. The Enhanced Value-Based Pricing system is based upon the IBM Tivoli Environment- Managed Licensing Model, which uses a managed-environment approach -- whereby price is determined by what is managed rather than the number and type of product components installed.

For example, all servers monitored with IBM Tivoli's monitoring product (IBM Tivoli Monitoring) require entitlements sufficient for those servers. Other Tivoli products may manage clients, client devices, agents, network nodes, users, or other items, and are licensed and priced accordingly.

Unlike typical systems management licensing models that require entitlements of specific software components to specific systems, the IBM Tivoli Environment-Managed Licensing Model provides the customer flexibility to deploy its IBM Tivoli software products within its environment in a manner that can address and respond to the customer's evolving architecture. That is, as the architecture of a customer's environment changes, the customer's implementation of IBM Tivoli software can be altered, as needed, without affecting the customer's license requirements (as long as the customer does not exceed its entitlements to the software).

Under Enhanced Value-Based Pricing, licensing and pricing of server-oriented applications are determined based upon the server's use in the customer's environment. Typically, such applications are licensed and priced in a manner that corresponds to each installed and activated processor of the server managed by the IBM Tivoli application to help correlate price to value while offering a simple solution.

Where a server is physically partitioned, this approach is modified. This partitioning technique is the approach used with systems that have either multiple cards or multiple frames, each of which can be configured independently. For servers capable of physical partitioning (for example, IBM System p® Scalable POWERparallel Systems® servers, Sun Ultra servers, and HP Superdome servers), an entitlement is required for each processor in the physical partition being managed by the Tivoli application. For example, assume that a server has 24 processors installed in aggregate. If this server is not partitioned, entitlements are required for all 24 processors. If, however, it is physically partitioned into three partitions, each containing eight processors, and Tivoli products were managing only one of the three partitions, then entitlements would be required for the eight processors on the physical partition managed by the IBM Tivoli application.

For servers with virtual or logical partitions, entitlements are required for all installed and activated processors on the server. For each IBM Tivoli application managing a clustered environment, licensing is based on the cumulative number of installed and activated processors on each server in the cluster. Where the cluster includes physically partitioned servers, the considerations described above concerning physically partitioned servers apply as well.

Enhanced Value-Based Pricing recognizes the convergence of RISC and UNIX, and Microsoft™ Windows™ and Intel™ technologies, in order to simplify your licensing requirements, and to provide a smoother, more scalable model. Pricing and licensing does not differentiate between non-System z server platforms or operating systems. For some products, this platform neutrality extends to System z and other host servers as well.

IBM Tivoli Enhanced Value-Based Pricing terminology definitions

Engine

An engine is also referred to as a central processor (CP) or processor. Engines for traditional workloads are called General Purpose CPs. Engines for Linux™ workloads are called Integrated Facility for Linux (IFL) engines or Linux-only engines. Engines for Coupling Facility workloads are called Integrated Coupling Facility (ICF) engines.

IBM Integrated Facility for Linux (IFL)

This optional facility enables additional processing capacity exclusively for Linux workload, with no effect on the model designation of a System z or OS/390® server. Consequently, executing Linux workload on the IFL will not, in most cases, result in any increased IBM software charges for z/OS, OS/390, VM, VSE, or TPF operating systems and applications. There is, as indicated, a charge associated with the IFL, and there may also be a charge for applications which run on the IFL.

The IFL may be dedicated to a single Linux-mode logical partition or it may be shared by multiple Linux-mode logical partitions. Installations should note that the Linux workspace enabled by this facility will not support any of the traditional S/390® operating systems (OS/390, TPF, VSE, or VM). Only Linux applications or Linux operating in conjunction with the Virtual Image Facility, an environment that operates within a logical partition or in native S/390 mode and provides the capability to create multiple Linux images, are supported by IBM S/390 IFL.

Millions of Service Units (MSUs)

MSU is defined as millions of CPU service units per hour, which is the measure of capacity used to describe the computing power of the hardware processors on which S/390 or System z software runs. Processor MSU values are determined by the hardware vendor, IBM, or Software Compatible Vendors (SCVs).

For more detailed information about System z software pricing, go to

<http://www-03.ibm.com/systems/z/resources/swprice/>

Partitions

A server's resources (CPU, memory, I/O, interconnects, and buses) may be divided according to the needs of the applications running on the server. This partitioning can be implemented with physical boundaries (Physical Partitions) or logical boundaries (Logical Partitions).

Physical Partitions are defined by a collection of processors dedicated to a workload and can be used with systems that have either multiple cards or multiple frames, each of which can be configured independently. In this method, the partitions are divided along hardware boundaries and processors, and the I/O boards, memory, and interconnects are not shared.

Logical Partitions are defined by software rather than hardware and allocate a pool of processing resources to a collection of workloads. These partitions, while separated by software boundaries, share hardware components and run in one or more physical partitions.

Standby or backup systems

For programs running or resident on backup machines, IBM defines three types of situations: cold, warm, and hot. In cold and warm situations, a separate entitlement for the copy on the backup machine is normally not required and typically no additional charge applies. In a hot backup situation, the customer needs to acquire other license or entitlements sufficient for that server. All programs running in backup mode must be solely under the customer's control, even if running at another enterprise's location.

As a practice, the following are definitions and allowable actions concerning the copy of the program used for backup purposes.

Cold: A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.

Warm: A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.

Hot: A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlements for this copy and there will generally be an additional charge.

Doing work includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data or other resources (for example, active linking with another machine, program, database or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch over between programs, databases, or other resources to occur.

In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files, or transactions, maintaining a heartbeat, active linking with another machine, program, database, or other resource), the program is considered to be doing work in the hot situation and a license or entitlement must be purchased.

Value Units

A Value Unit is a metric used to compute license quantities, is program specific, and is typically only used on products managing System z systems.

Product website

A complete list of products and licensing documents is available at

<http://www.ibm.com/software/tivoli/products>

Pricing examples

IBM Tivoli System Automation for z/OS

The customer desires to implement Parallel Sysplex application automation and policy-based self-healing on its 1,500 MSU System z server. Because licensing is per Value Unit (calculated based on the number of MSUs) on the IBM System z servers monitored, the customer must obtain the following entitlements:

MSUs	Value units/MSU	Value units
Base 3	1.00	3.00
Tier A 42	.15	6.30
Tier B 130	.08	10.40
Tier C 140	.04	5.60
Tier D 1,185	.03	35.55
Total 1,500		60.85

Value Units for non MSU-based S/390 processors:

System	Value Units/System
MP3000 H30	3
MP3000 H50	4
MP3000 H70	6
ESL models	1

Value Units for IBM 9672 processors are based upon the full capacity of these systems. This is applicable to all System z systems measured on MSU capacity. Information on MSU capacities can be found in the 'IBM System/370, System/390® and zSeries® Machine Exhibit, Z125-3901.

Notes:

- Tivoli NetView for z/OS (a separate IBM MLC offering) is a prerequisite for Tivoli System Automation for z/OS V3.4.
- Value Unit calculations are per system/sysplex, using the PSLC aggregation rules.

Ordering information

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

Program number	Program name	Value Unit exhibit
5698-SA3	IBM Tivoli System Automation for z/OS V3.4	VUE020

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

value unit exhibit VUE020

Level	Minimum	Maximum	Value Units/MSU
Base	1	3	1
Tier A	4	45	0.15
Tier B	46	175	0.08
Tier C	176	315	0.04
Tier D	316	+	0.03

Value Units for mainframes without MSU ratings:

HW	Value Units/machine
MP3000 H30	3
MP3000 H50	4
MP3000 H70	6
ESL models	1

Value Unit exhibit VUE020

Level	Minimum	Maximum	Value Units/MSU
Base	1	3	1
Tier A	4	45	0.15
Tier B	46	175	0.08
Tier C	176	315	0.04
Tier D	316	+	0.03

Value Units for mainframes without MSU ratings:

HW	Value Units/machine
MP3000 H30	3
MP3000 H50	4

Ordering z/OS through the Internet

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

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

Single version charging

To elect single version charging, you must notify and identify to IBM the prior program and replacement program, and the machine the programs are operating on.

Current licensees

Current licensees, with support in effect, will receive instructions on how to order this update.

New licensees

Orders for new licenses will be accepted now.

Shipment will begin on the planned availability date.

Basic license

Ordering information for 5698-SA3 MSU-based System z offerings

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 Tivoli System Automation for z/OS
Program PID: 5698-SA3

Entitlement identifier	Description	License option/ Pricing metric
S011WKH	IBM Tivoli System Automation for z/OS V3.4	Basic OTC, per Value Unit

Orderable supply ID:	Language	Distribution medium
S0161SG	English	3590 tape cartridge
S0161SH	Japanese	3590 tape cartridge

Subscription and Support PID: 5698-S48

Entitlement identifier	Description	License option/ Pricing Metric
S010BVV	IBM Tivoli System Automation for z/OS S&S	Basic ASC, per Value Unit SW S&S no charge, decline SW S&S per MSU SW S&S registration

Orderable supply ID	Language	Distribution medium
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S010C0H	English	Hardcopy pub
S010C0J	Japanese	Hardcopy pub

Ordering information for On/Off Capacity on Demand (On/Off CoD)

IBM Tivoli System Automation for z/OS is eligible for On/Off CoD with a Temporary Use Charge calculated based on MSUs-per-day usage.

Program name: IBM Tivoli System Automation for z/OS
Program PID: 5698-SA3

Entitlement identifier	Description	License option/ Pricing metric
S011WKH	IBM Tivoli System Automation for z/OS	Basic OTC, Per MSU-day TUC

Subscription and Support

To receive voice technical support via telephone during normal business hours and future releases and versions at no additional charge, Subscription and Support must be ordered. The capacity of Subscription and Support (for example, Value Units or number of processors) must be the same as the capacity ordered for the product licenses.

To order, specify the Subscription and Support program product number 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 Support (IAAS). This offering:

- Includes and extends the support services provided in the base support to include technical support via telephone during normal business hours.
- Entitles customers to future releases and versions at no additional charge. Note that the customer is not entitled to new products.

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

Customized Offerings

Product deliverables are shipped only via CBPDO, ServerPac, SystemPac®.

CBPDO and ServerPac are offered for Internet delivery in countries where ShopzSeries 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 ShopzSeries 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 for CBPDO, ServerPac, and SystemPac, include:

- 3590
- 3592

Most products can be ordered in ServerPac and SystemPac the month following their availability on CBPDO. z/OS can be ordered via all three offerings at general availability. 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
- SystemPac shipments will begin four weeks after general availability due to additional customization, and data input verification.

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.

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)

This program is 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. This program has 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 form number

GI11-9705.

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 it was obtained. 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.

Other terms

Volume orders (IVO)

No

IBM International Passport Advantage Agreement

Passport Advantage applies

No

Usage restriction

Yes. Usage is limited to the quantity of Value Units licensed.

For additional information, refer to the License Information document that is available on the IBM Software License Agreement website

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

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

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	Parent, if applicable
5698-SA3	IBM Tivoli System Automation for z/OS V3.4	Execution-based	

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.

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

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.

Full machine based: The required license capacity of a System z IPLA program with full machine based terms equals the MSU-rated capacity of the machines 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/>

For more information on sub-capacity System z IPLA terms and conditions, refer to Software Announcement [204-184](#), dated August 10, 2004.

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

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

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

- That meets the criteria defined in Hardware Announcement [198-001](#), dated January 13, 1998
- Where MLC pricing is aggregated across the sysplex

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.

Sub-capacity utilization determination

Sub-capacity utilization is determined based on the utilization of an eligible operating system and machine (for example, z/OS running in z/Architecture (64 bit) mode on a System z ((or equivalent) server).

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.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

Prices

Information on charges is available at website

<http://www.ibm.com/support>

In the Electronic tools category, select the option for Purchase/upgrade tools.

Passport Advantage

For Passport Advantage and charges, contact your IBM representative or your authorized IBM Business Partner. Additional information is also available at

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

Order now

To order, contact your local IBM representative or your IBM Business Partner.

To identify your local IBM Business Partner or IBM representative, 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: pswana@us.ibm.com

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Canada L3R 2Z1

Reference: LE001

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.

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