AIX 7 with Technology Level 4
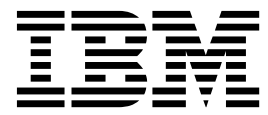
Release Notes

IBM

AIX 7 with Technology Level 4

Release Notes

IBM

Contents

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 4 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

October 2016

Added a statement that the libusb library is supported on AIX 7 with 7100-04 with Service Pack 3. For more information, see the "libusb library" on page 12 section.

May 2016

The following information is a summary of the updates that are made to the AIX 7 with Technology Level 4 Release Notes:

- Added a statement that IBM Systems Director Common Agent Version 6.3 was removed from the System Management Client Software bundle. For more information, see the "IBM Systems Director Common Agent" on page 9 section.
- Added information about support for the Linux SHA-256 and SHA-512 password cryptographic algorithm. For more information, see the "Linux SHA-256 and SHA-512 password cryptographic algorithm" on page 15 section.

March 2016

Added a statement that IBM Systems Director Common Agent Version 6.3 is not supported in AIX 7 with 7100-04. For more information, see the "IBM Systems Director Common Agent" on page 9 section.

Read before installing AIX 7 with 7100-04

Before you use this software, you should go to the Fix Central website and install the latest available fixes that address security vulnerabilities and other critical issues.

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:

- IBM Power® System S814 (8286-41A)
- IBM Power System S824 (8286-42A)
- IBM Power System S822 (8284-22A)

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 Power server bulletins website (http://www14.software.ibm.com/webapp/set2/subscriptions/onvdq).

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 7100-04, 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.

System requirements

Review the following information to determine the minimum and recommended system requirements needed to run AIX 7 with 7100-04.

Required hardware

Only 64-bit Common Hardware Reference Platform (CHRP) machines running selected PowerPC® 970, POWER4, POWER5, POWER6®, POWER7®, and POWER8 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 7100-04 minimum current memory requirements vary, based on the configuration.

A general rule for a minimum current memory requirement for AIX 7 with 7100-04 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 7100-04 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 7100-04 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 7100-04 creates a 512 MB paging space (in the /dev/hd6 directory) for all new and complete overwrite installations.

Disk requirements

AIX 7 with 7100-04 requires a minimum of 10 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 7100-04.

Location	Allocated (Used)
/	512 MB (278 MB)
/usr	2496 MB (2272 MB)
/var	544 MB (313 MB)
/tmp	128 MB (4 MB)
/admin	128 MB (1 MB)
/opt	320 MB (109 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 7100-04 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.

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

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.

Installing AIX 7 with 7100-04

The following methods can be used to install AIX 7 with 7100-04:

* Complete overwrite installation
* Preservation installation
* Migration installation

Note: After you install or migrate a system to AIX 7 with 7100-04, 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 7100-04 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 7100-04, follow the instructions in the Installing the base operating system topic.

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

IBM Systems Director Common Agent Version 6.3 is not supported in AIX 7 with 7100-04. However, IBM Systems Director Common Agent Version 6.3 is supported in the following versions of the AIX operating system:

* AIX 7 with 7100-02
* AIX 7 with 7100-03

In AIX 7 with 7100-04 with Service Pack 1, or later, the IBM Systems Director Common Agent Version 6.3 was removed from the System Management Client Software bundle.

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`.

Java Technology Edition

The following versions of Java™ Technology Edition are available on the AIX 7.1.4 base media:

Table 2. Java versions

Java Version	32-bit	64-bit
Java Version 5	Yes	Yes (SDK only)
Java Version 6	Yes (SDK only)	Yes
Java Version 7	Yes	Yes

Note: Java 5 went end of service (EOS) in September 2015. If you want to remove Java 5 from your system, you must remove the following software:

- ifor_ls.java.gui
- ifor_ls.msg.en_US.java.gui
- lum.base.gui
- lum.msg.en_US.base.gui
- csm.hc_utils
- csm.gui.dcem
- csm.gui.websm
- csm.server

To identify whether software from other sources exists on your system with requisites to Java 5, complete a preview uninstall of Java 5. If you remove Java 5, you must also change the `PATH` variable to `java6` in the `/etc/environment` file.

To check whether a more recent service refresh is available for a version of Java, see the AIX Download and service information website.

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).

Reliable Scalable Cluster Technology (RSCT)

When you upgrade to AIX 7 with 7100-04, RSCT Version 3.2 is installed and replaces the previous version of RSCT. For more information about RSCT, see the RSCT 3.2 Knowledge Center website.

When you migrate to AIX 7 with 7100-04 the `rsct.core.utils` 3.2.1.0 fileset is applied. RSCT Version 3.2.1.0 is not compatible with the `rsct.vsd` fileset and the `rsct.lapi.rte` fileset that might already be installed on your system. You must deinstall the `rsct.vsd` fileset and the `rsct.lapi.rte` before you migrate to AIX 7 with 7100-04. After you remove the filesets, you must rename the `/opt/rsct` directory by running the `mv /opt/rsct /opt/rsct.old` command. If you do not remove the filesets and rename the directory, the `rsct.core.utils` 3.2.1.0 fileset and other prerequisite RSCT filesets are not installed.

The following error occurs during the installation `rsct.core.utils` 3.2.1.0 fileset if you do not remove the `rsct.vsd` fileset, the `rsct.lapi.rte` fileset, and rename the `/opt/rsct` directory:

```
rmdir(/opt/rsct): Do not specify an existing file.
sysck: 3001-017 Errors were detected validating the files
for package rsct.core.utils.

0503-464 installp: The installation has FAILED for the "usr" part
```

To recover from a failed migration, after you remove the filesets and rename the directory, run the **smitty update_all** command to install the missing RSCT filesets.

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.

xIC 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).

libusb library

The libusb library is an open source C library that is supported on AIX 7 with 7100-04 with Service Pack 3. The libusb library provides generic access to USB devices. You can run libusb applications on AIX 7 with 7100-04 with Service Pack 3 by recompiling the applications with this new libusb package. You can download the libusb rpm from the https://public.dhe.ibm.com/aix/freeSoftware/aixtoolbox/RPMS/ppc/libusb/ website. For more information about using the libusb library, see the following topics:

- usblibdev Special File
- USBLIBDD Passthru Driver

Limitations and restrictions

This section lists restrictions and limitations applying to AIX 7 with 7100-04.

AIX Profile Manager

Media for AIX Profile Manager is no longer available. You can download AIX Profile Manager from the Entitled Software Service website until January 12th, 2016.

Upgrading IBM Security Directory Server

IBM Security Directory Server Version 6.4 is available on the AIX base media. To upgrade to Security Directory Server Version 6.4, you must upgrade from Security Directory Server Version 6.3. For instructions about upgrading to Security Directory Server Version 6.4, see the Upgrade an instance of IBM Security Directory Server topic.

You might have to manually accept the license terms when you install IBM Security Directory Server version 6.3.0.17, or later, with the AIX operating system. The installation process stops until the license terms are accepted, which prevents an unattended installation when the license is not already installed. For more information, see License acceptance required for Security Directory Server 6.3.0.17 (or later) (http://www.ibm.com/support/docview.wss?uid=swg21612037).

AIX 7.1 Enterprise Edition 1.1

Previous versions of AIX Enterprise Edition included IBM® Tivoli® Monitoring Version 6.2.3 and Version 6.3.0. However, AIX 7.1 Enterprise Edition 1.1 includes only Tivoli Monitoring Version 6.3.0. To use AIX 7.1 Enterprise Edition 1.1, you must upgrade to Tivoli Monitoring Version 6.3.0.

GSKit version requirement for NIST compliance

GSKit version 8.0.50.44 is provided on the AIX Version 7.1.4 Expansion Pack media.

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.

nmon command changes

The behavior of the nmon recordings for the PCPU and SCPU sections are not recorded by default in AIX 7 with 7100-04. To enable the recording of the PCPU and SCPU sections, run the nmon recording with the **-y PCPU=on,SCPU=on** options. When the PCPU and SCPU sections are enabled, the recorded format is the same as it was in previous versions of the AIX operating system. For more information about the **nmon** command, see the nmon command topic.

Additional information

IBM AIX Version 7.1 Knowledge Center

To view the most current version of the AIX Version 7.1 information, see the AIX Knowledge Center website (http://www-01.ibm.com/support/knowledgecenter/ssw_aix_71/com.ibm.aix.base/kc_welcome_71.htm).

To order AIX Version 7.1 Knowledge Center on physical media, you can place an order for feature 2320 on product ID 5692-A6P on the Entitled Software Service website or in the eConfig tool.

You can also download the AIX Version 7.1 Knowledge Center as a **.zip** file from the Entitled Software Service website. After you download the **.zip** file, you must exact the **.zip** file and run the **setup.exe** file to install the AIX Version 7.1 Knowledge Center.

Linux SHA-256 and SHA-512 password cryptographic algorithm

A Loadable Password Algorithm (LPA) model is available that supports the Linux SHA-256 and SHA-512 password cryptographic algorithm. The Linux SHA-256 and SHA-512 password cryptographic algorithm is supported by other operating systems and was published in the public domain by Ulrich Drepper (https://www.akkadia.org/drepper/SHA-crypt.txt).

The LPA model is included in the pwmod Licensed Program Product (LPP) package. You can get the pwmod package from the AIX Web Download Pack website.

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

IBM DB2® Version 10.5 with FP5 is available on the AIX base media. You can upgrade your DB2 environment from DB2 Version 10.1, 9.8, or 9.7 to DB2 Version 10.5. For more information about upgrading to DB2 Version 10.5, see the Upgrade to DB2 Version 10.5 topic.

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.

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