IBM AIX 7.2 delivers the reliability, availability, performance, and security needed to be successful in the new global economy

At a glance

IBM(R) is introducing AIX(R) 7.2, the IBM strategic UNIX(TM) operating system for mission-critical, core business applications, with the following features:

- AIX Live Update for Interim Fixes.
- Cluster Aware AIX (CAA) automation with repository replacement mechanism.
- SRIOV-backed Virtual Network Interface Card (VNIC).
- RDSv3 over RoCE, which adds support of the Oracle RDSv3 protocol over the Mellanox Connect RoCE adapters.
- Flash caching. Workloads can take advantage of a read-only cache.

Overview

The AIX operating system is an open standards-based UNIX operating system that has been at the heart of most Fortune 500 companies' UNIX infrastructures for over 25 years. AIX provides these clients with an enterprise-class IT infrastructure that delivers the reliability, availability, performance, and security that is required for clients to be successful in the new global economy.

With the introduction of AIX 7.2, IBM continues its tradition of providing new functions that can dramatically improve system availability, performance, and flexibility while maintaining application binary compatibility. The new AIX 7.2, coupled with IBM POWER8(R) technology-based systems, delivers a computing platform designed for big data that is optimized, secure, and adapts to changing business demands. Together, they deliver superior cloud economics with secure and open choices and incorporate innovation from a growing ecosystem that broadens application choice and enhances optimization.

Key prerequisites

Any IBM system that includes an IBM POWER7(R), POWER7+(TM), or POWER8 processor.

IBM BigFix(R) Lifecycle will ship these components with AIX Enterprise Edition:

- Patch Management
  - OS Patching

- 3rd Party App Patching
- Offline Patching
- Asset Discovery
- Software Distribution
- Sequenced Task Automation

Planned availability date

December 4, 2015

Description

The AIX operating system is enhanced to provide the following new capabilities in AIX 7.2 Technology Level 0:

- AIX Live Update for Interim Fixes

  - Interim fixes can be applied on a running system either with the geninstall command or a NIM push from a NIM master or pull from a NIM client. No reboot is required, even for kernel and kernel extension interim fixes.
  - AIX Live Update for Interim Fixes are the same as traditional interim fixes, but applied in a nondisruptive way, with no reboot required. This is in contrast to AIX Hotpatch, which requires a specially built interim fix.

- CAA automation with repository replacement mechanism

  - When the Storage Framework (SFW) detects primary (active) repository disk DOWN, it will notify CAA and CAA will automatically replace the failed repository disk with a user-specified backup repository disk

- The SRIOV-backed VNIC, or dedicated VNIC, feature provides the second generation of PowerVM$^{(R)}$ virtual Ethernet technology. This enables the client LPAR to have direct access to the SRIOV adapter resources residing in VIOS and avoids data copy between client LPAR and VIOS. The dedicated VNIC feature offers better performance and scalability as well as the QoS capability honored by the SRIOV adapters. Furthermore, a LPAR with VNIC devices is LPM capable.

- RDSv3 over RoCE adds support of the Oracle RDSv3 protocol over the Mellanox Connect RoCE adapters. Instead of requiring the IB network infrastructure, the feature allows the user to leverage the high-speed Ethernet connect and run the RDSv3 protocol over Oracle RAC cluster for higher performance.

- AIX now includes flash caching. Workloads can take advantage of a read-only cache, stored in near-line flash for data frequently accessed from storage. Flash can be directly assigned to AIX partitions, or a virtual flash device can be provisioned from the VIOS. AIX partitions with virtual flash devices may be migrated to another server.

- AIX Dynamic System Optimizer is now included as part of AIX 7.2.

- IBM BigFix Lifecycle provides an automated, simplified patching process that is administered from a single console. It provides near real-time visibility and enforcement to deploy and manage patches to all distributed endpoints. This offering will ship with AIX Enterprise editions.

AIX Enterprise editions have been enhanced for this release:

- AIX 7.2 Enterprise Edition V1.1 includes the following offerings:

  - IBM PowerSC^{TM} Std Ed V1.1 (5765-PSE)
  - PowerVC Standard Edition V1 (5765-VCS)
  - Cloud Manager with OpenStack V4.3 (5765-CMO)
  - IBM BigFix Lifecycle
  - Mozilla Firefox (ESD only)

- ITM V6.3
- AIX 7.1 Enterprise Edition V1.1 includes the following offerings:
  - Dynamic System Optimizer V1.1 (5765-PWO)
  - IBM PowerSC Std Ed V1.1 (5765-PSE)
  - PowerVC Standard Edition V1 (5765-VCS)
  - Cloud Manager with OpenStack V4.3 (5765-CMO)
  - ITM V6.3
  - IBM BigFix Lifecycle
  - Mozilla Firefox (ESD only)

PowerSC V1.1.4 has introduced a new compliance profile for the North American Electric Reliability Corporation (NERC) industry security standard. The new profile for NERC security standard automates configuration and reporting for AIX systems settings to be compliant with this industry standard. The new security profile is part of the PowerSC Standard Edition.

Reference information

Refer to Software Announcement 213-405, dated October 7, 2013.

Program number

Program number	VRM	Program name
5765-G98	7.2.0	AIX 7.2 Standard Edition
5765-CD3	1.1.0	AIX 7.2 Enterprise Edition V1.1
5765-CD1	1.1.0	AIX 7.1 Enterprise Edition V1.1

Note: The 5765-G98 offering was previously announced.

Product identification number

Program PID number	Maintenance 1-year PID number	Maintenance 3-year PID number
5765-G98	5771-SWM	5773-SM3
	5771-ALC (ALC)	
5765-CD1	5771-AEZ	5773-AEZ
	5771-ALZ (ALC)	
5765-CD3	5771-AEZ	5773-AEZ
	5771-ALZ (ALC)	

Note: The 5765-G98 offering and the 577x SWMA PIDs were previously announced.

Offering Information

Product information is available via the Offering Information website

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

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[(R)] ID and password are required (use IBM ID).

BP Attachment for Announcement Letter 215-393

Publications

No publications are shipped with this program.

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.

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http://www.ibm.com/software/sw-services/

Technical information

Specified operating environment

Hardware requirements
IBM Power Systems[TM] servers with IBM POWER7, POWER7+, or POWER8 processors.

Software requirements
Systems operating on AIX 7.2 are supported only when used within the system operating environments described in the appropriate hardware announcements and when used within the specified operating environment. When systems operating on AIX 7.2 are used with other software or software in later announcements, other limitations may be included.

These licensed program products are not supported on AIX 7.2:

- Fast Connect (5765-E72)
- Dynamic System Optimizer (5765-PWO)
- Performance Toolbox (5765-E74)
- PowerSC Trusted Surveyor (5765-PTS)

Mozilla Firefox that is offered with AIX will now be available for electronic download only.

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.

Companion products

AIX 7.2 can be purchased with IBM Power Systems servers with POWER7, POWER7+, and POWER8 processors.

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

http://ibm.com/electronicsupport

Access the IBM Support Portal

http://ibm.com/support

Access the online Service Request tool

http://ibm.com/support/servicerequest

Security, auditability, and control

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

AIX 7.1 Enterprise Edition V1.1 (5765-CD1)

Description	OTC feature number
Per Processor on Small System	0010
Upgrade from 5765-G98 Per Processor on Small Sys	0012
Upgrade from 5765-G97 Per Processor on Small Sys	0011
Per Processor on Medium System	0006
UPG FROM Small Sys Per Processor to Medium Sys	0007
Upgrade from 5765-G98 Per Processor on Medium Sys	0009
Upgrade from 5765-G97 Per Processor on Medium Sys	0008
Per Processor on Large System	0001
UPG FROM Small Sys Per Processor to Large Sys	0003
UPG FROM Medium Sys Per Processor to Large Sys	0002
Upgrade from 5765-G98 Per Processor on Large Sys	0005
Upgrade from 5765-G97 Per Processor on Large Sys	0004
US ESD only	3453

AIX 7.2 Enterprise Edition V1.1 (5765-CD3)

Description	OTC feature number
Per Processor on Small System	0010
Upgrade from 5765-G98 Per Processor on Small Sys	0012
Upgrade from 5765-G97 Per Processor on Small Sys	0011
Per Processor on Medium System	0006
UPG FROM Small Sys Per Processor to Medium Sys	0007
Upgrade from 5765-G98 Per Processor on Medium Sys	0009
Upgrade from 5765-G97 Per Processor on Medium Sys	0008
Per Processor on Large System	0001
UPG FROM Small Sys Per Processor to Large Sys	0003
UPG FROM Medium Sys Per Processor to Large Sys	0002
Upgrade from 5765-G98 Per Processor on Large Sys	0005
Upgrade from 5765-G97 Per Processor on Large Sys	0004
US ESD only	3453

Charge metric

Program name	Part number or PID number	Charge metric
AIX 7.1 Enterprise Edition V1.1	5765-CD1	Per Processor core
AIX 7.2 Enterprise Edition V1.1	5765-CD3	Per Processor core

Processor core (or processor)

Processor core (or *processor*) is a unit of measure by which the program can be licensed. Processor core (or processor) is a functional unit within a computing device that interprets and executes instructions. A processor core consists of at least an instruction control unit and one or more arithmetic or logic unit. With multicore technology, each core is considered a processor core. Entitlements must be acquired for all activated processor cores available for use on the server.

Note: 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 entitlements for this program sufficient to cover the processor cores managed by the program.

System Program Order (SPO)

An order for SPO 5692-A6P is mandatory for shipments of program distribution. The individual licensed program orders are for registration and billing purposes only. No shipment occurs under these orders.

Specify feature number 3435.

Machine-readable materials are only available on DVD. To receive shipment of machine-readable materials, the order needs to include SPO 5692-A6P. The individual licensed program order (for example, 5765-G98) must still be ordered but will be for registration and billing purposes only and will not result in shipment of materials.

Program number	Program/Function name	Feature number
5692-A6P	AIX 7.2 Base Install	2313
5692-A6P	AIX 7.2 Update Media	2314
5692-A6P	AIX 7.2 Expansion Pack	2315
5692-A6P	AIX 7.2 Standard Specify	2508
5692-A6P	AIX 7.2 Enterprise V1.1 Specify	2509
5692-A6P	AIX 7.1 Enterprise V1.1 Specify	2510
5692-A6P	AIX 7.1 Info Center	2320
5692-A6P	AIX 7.2 Info Center	2321
5692-A6P	IBM BigFix Lifecycle	2325
5692-A6P	NovaLink	2324
5692-LOP	NovaLink	2524

Notes:

- Feature 2314 will not be available until spring 2016.
- The NovaLink features will ship with the PowerVM offerings. This announcement is the tool to get the supply features announced.

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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 the IBM Agreement for Acquisition of Software Maintenance.

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License Information number

LI number: LC27-8307

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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.

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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).

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)

Yes. Contact your IBM representative.

Passport Advantage applies

No

Software Subscription and Support applies

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 via 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, consult your IBM Software Support Handbook at

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, visit the Passport Advantage website at

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

IBM Operational Support Services - SoftwareXcel

No

System i Software Maintenance applies

No

Variable charges apply

Yes

Educational allowance available

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

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.

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Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to IBM Systems customers. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support, all at no additional cost to you.

Now integrated into the base operating system of AIX V6.1, and AIX V7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type **smitty**

esa_main , and select Configure Electronic Service Agent. In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, refer to

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

The IBM Electronic Support portal is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for Electronic Service Agent tool-enabled customers to track system inventory and find pertinent fixes.

Benefits

Increased uptime: The Electronic Service Agent™ tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the symptoms, diagnosing the error, and manually calling IBM Support to open a problem record. Its 24 x 7 monitoring and reporting mean no more dependence on human intervention or off-hours customer personnel when errors are encountered in the middle of the night.

Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool is designed to securely transmit either via the Internet (HTTPS or VPN) or modem to provide customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer's system.

For additional information, please refer to IBM Electronic Service Agent

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

More accurate reporting: Because system information and error logs are automatically uploaded to the IBM Support center in conjunction with the service request, you are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

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

My Systems provides valuable reports of installed hardware and software using information collected from the systems by Electronic Service Agent. Reports are available for any system associated with your IBM ID. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledgebase. Using Premium Search and the Electronic Service Agent information that has been collected from your system, you are able to see search results that apply specifically to your systems.

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or visit

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

Prices

For additional information and current prices, contact your local IBM representative.

AIX 7.1 Enterprise Edition V1.1 (5765-CD1)

Description	OTC feature number	OTC
Per Processor on Small System	0010	
Upgrade from 5765-G98 Per Processor on Small Sys	0012	
Upgrade from 5765-G97 Per Processor on Small Sys	0011	
Per Processor on Medium System	0006	
UPG FROM Small Sys Per Processor to Medium Sys	0007	
Upgrade from 5765-G98 Per Processor on Medium Sys	0009	
Upgrade from 5765-G97 Per Processor on Medium Sys	0008	
Per Processor on Large System	0001	
UPG FROM Small Sys Per Processor to Large Sys	0003	
UPG FROM Medium Sys Per Processor to Large Sys	0002	
Upgrade from 5765-G98 Per Processor on Large Sys	0005	
Upgrade from 5765-G97 Per Processor on Large Sys	0004	

AIX 7.2 Enterprise Edition V1.1 (5765-CD3)

Description	OTC feature number	OTC
Per Processor on Small System	0010	
Upgrade from 5765-G98 Per Processor on Small Sys	0012	
Upgrade from 5765-G97 Per Processor on Small Sys	0011	
Per Processor on Medium System	0006	
UPG FROM Small Sys Per Processor to Medium Sys	0007	
Upgrade from 5765-G98 Per Processor on Medium Sys	0009	
Upgrade from 5765-G97 Per Processor on Medium Sys	0008	
Per Processor on Large System	0001	
UPG FROM Small Sys Per Processor to Large Sys	0003	
UPG FROM Medium Sys Per Processor to Large Sys	0002	

Description	OTC feature number	OTC
Upgrade from 5765-G98 Per Processor on Large Sys	0005	
Upgrade from 5765-G97 Per Processor on Large Sys	0004	

Variable charges: The applicable processor-based one-time charge will be based on the group of the designated machine on which the program is licensed for use. If the program is designated to a processor in a group for which no charge is listed, the charge of the next higher group listed applies. For movement to a machine in a higher group, an upgrade charge equal to the difference in the then-current charges between the two groups will apply. For movement to a machine in a lower group, there will be no adjustment or refund of charges paid.

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Prices in the following PDF prices link are suggested list prices on day of announcement for the U.S. only. They are provided for your information only. Dealer prices may vary, and prices may also vary by country. IBM list price does not include tax or shipping and is subject to change without notice.

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