AIX 7 with Technology Level 3

Release Notes

AIX 7 with Technology Level 3

Release Notes

Note
Before using this information and the product it supports, read the information in "Notices" on page 19.

Fourth edition (June 2014)

This edition applies to IBM AIX 7 with Technology Level 3 and to all subsequent release and modifications until otherwise indicated in new editions.

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About this document

The Release Notes topics include late technical information that is not included in other topics, and they highlights new functions for the IBM® AIX® 7 with Technology Level 3 licensed program.

Highlighting

The following highlighting conventions are used in this document:

Bold	Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Bold highlighting also identifies graphical objects, such as buttons, labels, and icons that the you select.
Italics	Identifies parameters for actual names or values that you supply.
`Monospace`	Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or text that you must type.

Case sensitivity in AIX

Everything in the AIX operating system is case sensitive, which means that it distinguishes between uppercase and lowercase letters. For example, you can use the **ls** command to list files. If you type `LS`, the system responds that the command `is not found`. Likewise, **FILEA**, **FiLea**, and **filea** are three distinct file names, even if they reside in the same directory. To avoid causing undesirable actions to be performed, always ensure that you use the correct case.

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

What's new

June 2014

New additions to this version of the release notes include the following items:

- There are minimum levels of the AIX operating system that are required for supporting the following POWER8™ systems:
  - 8286-41A S814
  - 8286-42A S824
  - 8284-22A S822
- Java™ 7.1 SR1 is tested and verified in the POWER8 environment.
- IBM Knowledge Center is replacing the AIX Information Center format for displaying technical documentation.
- POWER8 systems contain a cryptographic function that can be used with the Open Secure Sockets Layer (OpenSSL) version 1.0.1.510 fileset and AIX 7 with 7100-03 with service pack 3. There are some changes and restrictions to the OpenSSL fileset that apply if you use the POWER8 in-core cryptographic function.
- IBM Security Directory Server (formerly known as IBM Tivoli® Directory Server) might require a GSKit fix for an issue with Secure Sockets Layer (SSL) function.

November 2013

New additions to this version of the release notes include the following items:

- The Java7 software package, at version 7.0.0.100, was moved from the AIX Expansion DVD to the AIX base DVD.
- IBM Tivoli Directory Server version 6.2 is incompatible with DB2® version 9.7 fix pack 5, and later.
- Added a requirement for the version of GSKit when you are complying with the National Institute of Standards and Technology (NIST) standards for IP Security.

Read before installing AIX 7 with 7100-03

This software might contain errors that can result in a critical business impact. You must install the latest available fixes before using this software. Fixes can be obtained from the Fix Central website (http://www.ibm.com/support/fixcentral).

The AIX 7 with 7100-03 Release Notes include information that helps you install the AIX operating system. To view the most current version, see AIX Release Notes in the AIX 7.1 Information Center (http://pic.dhe.ibm.com/infocenter/aix/v7r1/topic/com.ibm.aix.ntl/releasenotes_kickoff.htm).

Versions of the AIX operating system that are required to support some POWER8 systems

There are minimum AIX operating system level requirements when you are supporting the following POWER8 systems:

- 8286-41A S814
- 8286-42A S824
- 8284-22A S822

When you support those systems, you must install the following versions of the AIX operating system, or a later version:

- AIX levels that support any I/O configuration:
  - AIX Version 7.1 with the 7100-03 Technology Level and Service Pack 3 and APAR IV56367
- AIX levels that support only virtualized I/O configurations:
  - AIX Version 7.1 with the 7100-03 Technology Level and Service Pack 1
  - AIX Version 7.1 with the 7100-02 Technology level and Service Pack 1
  - AIX Version 7.1 with the 7100-01 Technology Level and Service Pack 6

Installation tips

The latest installation hints and tips are available at the IBM Subscription Service website (http://www14.software.ibm.com/webapp/set2/subscriptions/pqvcmjd).

Software License Agreements

There are instances where the Software License Agreements (SLA) might not be displayed correctly. In this event, the License Agreements can be viewed for all languages at the Software license agreements website (http://www.ibm.com/software/sla/sladb.nsf).

Software Maintenance Agreement

In AIX 7 with 7100-03, a separate Software Maintenance Agreement (SWMA) acceptance window displays during installation immediately after the license acceptance window. The response to the SWMA acceptance (accept or decline) is stored on the system, and either response allows the installation to proceed, unlike license acceptance which requires an accept to proceed.

The SWMA acceptance window is displayed during a New Overwrite or Preservation installation from base CD media.

For base CD media New Overwrite or Preservation installations, if a non-prompted installation is desired, the **ACCEPT_SWMA** field in the control_flow stanza of the **bosinst.data** file should be set to `yes` (to accept the SMWA terms) or `no` (to decline the SWMA terms). The **ACCEPT_SWMA** field is set to blank by default.

For NIM installations, if licenses have been accepted either from the choices made when initializing the installation, or using the **ACCEPT_LICENSES** field in a customized **bosinst.data** file, then this will constitute SWMA acceptance.

Service

Fixes and problem-solving databases

You can download AIX fixes and search technical databases (including "APARS" and "Tips for AIX administrators"), at the Fix Central website (http://www.ibm.com/support/fixcentral).

Security advisories

Security subscription services are available at My notifications website (https://www.ibm.com/systems/support/myview/subscription/css.wss/folders?methodName=listMyFolders).

After you subscribe to the AIX security advisories, you will receive the advisories by email as soon as they are published. You can also view AIX security advisories at the IBM Subscription Service website (http://www14.software.ibm.com/webapp/set2/subscriptions/pqvcmjd).

System requirements

Review the following information to determine the minimum and recommended system requirements needed to run AIX 7 with 7100-03.

Required hardware

Only 64-bit Common Hardware Reference Platform (CHRP) machines running selected PowerPC® 970, POWER4, POWER5, POWER6®, and POWER7® processors that implement the Power Architecture® Platform Requirements (PAPR) are supported.

To see if you have a supported machine, log into the machine as the root user, and run the following command:

```
prtconf | grep 'Processor Type'
```

Note: RS64, POWER3, and 604 processors, 32-bit kernel, 32-bit kernel extensions, and 32-bit device drivers are no longer supported.

Firmware

I/O devices IPL limitation

Because of a firmware memory size limitation, only I/O devices in the first 144 I/O slots assigned to a logical partition or single system image partition can be used as an IPL (boot) source.

You can use the HMC to identify which devices are in the first 144 I/O slots by doing the following:

1. Select **Partition Properties** > **Hardware** > **I/O**.
2. Click the Bus column to sort the I/O devices in ascending order.
   The first 144 I/O devices in the sorted list are in the bootable adapter slots.

If you are using a partition or single-system image partition with more than 144 assigned I/O slots, the following scenarios and their results and resolutions are possible.

Table 1. Scenarios for partitions with more than 144 assigned I/O slots

Scenario	Result	Resolution
Attempting to boot from a device beyond the first 144 I/O slots for installation or diagnostic purposes.	The device is not selectable as a boot source from the SMS menus.	Use a device in the first 144 I/O slots.
Booting from a device in the first 144 I/O slots, and then attempt to select a target installation device in a slot beyond the first 144 I/O slots.	The boot will succeed to the installation menus, but devices beyond the first 144 I/O slots will not be listed as bootable installation targets in the AIX menus.	Select a device that is available and marked as bootable.
Using an MPIO configuration where one adapter is in the first 144 I/O slots and another adapter is in a slot beyond the first 144 I/O slots. Both adapters are present at boot time.	The boot will succeed to the installation menus, and the device will be listed as bootable in AIX installation menus. The installation will proceed, but it will fail with the **bootlist** command failure "unable to set bootpath for all paths."	Use a device in the first 144 I/O slots for all paths.
Using DLPAR to add an adapter in a slot beyond the first 144 I/O slots, and then attempting to run the **alt_disk_install** command for the newly added device.	The device will not be listed as bootable.	Use a device in the first 144 I/O slots.

Table 1. Scenarios for partitions with more than 144 assigned I/O slots (continued)

Scenario	Result	Resolution
Using DLPAR to add an adapter in a slot beyond the first 144 I/O slots, and using the **bootlist** command to add the device as a bootable device (for example, by dynamically adding a redundant path to a current boot device or setting up for a network boot). Then removing the original adapter and rebooting.	The **bootlist** command succeeds, but the boot fails from the specified device, and AIX will not receive control.	Use a device in the first 144 I/O slots.
Using DLPAR to add an adapter whose probe order will make it displace a current bootable device, and then rebooting.	The boot fails, and AIX will not receive control.	Move the boot device to one of the first 144 I/O slots or remove the previously added device.
Selecting a device in a slot beyond the first 144 I/O slots as a dump device for a firmware-assisted dump.	The **sysdumpdev** command does not allow devices in slots beyond the first 144 I/O slots to be selected as firmware-assisted dump storage devices. An error occurs during the firmware-assisted dump configuration, and a traditional AIX dump automatically becomes available.	Use a device in the first 144 I/O slots for firmware-assisted dumps.
Using DLPAR to add an adapter whose probe order will make it displace a currently valid firmware-assisted dump target device, and then rebooting after the dump.	The firmware-assisted dump process fails during the boot process and displays an error message. The traditional AIX dump still runs to retrieve the dump image.	Avoid displacing the selected firmware-assisted dump target device or reconfiguring the **sysdumpdev** command for the firmware-assisted dump target device selection, and specify a device within the first 144 I/O slots.
Using DLPAR to add an adapter whose probe order will make it displace a currently valid firmware-assisted dump target device, and then rebooting.	The **sysdumpdev** command does not allow devices in slots beyond the first 144 I/O slots to be selected as firmware-assisted dump storage devices. An error occurs during the firmware-assisted dump configuration, and a traditional AIX dump automatically becomes available.	Use a device in the first 144 I/O slots for firmware-assisted dumps.

Memory requirements

AIX 7 with 7100-03 minimum current memory requirements vary, based on the configuration.

A general rule for a minimum current memory requirement for AIX 7 with 7100-03 is 512 MB. A smaller minimum current memory might support a configuration with a small number of devices or a small maximum memory configuration. To install the AIX 7 with 7100-03 operating system with only 512 MB, you can overwrite only the existing operating system, and you cannot install any bundles or devices. If you update the AIX operating system with the **install_all_updates** command, your system must have more than 512 MB.

AIX 7 with 7100-03 requires the minimum current memory requirement to increase as the maximum memory configuration or the number of devices scales upward, or both. Larger maximum memory configurations or additional devices scale up the minimum current memory requirement. If the minimum memory requirement is not increased along with the maximum memory configuration, the partition hangs during the initial program load (IPL).

Host Ethernet Adapter memory requirements

Configurations containing a Host Ethernet Adapter (HEA) require more memory than the 512 MB minimum. Each logical HEA port that is configured requires an additional 102 MB of memory. The minimum memory requirement for configurations with one or more HEA ports configured, where n is the number of HEA ports, is 512MB + n*102MB.

Paging space requirements

AIX 7 with 7100-03 creates a 512 MB paging space (in the /dev/hd6 directory) for all new and complete overwrite installations.

Disk requirements

AIX 7 with 7100-03 requires a minimum of 5 GB of physical disk space for a default installation that includes all devices, the Graphics bundle, and the System Management Client bundle.

The following table provides information about disk usage when you install AIX 7 with 7100-03.

Location	Allocated (Used)
/	240 MB (184 MB)
/usr	2168 MB (1979 MB)
/var	416 MB (264 MB)
/tmp	128 MB (4 MB)
/admin	128 MB (1 MB)
/opt	320 MB (138 MB)
/var/adm/ras/livedump	256 MB (1 MB)

Note:

1. If the /tmp directory has less than 64 MB, it is increased to 64 MB during a migration installation so that the AIX 7 with 7100-03 boot image is successfully created at the end of the migration.
2. The boot logical volume is required to be 24 MB. The pre-migration script in the usr/lpp/bos directory on your media or in your 7.1 NIM Shared Product Object Tree (SPOT) will check if you have adequate room. During the migration, hd5 will be increased if necessary. The logical partitions must be contiguous and within the first 4 GB of the disk.

You must format the SCSI disk properly before you install AIX on it. The AIX operating system requires the disk to be formatted to a sector size supported by the attached SCSI controller. All AIX SCSI controllers support 512 byte sector SCSI disks. The 522 byte sector SCSI disks are only supported when they are attached to SCSI RAID controllers. If the disk has been formatted for SCSI RAID, but is not attached to a SCSI RAID controller, the disk might not configure. If the disk does configure, it might be unreadable in the AIX environment. In some instances, the certify function and the format function in AIX diagnostics can be used to reformat the disk for the attached SCSI controller.

If any existing file system has a mount point in the /opt directory, or a mount point of **/opt** itself, the new logical volume and file system are not created.

Disk capacity

SAS RAID controllers and Fibre Channel controllers support attached arrays and disks with capacities which exceed 2 TB. The maximum supported capacity (beyond 2 TB) is limited by either the attached storage subsystem or the upper level logical storage management.

For additional information about SAS RAID controllers, see the SAS RAID controller for AIX topic in the IBM Power Systems™ Hardware Information Center.

For information about AIX capacity limitations for logical storage, see the Limitations for logical storage management topic in the AIX 7.1 Information Center.

Installation, migration, upgrade, and configuration information

Installation

This section contains information about installing AIX 7.1 that supplements the information contained in the Installation and Migration topic in the AIX 7.1 Information Center.

To order these installation guides, contact your point of sale, or in the U.S., call IBM Customer Publication Support at 1-800-879-2755. Give the order number of the book you want to order.

To obtain AIX 7.1 installation hints and tips, go to the IBM Subscription Service website (http://www14.software.ibm.com/webapp/set2/subscriptions/pqvcmjd).

Installing AIX 7 with 7100-03

The following methods can be used to install AIX 7 with 7100-03:

- Complete overwrite installation
- Preservation installation
- Migration installation

Note: After you install or migrate a system to AIX 7 with 7100-03, you can install a lower level of AIX by restoring a system backup or by performing a new and complete overwrite with base media. Preservation installations from AIX 7 with 7100-03 to a lower level of AIX are not supported.

Note: Using the update media is recommended for updates. If you use the base media to update, some ODM settings (such as SRC subsystems settings) might be lost.

The minimum size of the boot logical volume is 24 MB. If your current boot logical volume is 16 MB or less, the installation process tries to increase it. However, partitions in a boot logical volume must be contiguous, and within the first 4 GB on the disk. If your system does not have free space that meets these requirements, a message will indicate that there is not enough space to expand **hd5** (the boot logical volume).

To install AIX 7 with 7100-03, follow the instructions in the Installing the base operating system topic in the AIX 7.1 Information Center.

NIM installations with updated LPP_SOURCE

NIM installations using an LPP_SOURCE directory that contains base images from a prior release and that contains updates to the current release require that you use an image_data resource during operating system installations.

When you use an LPP_SOURCE directory that contains base images from a prior release and updates to the current release, create an image_data resource to use for any operating system installations. The SPOT must be updated with the updates added to the LPP_SOURCE directory, or a new SPOT must be created. In that SPOT, copy the image.template file found at <*SPOT_LOCATION*>/lpp/bosinst/image.template to a new location outside of the SPOT. Create a new NIM image_data resource that points to that location. Use that NIM image_data resource for all operating system installations.

Certain file systems have grown in size, and the default image.data file used during an operating system installation comes from the **bos** image in your LPP_SOURCE directory, which is the prior release image.data file.

IBM Systems Director Common Agent

AIX 7 with 7100-03 includes the IBM Systems Director Common Agent 6.3. It is installed as part of the System Management Client Software bundle, which is part of the default installation options.

Note: If you are updating or migrating the AIX operating system and have IBM Systems Director Server Version 6.2, or earlier, installed, you must update to IBM Systems Director Server Version 6.3, or later, after the update or migration.

When the AIX system is rebooted, the Director agent and the prerequisite processes for it, like the Pegasus CIM server, are automatically enabled. If you do not want to install or enable the Director agent, see the following information for the steps needed to stop, disable, and uninstall the Director agent.

To stop the Director agent, run the following commands:

```
stopsrc -s cas_agent
stopsrc -s platform_agent
stopsrc -s cimsys
```

To start the Director agent, run the following commands:

```
startsrc -s platform_agent
```

Note: The **startsrc -s platform_agent** command implicitly starts the cimsys subsystem.

```
startsrc -s cas_agent
```

To permanently disable the Director agent, comment out the following lines in **/etc/inittab** file by adding a # symbol in front of each of them:

```
cas_agent:2:once:/usr/bin/startsrc -s cas_agent >/dev/null 2>&1
platform_agent:2:once:/usr/bin/startsrc -s platform_agent >/dev/null 2>&1
```

Note: Comment out the following line only if you do not need the **cimserver** command to run other applications.

```
cimservices:2:once:/usr/bin/startsrc -s cimsys >/dev/null 2>&1
```

To permanently uninstall the Director agent components and leave the file sets that might be used by other applications, run the following command:

```
/opt/ibm/director/bin/diruninstall
```

To uninstall the file sets that remain after you run the **diruninstall** command (if they are not required for other applications), do the following:

- Run the following command:

  ```
  installp -u cas.agent
  ```

  Note: The **artex.base.agent** file set has an installation prerequisite on the **cas.agent** fileset. The **cas.agent** file set can only be removed if the **artex.base.agent** fileset is removed.
- To uninstall Tivoli Guid, run the following command:

  ```
  installp -u tivoli.tivguid
  ```
- To uninstall SMIS CIM providers, run the following command:

  ```
  installp -u sysmgt.cim.smisproviders*
  ```
- To uninstall the remaining CIM providers, run the following command:

  ```
  installp -u sysmgt.cim.providers*
  ```
- To uninstall the Pegasus CIM server, run the following command:

  ```
  installp -u sysmgt.cimserver.pegasus
  ```

For more information about IBM Systems Director 6.3, see the IBM Systems Director V6.3 Information Center (http://pic.dhe.ibm.com/infocenter/director/pubs/index.jsp).

Network Installation Management

Network Installation Management (NIM) includes a readme file that is installed with the NIM Master **bos.sysmgt.nim.master** file set. The path name of the file is `/usr/lpp/bos.sysmgt/nim/README`.

IBM SDK for AIX, Java Technology Edition

IBM software development kit (SDK) for AIX, Java Technology Edition is released in Java*V.x* file sets, where *V* represents the version of Java, such as Java6, and *x* is the individual file set, such as Java5.sdk. To obtain the latest update, complete the following steps:

1. Go to the developerWorks® website at http://www.ibm.com/developerworks/java/jdk/aix/.
2. Click **Downloads** > **User Guides** > **Service information**.
3. Click **Fix Info** from the respective Java version column.

Note: You can install the 32-bit or the 64-bit Java7 software, version 7.0.0.100, from the AIX base DVD.

Other installation information

Migration

You can do an operating system migration to AIX 7.1 from any level of the AIX operating system, on a system that supports AIX 7.1 boot. Installing any new level of AIX requires more disk space than previous levels. Verify that you have enough free space in the file systems, or that you have free partitions in the rootvg. Migrating will require slightly more free space than a basic installation.

When you migrate from AIX 5.3 or 6.1 to AIX 7.1, you can avoid the risk of down-leveling fixes previously installed on your AIX 5.3 or AIX 6.1 system by migrating to the latest available Technology Level of AIX 7.1. If you are using a NIM **lpp_source** created with a prior level base media and later levels of updates added, you should initially create the **lpp_source** with the base media at the same release date or later than the level of AIX 5.3 or AIX 6.1 that you are migrating from. The last 4 digits of the output of the **oslevel -s** command represent the year and week of the service pack currently installed (YYWW).

Maximum size of boot image increased

For AIX Version 7.1, the maximum size of the boot image has changed from the previous value used for AIX 5.2 (and earlier releases) value of 11,984 KB (12 MB minus 16 KB) to 31,984 KB (32 MB minus 16 KB). The size of the boot logical volume has increased from 16 MB to 20 MB.

DSM

The dsm.core ships a `/etc/ibm/sysmgt/dsm/overrides/dsm.properties` file which allows the user to override SSH configuration. If this file was modified, the file will need to be backed up manually before an update or a migration, as it will be overwritten.

xlC runtime software

When you migrate from an AIX 5L™ operating system to an AIX 7.1 operating system, the **xlC.aix50.rte** file set is replaced by the **xlC.aix61.rte** file set. If you upgraded the **xlC.aix50.rte** file set after you installed your system, the migration may replace your upgraded version with a downlevel version. Before you migrate to an AIX 7.1 operating system, save the level of your **xlC.aix50.rte** file set. After the migration is complete, compare your saved level of the **xlC.aix50.rte** file set with the **xlC.aix61.rte** file set. If the changes that you made to your level of the **xlC.aix50.rte** file set are not in the **xlC.aix61.rte** file set, upgrade the **xlC.aix61.rte** file set.

Thin Servers

If you migrate any previous version of the AIX Common Operating System Image (COSI) and associated AIX Thin Servers to the AIX Version 7.1, it is recommended that you delete any dump device associated with the migrated Thin Servers and re-create the Thin Servers.

Additionally, you must install the **devices.tmiscsw.rte** fileset on the NIM master for the AIX Version 7.1 Thin Server to create a dump device. The **devices.tmiscsw.rte** fileset is available in the AIX Expansion Pack.

IBM Subsystem Device Driver

AIX Version 7.1 does not support the IBM Subsystem Device Driver (SDD) for IBM TotalStorage Enterprise Storage Server®, the IBM TotalStorage DS family, and the IBM System Storage® SAN Volume Controller. If you are using SDD, you must transition to Subsystem Device Driver Path Control Module (SDDPCM) or AIX Path Control Module (PCM) for the multipath support on AIX for IBM SAN storage. SDD to SDDPCM migration scripts are available to help you with the transition.

Contact IBM storage technical support to request access to the migration scripts.

For additional information related to the available multipath I/O solutions and supported AIX versions for IBM SAN storage products, see the IBM System Storage Interoperation Center (SSIC) website (www.ibm.com/systems/support/storage/ssic/interoperability.wss).

Limitations and restrictions

This section lists restrictions and limitations applying to AIX 7 with 7100-03.

EMC PowerPath support for traditional and firmware assisted dump

To complete a traditional assisted dump or a firmware assisted dump, you must have EMC PowerPath Version 5.5.0.2, or earlier, installed.

IBM Tivoli Directory Server compatibility with DB2

IBM Tivoli Directory Server version 6.2 is not supported when you use DB2 version 9.7 fix pack 5, or later. If you are running IBM Tivoli Directory Server version 6.2 and DB2 version 9.7, select one of the following options:

- Do not upgrade past DB2 version 9.7 fix pack 4.

  DB2 version 9.7 fix pack 4 is compatible with IBM Tivoli Directory Server version 6.2 because DB2 version 9.7 fix pack 4 does not include the ICC change that was introduced in DB2 9.7 fix pack 5.
- Upgrade to IBM Tivoli Directory Server version 6.3

  IBM Tivoli Directory Server version 6.3 uses GSKitV8. Therefore, there is no compatibility problem with DB2 9.7 fix pack 5.

For more information, see the following technote: ITDSv6.2 is not supported with DB2v9.7 FP5 and later (www.ibm.com/support/docview.wss?uid=swg21591733).

Performing an internal or external snapshot of a JFS2 filesystem

The **snapshot** command fails in the following instances:

- The **snapshot** command fails with a `Not owner` error if you are trying to create an internal snapshot and the filesystem already has an external snapshot and vice versa. In this instance, the **fscntl** system call returns `-1` and the **errno** parameter has the EPERM value.
- The **snapshot** command fails with a `Not owner` error if trying to create an internal or an external snapshot and the filesystem is HSM enabled. In this instance, the **fscntl** system call returns `-1` and the **errno** parameter has a EPERM value.
- The **chfs** command fails with a `A system call received a parameter that is not valid` error if trying to enable HSM for a filesystem that has an internal or an external snapshot. In this instance, the **finfo** system call returns `-1` and the **errno** parameter has a EINVAL value.
- The **snapshot** command fails with a `No space left on device` error when trying to create an internal snapshot and the snapshot limit is exceeded. In this instance, the **fscntl** system call returns `-1` and the **errno** parameter has a ENOSPC value.

GSKit version requirement for NIST compliance

You must use GSKit version 8.0.50.10, or later, when you use IP Security with Rivest-Shamir-Adleman (RSA) key lengths that are greater than 2048 bits. The minimum RSA key length of 2048 bits is a requirement for complying with the National Institute of Standards and Technology (NIST) standard as defined in Special Publication 800-131A. GSKit version 8.0.50.10 is provided on the AIX 7 with 7100-03 Expansion Pack media.

Java version 7.1 SR1 support in the POWER8 environment

Java version 7.1 SR1 is provided on the AIX Expansion Pack media. This version of Java is tested in the POWER8 environment.

POWER8 hardware cryptography capability and OpenSSL version 1.0.1.510

The OpenSSL version 1.0.1.510 fileset and AIX 7 with 7100-03 and service pack 3 can use the in-core cryptographic function that is available with POWER8 systems. The OpenSSL version 1.0.1.510 fileset is provided on the AIX 7 with 7100-03 and service pack 3 Expansion Pack media. To use this function, the following conditions must be met:

- Existing applications that use an older version of the OpenSSL fileset must be recompiled with the latest headers and relinked to the newer 1.0.0 libraries that are included with the OpenSSL 1.0.1.510 fileset.
- Applications that use the **dlopen** function to load the 0.9.8 version of the OpenSSL library must be reconfigured to load the 1.0.0 version of the OpenSSL library.
- After you recompile an application to use the newer libraries, it can run on hardware that is older than POWER8 and with AIX Technology Levels that are older than 7.1 with service pack 3 only if that system has the OpenSSL 1.0.1.510 fileset installed.

Only the following algorithms in the OpenSSL 1.0.1.510 fileset use the POWER8 in-core cryptographic capabilities:

- AES-128-CBC
- AES-192-CBC
- AES-256-CBC
- AES-128-ECB
- AES-192-ECB
- AES-256-ECB
- SHA224
- SHA256
- SHA384
- SHA512

Note: Applications that use prior versions of the OpenSSL fileset will continue to function and use the OpenSSL default software cryptographic modules on the POWER8 system. The OpenSSL 0.9.8 libraries are also included as part of the OpenSSL 1.0.1.510 fileset to allow compatibility with earlier versions.

See the AIX Web Download Pack Programs website (https://www14.software.ibm.com/webapp/iwm/web/reg/download.do?source=aixbp&lang=en_US&S_PKG=openssl&cp=UTF-8&dlmethod=http) to download the latest versions of the OpenSSL fileset.

IBM Security Directory Server and GSKit fix for SSL issue

IBM Security Directory Server, formerly known as IBM Tivoli Directory Server, is affected by a problem that is related to the Secure Sockets Layer (SSL) implementation. Some conditions can cause the processor utilization to rapidly increase, resulting in a denial of service.

If your GSKit is older than the corresponding levels that are in the following list, update your GSKit to the specified version, or later. To determine which version of the GSKit component is installed, enter the following command:

```
lslpp -l |grep -i gsk
```

The fixes for the GSKit components can be downloaded at the following websites:

GSKit V7.0.4.50
http://www.ibm.com/support/docview.wss?uid=swg21672724

GSKit V8.0.14.43
http://www.ibm.com/support/fixcentral/swg/selectFixes?product=ibm/Tivoli/IBM+Global+Security+Kit&release=All&platform=All&function=fixId&fixids=8.0.14.*-GSKIT-AIX*&includeSupersedes=0

GSKit V8.0.50.20
http://www.ibm.com/support/docview.wss?uid=swg21672724

When you are using GSKitV8, your IBM Security Directory Server or IBM Tivoli Directory Server must be at version 6.3.0.26 or higher. This version avoids a compatibility issue between the IBM Security Directory Server component and the new GSKitV8 fix packs. To determine the installed version of the IBM Security Directory Server, enter the following command:

```
lslpp -l |grep idsldap
```

Additional information

IBM Knowledge Center

To view the most current version of IBM Knowledge Center, see the IBM Knowledge Center website (http://www.ibm.com/support/knowledgecenter/ssw_aix/welcome). IBM Knowledge Center content can be installed from or be viewed directly from the DVD on any AIX or Microsoft Windows systems that are capable of reading a DVD.

If you require a translated version of the documentation and cannot access the website or use a DVD, you might be able to download a copy of the DVD contents from the "Entitled Software Service" site under the terms of your AIX Software Maintenance Agreement if electronic download is offered in your country.

For information about using the electronic software delivery, see the My entitled software website (https://www.ibm.com/servers/eserver/ess/ProtectedServlet.wss) and click **Help**. The electronic install image is provided in a **tar.gz** format. After downloading the compressed tar image, decompress, unpack, and run **install_aix** to start the installation wizard.

Cluster Aware AIX

The Cluster Aware function is part of the AIX operating system. Using Cluster Aware AIX (CAA) you can create a cluster of AIX nodes and build a highly available solution for a data center.

Migration support

Migration is not supported for AIX 6 with 6100-07 or for AIX 7 with 7100-01. To upgrade from AIX 6.1 with 6100-06 of Cluster Aware AIX (CAA) or from AIX 7 with 7100-00 of CAA to AIX 6 with 6100-07 or to AIX 7 with 7100-01, first remove the cluster, and then install AIX 6 with 6100-07 or install AIX 7 with 7100-01 on all nodes that will be included in the new cluster.

Removal of solidDB

CAA no longer uses an embedded IBM solidDB® database. The bos.cluster.solid fileset still exists, but it is now obsolete. The solid and solidhac daemons are no longer used by CAA.

clusterconf command

CAA commands no longer support forced cleanup options.

The following is a list of options, by command, that are not supported in AIX 6 with 6100-07 or in AIX 7 with 7100-01.

```
chcluster -f
clusterconf -f, -s, -u
rmcluster -f
```

The **clctrl** command can be used for tuning the cluster subsystem. Only tune the cluster subsystem at the direction of IBM customer support.

Vendor disk support

The CAA infrastructure now provides limited support for some disks that are managed by vender disk drivers. No disk events are available for these disks, but they can be configured into a cluster as a

repository or as shared disks. See the documentation for the clustering product that you are using, such as IBM PowerHA® SystemMirror® for AIX, for a complete list of vendor disk devices that are supported for your environment.

DB2 migration

You can upgrade your DB2 environment with DB2 Version 9.5, DB2 Version 9.1, or DB2 UDB Version 8 copies to DB2 Version 9.7. For more information about upgrading to DB2 Version 9.7, see the Upgrade to DB2 Version 9.7 topic in the DB2 Information Center.

Note: The DB2 High Availability feature is not included in the DB2 version 9.7 FP2. The DB2 HA feature is available in the DB2 Version 9.7 from FP3.

Lightweight Infrastructure

For information about licensing LWI v7.1, see the Program-unique Terms section of the AIX license information documentation.

Server side support for new Unicode locales

For information about server side support for new unicode locales, see the Supported languages and locales topic in the AIX 7.1 Information Center.

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