

Below are the issues fixed in Niagara^{AX} 3.8 Initial (Security Update) Release

Issue Key	Module	Description	Release Note
NCCB-1205		NPM3, NPM6(E) and JVLN requires user input in serial shell to complete first boot up after commisioning	<p>Prior to AX versions 3.7.104, 3.6.304 and 3.6.404, it is possible that the HotSpot VM upgrade process could cause the boot process of the JACE to halt if the serial debug shell was in use. The boot process would be halted until 2 carriage returns were fed into the standard input of the serial shell. This defect has been addressed in the noted releases. To workaround, do not use the serial debug shell during a virtual machine upgrade.</p> <p>The release in the field that could be subject to this defect is a 3.6.47.12 - > 3.7.44.6 upgrade. This upgrade involves a new Virtual Machine being sent to the remote JACE. It is of the utmost importance that the JACE being upgraded does not have the debug serial jumper in place. If it does, the JACE will not complete the boot process until 2 carriages returns are fed in the serial shell's standard input.</p>
NCCB-12196		StackOverflowError while creating invoices in Vykon Tenant Billing System	Prior to version 1.0.0.13 of the niagaraTenantBilling.jar module, in some cases generating an invoice may result in a stack overflow error which prevents the invoice job from completing.
NCCB-12727		User with non-ASCII characters in their names are unable to login via browser	In AX version 3.8.38 and earlier, non-ASCII characters in usernames would cause web login to fail. In patched version and future update builds, Non-ASCII characters will work in web login.

			Note: Non-ASCII characters are still not supported in passwords in the patched version. Creating passwords with non-ASCII characters will no longer be allowed. This will be fixed in the next update build.
NCCB-14105		Applet should cache to Local Profile, not Roaming Profile	In order to assist user synchronization in Microsoft networks, modules and files downloaded by WbApplet now write them to a Niagara directory under %APPLOCALDATA%. In addition, the directory name used to identify the host has been made more readable by using a directory name of host and port with invalid characters converted to _ instead of the hash value that was used in previous releases.
NCCB-1968		NPM6E 3.6.45.1 cleandist does not depend on a system revision	The clean distribution file for the NPM6E included in AX Version 3.6.47 did not contain a dependency on the system revision (1.2) of the platform part. This omission can result in the user installing the cleandist included with this affected version onto a new hardware revision of the NPM6E for which the cleandist is incompatible. In a worst case scenario, this could result in the NPM6E be sent back through support channels in order to be repaired. The cleandist included in 3.7.105, 3.6.305, 3.6.401, 3.7.201 and 3.8.12 now correctly contains a system revision dependency that will prevent the distribution file installer from allowing this condition to occur.
NCCB-2330		SystemErrorFactory::error() creates error message with	Prior to 3.8.15, the native SystemErrorFactory

		"The operation completed successfully"	<p>class would produce messages based on the ESUCCESS (Windows) or EOK (POSIX) error number. When these values were converted to their string equivalents, it would produce an "error" message of "The operation completed successfully". This is misleading since the purpose of calling the SystemErrorFactory was to determine the internal system error that took place that prevented an application level operation from completing as expected. These messages in the 3.8.15 and forward will no longer be used in reporting and instead replaced with the unlocalized prefix provided the the factory.</p>
NCCB-4421		3.8 Dependent Modules use META-INF	<p>Starting in AX 3.8 all modules that declare a dependency on "baja" or "nre" version 3.8 or greater will use a capitalized "META-INF" and "MANIFEST.MF" in their module structure. This was done to comply with the JAR file specification. Modules without one of these dependencies will continue to use lower case "meta-inf" and "manifest.mf" so that they can be used with prior versions of Niagara.</p>
NCCB-6849		Filling CodeCache leads to JACE performance degradation in 3.8 vs 3.7	<p>The Oracle JVM used in JACE-3/6/7 products has a "Just in Time (JIT)" compiler which converts Java bytecode to native code for better performance. The compiled code is stored in code cache of fixed size. In AX 3.8, the size of the code cache has been increased by 2MB to maximize performance of both core Niagara features</p>

			<p>and new cryptographic algorithms.</p> <p>For JACE-3 and 6 models with the “maxHeap” feature enabled, the size of the Java heap was decreased by 2MB to preserve the same overall JVM memory footprint. The JACE-7 and JACE-3/6 models without the “maxHeap” feature are not affected. These models have sufficient free memory to permit increasing the code cache size without reducing Java heap size.</p>
NCCB-7312		As a user I want to be able to set primary address of an MBus device, after devices discovered by secondary addressing mode	<p>All previous versions of the driver, may have had intermittent issues when reading secondary data from devices. This update is designed to stabilize the driver, and to enhance support for secondary addressed devices. The possible work around for existing installations is to switch to primary based addressing. Primary addressing is recommended over secondary based addressing as it involves less overheads.</p>
NCCB-7528		duplicate slot in MbusNetwork prevents station from loading	<p>Affect's all previous versions of the MBus driver. A potential work around that should reduce the chances of the error is to set inhibit database updates to true. Where the driver is no longer being setup with new devices / points it is recommended that the setup has inhibit database updates set to true.</p> <p>When this update is used, inhibit database updates does not have to be set to false in order to discover new devices /</p>

			points, unlike all previous releases.
NCCB-8296		MBus network only supports single instance in station	All previous versions of the driver did not support multiple instances of MBus networks. This update will allow multiple instances of MBus networks in the same station, for example both a TCP/IP and serial based MBus network. No workaround is known to work for previous versions of the driver.
NCCB-9125		MBus Assign Primary Address always ends with job state failed	<p>Corrects incorrect feedback in issues: 3.8.38.2 / 3.7.106.2 / 3.6.406.2 / 3.5.406.1.</p> <p>Possible workaround is to check if the primary address was updated as requested. If the address is updated then the process worked, irrelevant of the job stating that it failed.</p>
NCCB-1582	Linux Installer	New EULA Workflow in Linux Installer	Starting in AX 3.8.17, the End User License Agreement is handled differently by the Linux Installer. Tridium's EULA should no longer be modified by replacing the copy in <installZip>/install-data. Any OEM/Branded additions can be made by placing a <brandId>LicenseAgreement.txt file in the <installZip>/overlay/lib directory. This file should be formatted with CRLF line endings and be one paragraph per line. The file should only contain additions to Tridium's EULA. Similarly, an OEM/Branded Third Party Licenses file may be placed in <installZip>/overlay/lib (named <brandId>ReadmeLicenses.txt) and it will be copied appropriately during the install.

NCCB-1293	Win32 Installer (setup)	Windows 8 Support for setup.exe	Starting in AX 3.8, Windows 8 and Windows Server 2012 are supported by Niagara AX. Setup.exe displays selected shortcuts in Windows 8/Server 2012 Start Screen. install.properties was updated to add version information to shortcuts appearing on Start Screen.
NCCB-1429	Win32 Installer (setup)	New EULA Workflow for Win32 Installer	Starting in AX 3.8.12, the End User License Agreement is handled differently by the Windows Installer. Tridium's EULA can no longer be modified by replacing the copy in <installZip>/install-data. Any OEM/Branded additions can be made by placing a <brandId>LicenseAgreement.txt file in the <installZip>/overlay/lib directory. This file should be formatted with CRLF line endings and be one paragraph per line. The file should only contain additions to Tridium's EULA. Similarly, an OEM/Branded Third Party Licenses file may be placed in <installZip>/overlay/lib (named <brandId>ReadmeLicenses.txt) and it will be copied appropriately during the install.
NCCB-3934	Win32 Installer (setup)	Copy "certManagement" folder as part of "Copy Previous Settings"	Starting in AX 3.8, the Windows Installer now copies the certManagement directory as part of the 'Copy Settings' feature.
NCCB-1047	alarm	AlarmTimestamps.normalTime gets set to null	In AX 3.7 versions 3.7.46.3 and earlier, AX 3.6 versions 3.6.47.10 and earlier, and AX 3.5 versions prior to 3.5.501, alarms' AlarmData.normalTime sometimes gets incorrectly set to null in the Alarm Database, when alarms

			<p>are acknowledged before the console updates the alarm status.</p> <p>In versions 3.7.104 and later, 3.6.304 and later, and 3.5.501 and later, this has been corrected so that the correct normalTime is entered into the database.</p>
NCCB-12137	alarm, gx	Closing a PX hyperlink Alarm Console will cause a different PX Alarm Console to stop updating	<p>In AX 3.7 , 3.8 , and Niagara 4.0 versions, Closing a PX hyperlink Alarm Console will cause a different PX Alarm Console to stop updating</p> <p>Fix is made to correct it , now Closing a PX hyperlink Alarm Console will Not cause a different PX Alarm Console to stop updating</p>
NCCB-2299	alarm, fox	Alarm channel issues with long standing fox connections	<p>In prior versions of Niagara, there were rare cases of a race condition that could occur when multiple threads were simultaneously processing an open/close of a fox connection between Niagara hosts (ie. NiagaraStation connections under NiagaraNetwork). When this happened, the most likely symptom was that alarms were not properly propagating between stations, and you might see an exception similar to the following in the station output:</p> <pre>java.lang.NullPointerException at com.tridium.nd.alarm.BAlarmChannel at com.tridium.nd.alarm.BAlarmChannel at com.tridium.fox.sys.BFoxConnection. at com.tridium.fox.session.SessionDispa at com.tridium.fox.session.SessionDispa</pre>

			<p>at java.lang.Thread.run(Unknown Source)</p> <p>This intermittent problem has now been fixed starting in Niagara versions 3.5U4, 3.6U4, 3.7U1, and 3.8.</p>
NCCB-2313	alarm, niagaraDriver	Acknowledge large number of alarms leaves alarms ack-pending	<p>When large numbers of alarm acknowledgements are sent to a remote station, alarms often get stuck in an AckPending state. In AX 3.8, a number of improvements were made so that large numbers of alarms are now able to be acknowledged at the same time and the alarms will not get stuck in an AckPending state.</p>
NCCB-2642	alarm	Deadband wrong in OutOfRangeAlarmExt after UNITS changed in Workbench	<p>In AX 3.7 versions 3.7.200 and earlier, and AX 3.6 versions 3.6.500 and earlier, the "deadband" property of the OutOfRangeAlarmExt displays the wrong value for temperatures when Tools > Options > General > Unit Conversion is changed.</p> <p>In versions 3.7.201 and later, and 3.6.501 and later, the deadband property's unit has been changed to be the differential of the parent point's unit, and now displays correctly after changing the Unit Conversion in Workbench.</p> <p>For affected 3.7 versions, this can be corrected by dynamically assigning the "deadband" property's unit facet to the correct differential unit.</p> <p>Users with NiagaraAX 3.7 update 1 and 3.6 update 4 can get patches to resolve this issue:</p>

			<ul style="list-style-type: none"> alarm 3.7.106.3, baja 3.7.106.4 alarm 3.6.406.2, baja 3.6.406.6
NCCB-341	alarm	Alarm sound not playing	<p>In NiagaraAX 3.7 release, and NiagaraAX 3.6 update 2 and earlier, the configured alarm sound does not play when viewing an alarm in the Alarm Portal.</p> <p>In NiagaraAX 3.8, 3.7 update1 and later, and 3.6 update 3 and later, the alarm sound will correctly play when an alarm condition is generated.</p>
NCCB-357	alarm	Alarm Portal missing some records	<p>In AX 3.5.39, 3.6.47 and 3.7.46 and earlier, certain alarms may not be displayed in the Alarm Portal. This condition arises when alarms are routed between two or more stations and more than one of those stations are viewed with the Alarm Portal. The record of the alarm in only one of the stations is seen in the Alarm Portal.</p> <p>The Alarm Portal in AX 3.7.103, AX 3.6.303, AX 3.5.404 now displays the above mentioned alarm once for each station in which the record exists (and is connected to via the Alarm Portal) - each with the distinct source in that station.</p>
NCCB-3929	alarm	NiagaraDriver AlarmsDeviceExt 'replace' does not handle AlarmClasses with spaces in the name	<p>In AX 3.8 versions 3.8.38 and earlier, and all previous releases of AX, alarm classes with spaces and/or special characters in the name are not modified properly in the Alarm Channel when exported from a subordinate to a supervisor station. When a supervisor</p>

			<p>station receives alarms, it may optionally change the alarm class name in the alarm records based on the rule defined in the Niagara Alarm Device Extension. If the rule is to "keep existing" alarm class, then it works fine. But if the rule is to prepend, append, or replace the alarm class, then it does not work right. The alarm class name is escaped twice, resulting in a name that typically does not exist in the supervisor station, which results in the alarms getting routed to the default alarm class. This is resolved in the Alarm Channel class in the Niagara Driver module in AX 3.8.101.</p> <p>For affected versions of Niagara AX, avoid using alarm class names that need to be escaped - these include names with spaces, and names that start with a number, and some names that have special characters.</p>
NCCB-3992	alarm	BAlarmConsole can cause an exception when refreshing all tabs	<p>In Niagara AX 3.7 versions 3.7.106 and earlier, and AX 3.6 versions 3.6.405 and earlier, using the "Refresh All Tabs" command would sometimes cause an exception when an Alarm Console was open in one of the tabs not in focus.</p> <p>This has been fixed in Niagara AX 3.8, 3.7.201 and later, and 3.6.501 and later.</p>
NCCB-5022	alarm, platCrypto, workbench	Open dialogs use secure connections by default	<p>In NiagaraAX 3.8, the default connection type used by the "Open Platform" and "Open Station" dialogs is based on the user's previously selected connection type.</p>

			<p>For example, if a user selects an SSL connection type, all "Open" dialogs will default to SSL until changed manually. The initial default connection type is SSL.</p> <p>In previous versions of NiagaraAX, the default connection type was always non-SSL.</p>
NCCB-5955	alarm	Performance failure: Niagara Alarm Console view fails with many unacked alarms	<p>When loading the Alarm Console with very large numbers of open alarms from a single source, the Alarm Console will degrade as the number of alarms loaded increases and may eventually fail. Starting in n AX 3.8, 3.7u2 and 3.6u5, the performance when loading very large numbers of open alarms from a single source has been improved.</p>
NCCB-5989	alarm	3.7 alarm text messages get truncated in the popup window	<p>In NiagaraAX 3.7 update 1 and NiagaraAX 3.6 update 4, the alarm message (e.g. "To Offnormal Text") can sometimes be truncated in the Alarm Portal's popup alarm window.</p> <p>In NiagaraAX 3.8, 3.7 update 2 and 3.6 update 5, this has been fixed so that the popup window will automatically expand to accomodate all the content.</p>
NCCB-7741	alarm, bacnet, lexicon	Lexicon entries cause BACnet alarm acknowledgement to fail	<p>In bacnet modules prior to 3.8.38.3 and 3.8.101 do not properly encode alarm acknowledge messages if the active lexicon uses length two short date formats for weekdays.</p> <p>In bacnet modules 3.8.38.3, 3.8.101 and later the alarm acknowledgment facets are encoded consistently regardless of the active lexicon.</p>

NCCB-9487	alarm	Hyperlinking and then pressing ALT + LEFT ARROW causes Alarm Portal to freeze	In certain situations when navigation back to the Alarm Portal from a hyperlink, a timing issue can occur that causes the Alarm Portal to lock up. The timing of the loading of the Alarm Portal has been reworked so that this is no longer an issue.
NCCB-4086	alarmOrion, orion, rdb, rdbDb2, rdbHsqldb, rdbMySQL, rdbOracle, rdbSqlServer	AlarmOrion requires schema change to support MySql 5.6 because MySql decreased Max key Length from previous version	<p>Prior to AX 3.8, there isn't support for starting a new alarmOrion database in MySql 5.6. This has been fixed from AX 3.8 onwards by lowering the default AlarmSource column size from 256 to 255 since this is the highest size that MySql 5.6 supports.</p> <p>If you are not using MySql 5.6 and would like to continue using a longer length AlarmSource name, you can use the following System.property to allow for a larger size: niagara.alarmOrion.maxSourceLength>size></p>
NCCB-5526	alarmOrion	AlarmOrion floods BFacets interning with too many unique values	In AX 3.7 Update 1 build 3.7.106 and earlier, alarmOrion creates an unneeded amount of unique facets which causes performance problems when BSimple interning enabled. This is fixed in alarmOrion 3.7.106.1 or higher, AX 3.7 Update 2 and AX 3.8 Release.
NCCB-1202	andoverAC256	Reload of LCU Unreliable	In some installations, a reload of an LCU would not go to completion, or if it did go to completion a quick check of the drum programming would reveal incomplete programming. A number of fixes were implemented to address the issue after empirical testing and comparisons with a Andover reload tool:

			<p>1) Previously, CR and LF were sent at the end of each line in a reload file. Now only the CR is sent, the LF is filtered out.</p> <p>2) Implemented a property called "reloadInterCharacterDelay" which is used to restrict how fast characters can be sent during a reload. It defaults to 200ms and is adjustable. Previously, this value was hard-coded at 40ms.</p> <p>3) More cleanly detects if the LCU exits reload mode before the driver is finished sending reload lines.</p> <p>4) Files created with the driver's backup function now contain an extra blank line at the end. Previously the files ended with the '&' character. The Andover tool inserts a CR/LF (blank line) after the '&' and so the the driver does so as well now. Testing in the field indicated that without the blank line, the LCU controller programming would be incomplete.</p> <p>5) In order to deal with backups that may have been performed without the fix #4 above, the restore process will now detect if the reload file ends in an '&' character, and if so, will transmit a final blank line at the end of the reload file.</p>
NCCB-1638	axisVideo	Unable to stream Axis video	From AX 3.8 version 3.8.11 onwards, there will no longer be any exceptions thrown in the station console when the credentials were not saved properly for the Axis Video driver settings.
NCCB-1938	axvelocity	Support for alternative character encoding in velocity templates	From AX 3.8 version 3.8.14 and 3.7 version 3.7.201 and later, AX Velocity now supports alternate character

			encodings (i.e. UTF-8 for Asian characters).
NCCB-2546	axvelocity	AX Velocity public APIs do not have any Bajadocs generated.	From AX 3.8 version 3.8.16 and AX 3.7 version 3.7.201 onwards, AX Velocity has bajadoc help available for public Niagara Velocity APIs.
NCCB-3099	axvelocity	Velocity can now be used to create dynamic Px views	<p>From AX 3.8 version 3.8.18 and later, Velocity can now be used to create dynamic Px views for Workbench, Hx and Mobile.</p> <p>This is extremely useful for customers who want to create Px pages on the fly without having to use Java. For example, a user could use Velocity scripting to dynamically create some Px page navigation.</p> <p>More information on this feature can be found here... https://niagara-central.com/ord?portal:/dev/wiki/Niagara_AX_Templating_Engine_Inte</p>
NCCB-3881	backup, platDaemon	Adjust Station Backup and Station Copier to be "Portable"	<p>With AX updates 3.5U4, 3.6U4 and 3.7U2, changes were implemented to improve storage of passwords and other sensitive data. As a result, performing backups and copying stations to different devices and platforms requires manually resetting things like client side passwords and keys and certificates in the keystores.</p> <p>With AX 3.8 Release, stations can now be copied from platform to platform in a "portable" form. Backups performed with AX 3.8 Release can also be restored successfully to other platforms.</p>

			NOTE: Installing backups or copying stations from any release prior to AX 3.8 still requires manually resetting. Additionally, copying stations from any J9 based platform (JACE 2, Jace 545, etc) requires manually resetting reversible passwords.
NCCB-5028	backup	Backup & Restore Support for FIPS	AX 3.8 provides optional support for FIPS 140-2 compliance. Anyone overriding BBackupService and modifying the default list of platform backup Ords should include !fips so that the files necessary for FIPS compliance will be properly backed up.
NCCB-10201	bacnet	driver writes segmentation even though device does not support segmentation	<p>In bacnet modules 3.8.38.10 and earlier, it is possible that the application layer may attempt to send an application message larger than the MAXIMUM_ADPU_SIZE to a Bacnet Device if it has been 'duplicated' and matched.</p> <p>In bacnet modules 3.8.38.11 and later, BBacnetDevices can be duplicated and matched and will use the MAXIMUM_ADPU_SIZE of the newly matched device.</p>
NCCB-10617	bacnet	Bacnet driver - virtual object property reference failed intermittently when accessed by multiple threads	<p>In bacnet modules 3.8.38.3 and earlier, if multiple threads access the same BACnet virtual property at the same time, a race condition is exposed that can generate a 'DuplicateSlotException'.</p> <p>In bacnet modules 3.8.38.4 and later, simultaneous accesses to virtual slots will be serialized to prevent this condition from occurring.</p>

NCCB-11014	bacnet	BACnet devices reporting device status of non-operational	<p>In bacnet modules 3.8.38.3 and earlier if a BACnet device reports a 'non-operational' system status then the device will be marked down until the problem has been corrected.</p> <p>In bacnet modules 3.8.38.4 and later, if a BACnet device is actually operational while reporting an 'non-operational' state, then the status check can be bypassed by adding a dynamic boolean slot (with a 'true' value) to the affected BBacnetDevice named 'ignoreSystemStatus'. Developers who have extended BBacnetDevice can now override BBacnetDevice.ignoreSystemStatus() method to change the default value as needed.</p>
NCCB-11103	bacnet	BACnet/IP Broadcast Worker leaks socket	<p>In bacnet modules 3.8.38.3 and 3.8.38.4, a QNX JACE may stop receiving broadcast BACnet/IP messages if the IP adapter is enabled and disabled repeatedly.</p> <p>In bacnet modules 3.8.38.5 and later, the repeated disable/enable of BACnet/IP ports is properly handled, and broadcast BACnet messages will continue to be correctly processed.</p>
NCCB-1127	bacnet	Misplaced BACnet proxy point can prevent station save	<p>In bacnet modules 3.8.15 and earlier a misplaced bacnet proxy point could prevent the station from being saved.</p> <p>In bacnet modules 3.8.16 and later the bacnet proxy point no longer attempts to access its parent network, allowing the save to complete. BACnet proxy points that are not located</p>

			in the station under a bacnet network will not function.
NCCB-11504	bacnet	Removal of atomicWriteFile "write the whole file in one segmented request" from BBacnetFile	In bacnet modules 3.8.38.7 and earlier, a streamed file transfer process might not write a file to completion if the device serving up the file supports segmentation, but does not support enough segments to transfer the entire file. In bacnet modules 3.8.38.8 and later the segmentation support check has been removed from the streamed file write. The previous fallback behavior to repeatedly write APDU sized chunks is now the default streamed file transfer method.
NCCB-11686	bacnet	ClassCastException when uploading Multi-State Trend to Boolean History	<p>In bacnet modules 3.8.38.8 and earlier, a 'ClassCastException' could occur when parsing 'LogRecord' from a trend-log whose data type has been inferred from the current 'Log_DeviceObjectProperty'.</p> <p>In bacnet modules 3.8.38.9 and later, the 'LogRecord' parsing process has been updated to properly convert the appropriate data types.</p>
NCCB-11769	bacnet	Bacnet config objects cause Engine Watchdog timeout	<p>In bacnet modules 3.8.38.9 and earlier, writes using BBacnetConfigObjects to non-responsive devices can result in an engine watchdog timeout, if the configured APDU timeout total (ATT) exceeds the configured watchdog timeout value. The default ATT time is 12 seconds, and the default EWT value is 60 seconds.</p> <p>In bacnet modules 3.8.38.10 and later, BBacnetConfigObjects</p>

			dispatch writes to the BBacnetNetwork's worker queue. Moving these writes off of the engine thread will prevent the Watchdog Timeout, but will not improve the network performance. It is strongly advised to tune the APDU Total Timeout (ATT) as small as possible to prevent one down device from slowing the entire network. A good starting point would be a multiple of the slowest device's average latency.
NCCB-12459	bacnet	Deadlock subscribing to BACnet NetworkPorts	In bacnet modules 3.8.38.9 and earlier, there exists a small potential for a deadlock on a NetworkPort between the BBacnetDeviceManagerView and the PollService. In bacnet modules 3.8.39.10 and later the potential for deadlock has been reduced, by eliminating the additional subscription to the NetworkPort from the DeviceManagerView.
NCCB-1827	bacnet	Cannot remove BACnet TimeSynchronizationRecipe	In bacnet modules 3.7.105, 3.8.12 and earlier the bacnet driver would not decode an "unconfigured" BACnetAddress. Now the bacnet driver can be used to configured these "unconfigured" addresses.
NCCB-2223	bacnet, niagarad (Java), platform - General	LinkLayer fails when loading network adapters with foreign characters	Prior to 3.7.201, 3.8.101, or 4.0.1, the TCP/IP Platform Service and TCP/IP Platform View would fail to include a description of a Windows adapter if it contained international characters. This behavior has been corrected.
NCCB-2312	bacnet	BACnet polls contain same object and property in same poll	In AX 3.7.106 and earlier, the poll list redistribution mechanism can add duplicate poll entries in some circumstances. The poll list redistribution process is only triggered

			<p>when polling a device that does not support segmentation. The old behavior was to reduce the effective maximum APDU size of the device and redistribute the poll list.</p> <p>In bacnet 3.7.106.2 and later the behavior is to increase the expected size of the failed entries, and redistribute the poll bucket.</p>
NCCB-2325	bacnet	Cancelling a BACnet COV subscription, stop other subscriptions to the same point from updating	In bacnet versions 3.6.47.12, 3.6.304, 3.7.104, 3.8.13 and earlier it is possible for a COV cancellation to cause other COV subscriptions to the same point from updating.
NCCB-2494	bacnet	Spyder BBacnetDeviceManager and BBrokerChannel Deadlock	In bacnet versions earlier than 3.6.47.12, 3.7.201, AX 3.8.23, there was potential for a deadlock when loading BBacnetDeviceManager. The DeviceManger has been updated to use its own subscriber to avoid the potential deadlock.
NCCB-2559	bacnet	Virtual BacnetBitStrings display improperly	In bacnet versions 3.8.19, virtual bitstrings no longer display as "null;null;null;...." VirtualBitStrings now display their full value. e.g. ("0101010101010")
NCCB-2639	bacnet	ArrayIndexOutOfBoundsExcp when batch deleting BACnet ForeignDeviceEntries	In bacnet modules 3.8.18 and earlier, manually deleting multiple Foreign Device Table entries could result in an ArrayIndexOutOfBoundsExcp being thrown.
NCCB-2651	bacnet	Virtual BACnet points do not unsubscribe	In bacnet modules 3.8.16 and earlier, BACnetVirtualPoints may not always be unsubscribed properly. In bacnet modules 3.8.17 and later, BACnetVirtualPoints are correctly removed from the list of items to poll.

NCCB-3063	bacnet	BACnet upload process can take a significant amount of time for certain devices	<p>In bacnet modules 3.6.47.12 and earlier the startup and verification of the BACnet network cannot be disabled.</p> <p>In bacnet modules 3.7.106 and later, this verification process can be disabled on a device level by adding a 'skipUpload=true' facet to the BacnetDevice.</p> <p>Skipping the upload process reduces the amount of verification of the network. Disabling the upload verification process should only be considered as a feature of last resort on slow MS/TP trunks containing devices with tiny APDU sizes (less than 150 bytes).</p>
NCCB-3211	bacnet	Disabled BACnet network port can prevent other network ports from using the same network number	<p>In bacnet modules 3.8.20 and later a disabled BACnet network port will not prevent the use of a network number. The port will not enable with the duplicate network number.</p>
NCCB-3241	bacnet	Allow BACnet virtuals to use the point's status flags values	<p>In bacnet modules 3.8.18 and later status flags of a virtual bacnet point can be polled by just adding ";status" to the end of the virtual ord. The Device Object Property Reference (DOPR) notation for adding status values is still functional.</p>
NCCB-3626	bacnet	BACnet polling can sometimes spin EmptyStackExceptions	<p>On JACEs w/J9 and a bacnet module earlier than 3.5.39.3, 3.6.305.1, 3.5.405.1, 3.6.47.18, 3.6.404.1, 3.7.46.3, 3.7.105.1 it is possible for a race condition in the JVM implementation to attempt to pop an element off an empty stack.</p>

			The BACnet poll service would then use 100% of the CPU trying to empty an empty stack.
NCCB-4081	bacnet	BACnet listens on all network ports	In bacnet modules 3.8.38.5, 3.8.39, 3.8.101 and later, BACnet/IP ports can bind to a specific address. Binding to a specific address will enable using the same UDP port on both adapters.
NCCB-4222	bacnet	Improve failure handling during BACnet Point Discovery	<p>In bacnet modules 3.6.47.18, 3.7.46.3, 3.7.106 and earlier when polling a device and an "abort:segmentation-not-supported" message is received from the device the bacnet driver's internal maxApdu was decreased. This limits the size of all messages to the device and can severely impact performance.</p> <p>In bacnet modules 3.6.47.19, 3.7.46.4, 3.7.106.1, the estimated size of the failed elements in the poll list are increased and redistributed.</p>
NCCB-4360	bacnet	BACnet alarm("event") handling can slow down the processing of other BACnet events	<p>In bacnet 3.8.25 and earlier, certain confirmed event notifications can block processing of all incoming requests to the bacnet server layer.</p> <p>In bacnet 3.8.26 and later there is a separate worker on the Server Layer to process confirmed messages. Using a separate worker for confirmed messages allows unconfirmed messages to be processed without delay.</p> <p>For large installations one BacnetWorker may not be able to process all incoming messages.</p>

			<p>To address this problem, in the bacnet module's palette there is now a WorkerPool in the "WorkerPools" folder. This new WorkerPool can be added as a child component to the ServerLayer's confirmedServiceWorker.</p>
NCCB-508	bacnet	Handle "unconfigured" BACnet Recipient in Recipient_List	<p>The bacnet driver (versions 3.6.47 and earlier) does not support editing Bacnet recipients that have an "default" object identifier (1023, 4194303). Certain devices use this value as a placeholder to avoid using a variable size recipient list.</p> <p>In versions 3.8.9 and later, bacnet recipients with a (1023, 4194303) object identifier can be processed and changed to a valid object identifier.</p>
NCCB-509	bacnet	Discard discovered out of range I-Ams	<p>In versions of the bacnet module prior to 3.7.46, device discovery will discover any device that sends an I-AM message during the discovery process.</p> <p>In bacnet modules 3.8.9 and later, out of range I-AM messages will be ignored for discovery purposes. Utilizing the object id range parameter on the discover job should allow the device discovery mechanism to be used in larger networks.</p>
NCCB-5923	bacnet	BTL TC50432-10: Align_Intervals not implemented correctly for time synch intervals less than 1 day	<p>BTL Testing of Niagara AX 3.7 for the B-BC Device Profile revealed a problem with the way the Align_Intervals property was implemented. The intended behavior of the property is that if Align_Intervals is TRUE, and the</p>

			<p>Time_Synchronization_Interval property is a factor of an hour or a day, then the beginning of the period must be aligned to the hour or the day, respectively. This was not correctly implemented, and therefore time synchronization messages would be sent but not aligned to the start of an hour or a day.</p> <p>This affects Niagara AX versions 3.6 and earlier, and version 3.7 when using bacnet module version 3.7.106.2 or earlier. The issue was corrected beginning with 3.7.106.3 for 3.7U1, and also for all versions of 3.7U2 and 3.8.</p> <p>Note that affected versions will still send periodic time synchronization requests at the specified interval. The difference is that instead of being sent right on the hour or the beginning of the day, they would be sent based on the time when time synchronization was first enabled. If you need to have this aligned, then try to enable the time synchronization right at the start of the hour.</p>
NCCB-5940	bacnet	BTL TC50432-9: Need to handle max Unsigned for minimum on/off times in exported binary points	<p>BTL Testing of Niagara AX 3.7 for the B-BC Device Profile revealed a problem with handling Unsigned values greater than the maximum 32-bit Java signed integer value for the Minimum_Off_Time and Minimum_On_Time properties of exported Binary Output and writable Binary Value objects. Niagara would accept a value for these properties greater than the max 32-</p>

			<p>bit int value, but would not be able to correctly return the value. This has now been corrected, and values up to the maximum 32-bit Unsigned value in seconds can be accepted and returned for Minimum_Off_Time and Minimum_On_Time.</p> <p>This issue exists for Niagara AX versions 3.6 and earlier, and for version 3.7 when using the bacnet module 3.7.106.2 or earlier. The issue was corrected in the bacnet module beginning with 3.7.106.3 for 3.7U1, and for 3.7U2 and later.</p> <p>Note that this issue is extremely unlikely to be encountered in any normal usage. This would only occur if you needed to set and subsequently retrieve (via BACnet) a Minimum_On/Off_Time that is greater than 68 years!</p>
NCCB-6687	bacnet	Newly created BACnet devices do not update the DeviceRegistry's apdu size parameter, leading to excessive message segmentation	<p>In the bacnet module, 3.8.34 and earlier the maximum APDU size of a discovered device could become improperly stuck at 50 bytes. The abnormally low APDU value will cause excessive segmentation. In cases where the target device does not support segmentation, communication with the device could be prevented until the station is restarted. Restarting the station updates the max APDU size of all the devices in the "DeviceRegistry".</p> <p>In bacnet modules 3.8.35 and later, the cached values in the</p>

			DeviceRegistry are updated when an 'i-am' message is received from the device. Keeping the "DeviceRegistry" up to date will prevent unnecessary segmentation.
NCCB-7037	bacnet	BACnet devices containing "unknown" or "proprietary" objects cause point discovery to fail	<p>In bacnet modules 3.6.47.19, 3.6.305.2, 3.6.406.1, 3.7.46.4, 3.7.106.1 and 3.8.20 a regression was introduced that prevents point discovery from completing if the target device's object-list contains any unknown or proprietary objects.</p> <p>In bacnet modules version 3.6.47.20, 3.6.305.3, 3.6.406.2, 3.7.106.6, and 3.8.37 this problem was corrected, and unknown or proprietary objects no longer cause point discovery to stop with an 'illegalName' exception.</p>
NCCB-7286	bacnet	BACnet DeviceRegistry does not apply previously cached apdu size value when updating a device.	In bacnet modules 3.8.37 and earlier, newly added BACnetDevices may overwrite the cached APDU size and segmentation supported values in the DeviceRegistry. In bacnet modules 3.8.38 and later if the DeviceRegistry values are set then they will be used until the device upload process completes.
NCCB-729	bacnet	COVProperty notifications stop when point is in alarm.	<p>In bacnet module 3.7.46.1 and earlier subscribeCOVProperty subscriptions will stop sending notifications for properties that are in an alarm status.</p> <p>In bacnet modules version 3.7.46.2 and later subscribeCOVProperty will properly send notifications even if a point is in alarm.</p>

NCCB-7324	bacnet	Problems using BBacnetDevice.getMaxAPDULength()	In bacnet modules 3.8.37, 3.8.38 and later the BBacnetDevice.getMaxAPDULength() may return a zero byte APDU size for devices that have not finished uploading. In bacnet modules 3.8.38 and later the "getMAXAPDULengthAccepted" method will always return at least 50 for a device, and will return the value cached in the DeviceRegistry, if it is larger than 50 bytes.
NCCB-7389	bacnet	BACnetTrendRecord sequence numbers duplicated or missing	In bacnet modules 3.6.47.20, 3.6.305.4, 3.6.406.2, 3.7.46.5, 3.7.106.6, 3.8.37 and earlier: Duplicate sequence numbers could be generated if the system time is changed while a trend-log record is being recorded. The frequency of duplicate sequence numbers has been reduced in bacnet modules 3.6.47.21, 3.6.305.5, 3.6.406.3, 3.7.46.6, 3.7.106.7, and 3.8.38.1
NCCB-7466	bacnet	Allow configuration of the bacnet driver's segmentation window size	In bacnet modules 3.6.47.20, 3.6.305.4, 3.6.406.2, 3.7.46.5, 3.7.106.6, 3.8.37 and earlier: Some networks (2G/3G, etc) are predisposed to deliver segments out of order. When the last segment of a response is delivered out of order, the segmentation state machine will wait a segment timeout (typically 2 seconds) before sending the unacknowledged segments. In bacnet modules 3.6.47.21, 3.6.305.5, 3.6.406.3, 3.7.46.6, 3.7.106.7, and 3.8.38.1

			there is a System Property that can control the preferred segmentation window size. Setting the property to one (e.g. "niagara.bacnet.segmentation.window") will force the segments to be delivered in order and avoid the delay waiting for the segment timeout.
NCCB-7467	bacnet	SubscribeCOVProperty for a multi-state-value's state text generates continuous COVNotifications	In bacnet modules 3.6.47.20, 3.6.305.4, 3.6.406.2, 3.7.46.5, 3.7.106.6, 3.8.37 and earlier: Using SubscribeCOVProperty on BComplex properties (a multi-state-value's state-text) will generate a notification every Cov Property Poll Rate (defaults to 5 seconds). In bacnet modules 3.6.47.21, 3.6.305.5, 3.6.406.3, 3.7.46.6, 3.7.106.7, and 3.8.38.1, the comparison has been fixed to generate notifications only when the property has changed.
NCCB-753	bacnet	When discovering BACnet devices, BACnetAWSDevice is the default	In bacnet version 3.8.9 and earlier it was possible to try adding a BacnetAWSDevice to BacnetNetwork using the BacnetDeviceManagerView. In bacnet version 3.8.10 and later, the BacnetDeviceManagerView filters registered agents, and only valid devices will be added to the dropdown list to add to the network.
NCCB-756	bacnet	BACnet Ethernet on Windows 2008 R2 fails to function	In platBacnet modules 3.6.47 and earlier, on some versions of Windows there was the possibility of an invalid memory access while starting a station containing BACnet Ethernet Adapter.

			In platBacnet versions AX 3.6.303, AX 3.7.101, AX 3.8.9 the BACnet Ethernet Adapter start sequence has been adjusted to avoid accessing an invalid memory location.
NCCB-7574	bacnet	SubscribeCOVProperty to various props generates continuous COVNotifications	<p>In bacnet modules 3.7.106.9 and 3.6.47.22 and earlier, incoming subscriptions using 'SubscribeCOVProperty' for certain properties would constantly viewed as changed and generate continuous notifications.</p> <p>In bacnet modules 3.6.47.23, 3.7.106.10, 3.8.39, and 3.8.101 and later the SubscribeCOVProperty changed algorithm has been updated to compare the ASN.1 value for all properties (except numeric values that may need to be compared to the cov increment).</p>
NCCB-7614	bacnet	thread deadlock between Bacnet/Mstp and Fox	<p>Using bacnet modules 3.7.106.9 and earlier on systems under high load, capturing poll statistics can lead to a deadlock.</p> <p>In bacnet module 3.7.106.10 and later the system property 'niagara.bacnet.poll.statistics' can be set to false. This flag will skip capturing poll statistics and avoid the deadlock entirely. Given the helpful nature of poll statistics this flag should only be set as a last resort or where an alternative method exists for capturing system health information (e.g. Wireshark reports).</p>
NCCB-7682	bacnet	Extending BBacnetDevice triggers duplicate enum when adding new device in device manager	In bacnet modules 3.7.104 until 3.7.106.9, if a BBacnetDevice was alphabetically before BBacnetDevice (e.g. "BABacnetDevice"), the

			<p>new device dropdown will contain BBacnetDevice twice.</p> <p>In bacnet modules 3.7.106.10 and later, the list of devices in the new device dropdown is listed alphabetically. Devices will remain filtered by 'isParentLegal' (AWS and OWS devices will not appear when adding devices to a plain BBacnetNetwork).</p>
NCCB-7824	bacnet	BACnet IAm triggers an address property save to DataRecovery when no address change	<p>In bacnet modules 3.7.106.9 and earlier every i-am received for a BBacnet device in the station updates the address field filling the SRAM with unnecessary updates.</p> <p>In bacnet modules 3.7.106.10, 3.8.39, 3.8.101 and later if the address has not changed then the BBacnetDevice is not updated, avoiding the impact to SRAM.</p>
NCCB-874	bacnet	Improve COV status flags handling	<p>In bacnet modules 3.8.15 and earlier, status flags from COV notifications were automatically applied to the proxy point, while polling status flags required adding a statusFlags=true facet to the point.</p> <p>In bacnet modules 3.8.16 and later COV notification status flags are controlled by the same facet value as polling. If it is desired to apply the status flags to a point, the statusFlags facet must be set to true.</p>
NCCB-8987	bacnet	Squelch noisy BACnet exceptions when other devices send malformed messages	<p>In bacnet modules 3.8.39 and 3.8.101 and earlier malformed messages generated by other devices could stream stack trace information into the station output.</p>

			<p>In bacnet modules 3.8.39, 3.8.101 and later malformed messages are logged at the 'message' level to 'bacnet.server'. Once one of these devices is identified, the message level can be raised to squelch the message until a firmware update for the misbehaving device has been deployed.</p>
NCCB-915	bacnet	polling continues after disabling Bacnet network	<p>In bacnet modules 3.8.9 and earlier polling does not stop if the BacnetNetwork is disabled.</p> <p>In bacnet modules 3.8.10 and later, polling is stopped when the network is disabled.</p>
NCCB-9189	bacnet	Add Duplicate Segment Detection	<p>In bacnet modules 3.8.38.1 and earlier the duplicate segmentation handling operated in accordance with the draft language from the specification.</p> <p>In bacnet modules 3.8.38.2 and later, the duplicate segmentation handling operates in accordance with the finalized language from addenda 135-2008z-5.</p>
NCCB-938	bacnet	The AX BACnet network driver interprets a BACnet point 'out-of-service' condition as 'disabled' which is incorrect.	<p>In versions of the bacnet module 3.7.46.2 and earlier the BACnet status of 'out-of-service' was treated as a Niagara status of 'disabled'.</p> <p>In versions of the bacnet module 3.7.46.3 and later the the BACnet 'out-of-service' status is no longer treated as disabled.</p> <p>The BACnet 'out-of-service' status is intended to allow system wide tests to ensure that the system reacts accordingly to simulated inputs. Niagara</p>

			points with a 'disabled' status are ignored when evaluating a priority array and would prevent 'out-of-service' systems testing.
NCCB-11440	bacnetAws	Backup from AWS stops too soon, after 4096 bytes	In bacnet modules 3.8.38.6 and earlier, a streamed file transfer process might not read a file to completion if the device serving up the file supports segmentation, but does not support enough segments to transfer the entire file. In bacnet modules 3.8.38.7 and later the segmentation support check has been removed from the streamed file read. The previous fallback behavior to repeatedly read APDU sized chunks is now the default streamed file transfer method.
NCCB-3770	bacnetAws	bacnetAws.MigrateToAws may fail in some cases	<p>Users attempting to use the BACnet AWS Migration tool to migrate an existing BacnetNetwork into a BacnetAwsNetwork may experience a failure when using Niagara AX versions prior to 3.7.201. If the BacnetNetwork is the first item from the bacnet module that appears in the station bog, the conversion tool will fail with a message about "undeclared module: bac". The line number will be misleading, as it refers to an intermediate file that is not saved and not available after the tool finishes.</p> <p>Beginning with Niagara AX 3.7.201, and with 3.8, the tool will correctly handle migrating BacnetNetwork to BacnetAwsNetwork. One workaround to the problem is to include a BacnetDestination in the AlarmService of the station prior to invoking the migration tool. This will</p>

			force the declaration of the bacnet module earlier in the station bog, and will allow the conversion to proceed without error.
NCCB-8452	bacnetAws	Backup device config fails on BacnetAWS	<p>In NiagaraAX 3.8 release, 3.7 update 1, and 3.6 update 4, certain password types could not deal with a colon character (":") in the password.</p> <p>In NiagaraAX 3.8 update 1, 3.7 update 2, and 3.6 update 5, this has been fixed so that colons in passwords no longer cause problems.</p> <p>For affected versions of Niagara, patches are available on Niagara Central:</p> <ul style="list-style-type: none"> • baja 3.8.38.5 • baja 3.7.106.8 • baja 3.6.406.6
NCCB-1070	baja	User prototypes should not have "force password reset" always set to true	<p>In AX 3.7 versions 3.7.46.3 and earlier, the ForceResetAtNextLogin property on user prototypes' PasswordConfiguration property is incorrectly set to true every time the station starts up, if the prototype's password is blank.</p> <p>In versions 3.7.105 and later, the ForceResetAtNextLogin property will remain set to whatever it was when the station was saved.</p>
NCCB-1107	baja	Backup files are renamed with wrong timestamp	<p>In AX releases prior to 3.8, when javax.baja.file.FileUtil.renameToBack renamed a file, it used the current time to construct the new file name. Since this method is used when a station starts, the backup file name contained the timestamp of the next</p>

			station start instead of the time when the station was stopped. In AX 3.8 and later releases, the last modification time of the current file is used to create the name for the backup file.
NCCB-1586	baja, niagarad (Java), platform - General	File names containing certain characters allowed by Niagara, but not fully supported on QNX platforms	<p>Starting in 3.6.47 (3.7 and 3.8 are also affected), the rules for naming files in Niagara were relaxed in order to deal with Web Workbench issues requiring non-ASCII file names for locally cached files. As a result of the relaxed rules, all use cases of file access/creation through Niagara (Workbench, Web Workbench, and stations) were subject to the relaxed rules. These use cases include (but are not limited to) naming Px files, exporting pdf/txt/csv files, and any other resource files (ie. images). For QNX based platforms, it is possible that the relaxed file name rules can lead to obscure problems. Therefore, it is strongly recommended that users don't create/name files with characters that don't follow the original rules as defined in the BNF for Niagara file paths (copied below):</p> <pre> file := path [fragment] path := absolute relative fragment := "#" name absolute := authorityAbs localAbs homeAbs authorityAbs := "/" authority "/" [names] localAbs := "/" [names] sysHomeAbs := "!" [names] stationHomeAbs := "^" [names] relative := backup dirRel </pre>

			<pre> rel := dirRel backup := ("../") * path names := names ["/" path] name := nameChar (nameChar)* nameChar := (a-z) (A-Z) (0-9) specials specials := space . : - _ \$ + () & ` ' @ [] </pre>
NCCB-2196	baja	Add a license check for the Guest account so that it can only be used on Demo stations	<p>Starting in Niagara 3.8, a license check was added to enable the use of the guest user on a station. A new boolean attribute called "guestEnabled" on the existing "station" feature of a license is now checked, and if this attribute does not exist or if it is set to false, the guest user will be disabled. If the license contains a true value for the "guestEnabled" attribute, the guest user account will be permitted for use by a station.</p> <p>Example excerpt from a license file to enable the guest user:</p> <pre> <feature name="station" expiration="never" guestEnabled="true" station.limit="500" resource.limit="none" parts="PART_NAME"/> </pre>
NCCB-2336	baja	force password reset true prevents user login for station with synchronized user	<p>Starting in the original 3.7 Niagara release, setting force password reset to true could prevent user logins on stations with synchronized users.</p> <p>In multi-station projects it is common for the supervisor station user database to be synchronized to the subordinate JACE stations via the user device extension on the Niagara Station in the NiagaraNetwork</p>

		<p>of the supervisor. The synchronized user in the subordinate JACE station has all of its properties marked as readonly and the BUser component has an additional BUserSyncExt that identifies the source station the user was synced from.</p> <p>If the user account in the supervisor station was configured with the 'Force Password Reset' property as true, then that property was updated in the subordinate JACE stations as well.</p> <p>In such a case, if a user attempted to login to one of the JACE stations before logging in to the supervisor to reset their password, they would be incorrectly prompted to change their password on the JACE. Attempting to change the password on the JACE would fail because the user's properties in the JACE station were readonly and would be overwritten on the next synchronization from the supervisor.</p> <p>Starting in 3.7U1 and 3.8, this scenario is now detected and handled. In such a case, the user will be presented with the following error message:</p> <p>Your station user account requires a password reset. However, since your user account is centrally managed on another station, please log in to that station first and reset your password there before logging in to this station.</p>
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NCCB-2528	baja	Newly created User's first password is not added to password history	<p>In 3.7 Update 1 and 3.8, a newly created User's initial password will be added to his or her password history, so that user will not be able to reset the password back to it.</p> <p>For instance, if you create a user, set the password to "abcd1234", and set the Force Reset flag to true, that user will not be able to reset the password to "abcd1234" and keep using it.</p>
NCCB-3021	baja	Deadlock scenario between ModuleClassLoader and HashTable Synchronization during wb/station startup	<p>If you are loading multiple classes on multiple threads from multiple ext modules with the same parent module, then your station or workbench has a small change of crashing due to a deadlock.</p> <p>Niagara 3.8.17 now has additional protection against this kind of deadlock. No more deadlock is anticipated when upgrading to 3.8, but if deadlock problems are found in other areas, there are a few system.properties that tech support can use to help diagnose your situation:</p> <p>1) This system property will make ext classes load the Legacy way:</p> <pre>niagara.classLoader.ext=true</pre> <p>2) This system property can be used to register the main baja ClassLoader (ModuleClassLoader) as parallel capable in 1.7+ jvms:</p> <pre>niagara.classLoader.parallelCapable=</pre>
NCCB-3314	baja	Check for Blank Password slows station startup	Due to password security enhancements, the first restart of a station with this release may take a couple

			of minutes to implement the enhancements. Once complete, station restarts will return to a startup time similar to previous upgraded release.
NCCB-3898	baja	add default key for maxOverrideDuration facet	In Niagara 3.5 through 3.7, when you used the facets editor to add the "maxOverrideDuration" facet to a control point (or the station's sysInfo facets), you had to manually type the key and manually select RelTime as the value type. Starting in Niagara 3.8, the maxOverrideDuration facet will be available as one of the drop down selections and when selected it will pre-select RelTime as the value type.
NCCB-4491	baja	Password checks on startup changes	Due to the password storage upgrades in AX 3.5U4, 3.6U4, 3.7U1 and 3.8R, checking for existing blank passwords for user accounts during startup has become very expensive. As a result, this requirement (introduced with August 2012 Security Updates) has been removed and replaced with simply enforcing the password strength rules when during a password change.
NCCB-7274	baja	Optimize ValueByteBuffer encoding for use with DataRecoveryService	In AX versions 3.6.406, 3.7.106, and AX 3.8.38 and earlier versions, ValueByteBuffer BObject encoding had a limited scope of optimization. In baja module patch versions 3.6.406.8, 3.7.106.6, 3.8.38.3 and also later versions, ValueByteBuffer uses less space. This results in fewer bytes sent to the data recovery service, thereby resulting in fewer bytes written to SRAM and

			flash, and fewer station saves invoked by the data recovery service.
NCCB-7520	baja	BPasswordFE results in Exception when a colon ":" is used in password	<p>In NiagaraAX 3.8 release, 3.7 update 1, and 3.6 update 4, certain password types could not deal with a colon character (":") in the password.</p> <p>In NiagaraAX 3.8 update 1, 3.7 update 2, and 3.6 update 5, this has been fixed so that colons in passwords no longer cause problems.</p> <p>For affected versions of Niagara, patches are available on Niagara Central:</p> <ul style="list-style-type: none"> • baja 3.8.38.5 • baja 3.7.106.8 • baja 3.6.406.6
NCCB-7691	baja	ComponentSlotMap does not short-circuit setFlags or setFacets if there is no change in value	<p>Prior to this fix, when a call to set the flags or facets for a slot on a component was made, there was no check to see if the new flag/facet value was already the same as the existing value. This would lead to unnecessary events being recorded by the DataRecoveryService for battery-less JACEs. Starting in 3.6.407 (and baja.jar patch 3.6.406.7), 3.6.503, 3.7.107 (and baja.jar patch 3.7.106.5), 3.7.202, 3.8.39 (and baja.jar patch 3.8.38.1), and 3.8.101, this behavior has been fixed, so that if no change in value is detected, the event will short circuit prior to recording an entry in the DataRecoveryService.</p>
NCCB-8802	baja, history	Global history capacity shows incorrect count in N4 Resource manager	<p>Prior to AX versions 3.7.106.6 and 3.8.38.1, the history count shown in the resource manager was incorrect. The</p>

			correct count was still kept internally. In future versions the count in the resource manager has been corrected.
NCCB-999	baja	bql query for ControlPoint out is inconsistent between 3.6 and 3.7	In AX version 3.7.44 or later, there was a regression defect that caused the out slot of control points queried by a BQL query to behave differently than it had in prior versions. In particular, querying for the out slot would result in a value that didn't include any point facets applied. Starting in 3.7.104 or later, this defect is now resolved, such that the behavior will be consistent with versions prior to 3.7.44 and the point facets will be applied to the out value.
NCCB-1516	bajaScript	BajaScript baja.AbsTime.make for JsDate argument should use timezone offset	In BajaScript 3.7 Update 2 and 3.8, baja.AbsTime.make(), when passed a JavaScript Date, will use the timezone offset from jsDate itself if not otherwise specified. Previously it defaulted to 0 (UTC).
NCCB-1736	bajaScript	As a team member, I need to research how to make BajaScript less recursive for Mozilla Firefox	From AX 3.8 and 3.7 version 3.7.201 onwards, Niagara Mobile Px pages with large amounts of data on them in Mozilla Firefox will no longer display 'too much recursion' errors.
NCCB-2001	bajaScript	BajaScript does not use the displayName BNameMap dynamic Property properly for getting display names.	From AX 3.8 version 3.8.13 and AX 3.7 version 3.7.201 onwards, BajaScript (and Niagara Mobile) will now show display names that use the 'displayName' Niagara convention properly. Therefore, if a user adds a display name via the Slot Sheet to a Slot, this should now render correct in any BajaScript application (including Niagara Mobile).

NCCB-2026	bajaScript, box	As a developer, I want to improve the performance of BOX's Type and Contract generation.	<p>From AX 3.8 version 3.8.12 and onwards, BajaScript applications should load faster from a JACE due to enhancements made in Niagara's BoxService Component.</p> <p>A new Property called 'Server Cache Configuration' has been added to the BOX Service. The default is set to 'medium'. This will do some caching but not everything will be cached. This option is safest for a JACE. 'Low' will remove all caching. 'High' will cache everything but will consume more memory.</p> <p>It should be noted that BajaScript also caches Type and Contract information at the client. Hence web pages that use BajaScript will load faster when revisited.</p>
NCCB-2271	bajaScript, box	BOX Server Side Call Handler public API does not have the Javadoc included in the module.	The box module now has a Javadoc available for the public Server Side Call Handler API.
NCCB-2329	bajaScript	Cannot bind a mobile Px label to a virtual *Writable component	<p>From AX 3.8 version 3.8.15 and AX 3.7 version 201 onwards, Niagara Mobile will now show the correct Status information for a Niagara Virtual Component that maps to a Control Point.</p> <p>Therefore, the Niagara Mobile Property Sheet and Px Apps, will correctly pick up the Status information for a Niagara Virtual Component (via the NiagaraNetwork). For instance, if a Px page animates a Px Label based on a Status, this will now be picked up correctly from a Niagara Virtual Component.</p>

NCCB-2332	bajaScript, box, mobile	As a user, I want to the Mobile Property Sheet to update if a Component's displayName Property is added, removed or changed.	From AX 3.8 version 3.8.14 and AX 3.7 version 201 onwards, the Niagara Mobile Property Sheet will dynamically update if any Slots display name is changed (i.e. using the Slot Sheet in Workbench).
NCCB-4548	bajaScript	Transient slots are not encoded by Component#getActionParameters	<p>From AX 3.7 Update 2, AX 3.8 and onwards, BOX Default and Server Side Call invocations will encode transient values.</p> <p>For example, let's say a developer has created a Server Side Handler that's invoked from BajaScript (that uses the BOX protocol). If that Server Side Call Handler returns an argument, any transient values (both dynamic and frozen) will be returned and decoded to the client application.</p>
NCCB-10007	bajau, workbench	Java 7u_65+ applet restarts while refresing the PX view with an active Popup binding	<p>In order to prevent ThreadDeath and memory leaks for Ui:BinderThread, a bajau and workbench patch is required. This moves the BinderThread to the main thread group and also ensure that kitControl:Popup Dialogs are properly shutdown when the applet is refreshed.</p> <p>Note that if multiple tabs are open to an applet in the browser, refreshing the applet for a certain tab will only close the dialogs that were spawned from that tab. The other dialogs will remain open and not be effected.</p>
NCCB-11099	bajau	PxInclude caching is off by default in in 3.8 and N4	Between AX 3.8.1 and 3.8.38.2, PxInclude caching is off by default. In Niagara 3.7 and earlier, and AX 3.8.38.3 and higher, PxInclude caching is back on by default again for performance reasons,

			<p>In 3.8.38.2 bajaui to turn PxInclude caching on as a workaround: niagara.pxInclude.cache=widget</p> <p>In 3.8.38.3 bajaui or higher, you can turn PxInclude caching off to get the WireSheet to work within a pxInclude, but expect degraded performance when this system.property is present: niagara.pxInclude.cache=none</p>
NCCB-1523	bajaui	Px Pages that use CanvasPane 'scale' don't respond properly to mouse events.	<p>From AX 3.8 version 3.8.11 and later, Px pages that contain a Canvas Pane with the scale Property not set to none (i.e 'fit ratio'), will have their mouse events processed correctly.</p> <p>Before this change, mouse clicks on a resized scaled Canvas Pane weren't processed properly and hence the user couldn't always click certain Widgets successfully.</p>
NCCB-2078	bajaui	TreeTableController does not expand child nodes when expander icon is underneath second column	<p>In AX 3.7U2 and AX 3.8U1, TreeTableController will now allow expansion of group tree nodes that have their expand/collapse icons beneath any column instead of just the first column.</p> <p>In effected releases, you can workaround this problem by manually resizing the first column to the right until all exapand/collapse icons are underneath the first column.</p>
NCCB-2557	bajaui	Double space in a lexicon entry for a menu item causes blank File menu pulldown in Workbench.	In AX 3.8, double spaces in lexicon entries for menu items no longer cause exceptions to be thrown.

NCCB-2631	bajau	TabbedPane selected pane does not respect theme .selected color	<p>In the initial release of 3.7, it was not possible to use the theme framework to style the font face or color of the selected tab in a tabbed pane. In 3.8, the text of tabbed panes is styled using the following selectors:</p> <p>label .tab font label .tab color label .selected-tab font label .selected-tab color</p> <p>All previously existing styling options on a tabbed pane (pane tabbed-pane), such as outline and background-color, remain the same.</p>
NCCB-3158	bajau	WB Profile - Incorrect display while selecting the Bacnet points from Station DB	In 3.7 Update 1 and 3.8, an issue has been fixed in which rows in the Bacnet driver manager failed to highlight correctly when no theme module was installed.
NCCB-3933	bajau	BFileChooser does not give a warning when trying to save in an invalid location	Now in 3.8.21, when you attempt to use the BFileChooser to save to an invalid location, an error dialog will be shown instead of silently failing.
NCCB-407	bajau, svg	Can't choose .svg files from image file chooser	Now that .svg files are supported in 3.8, you can now choose .svg images from the Image File Chooser without having to select "all file types".
NCCB-431	bajau	Java Console exceptions in Firefox	From AX 3.8 version 3.8.12 and 3.7 version 3.7.201 onwards, using the Workbench Applet in Firefox should no longer throw lots of exceptions in the Java Console output.
NCCB-4521	bajau	BWidget unparenting can permantly keep mouse cursor in busy state	From AX 3.8 version 3.8.21, the mouse cursor will no longer get stuck into a busy state when a Widget is removed.

NCCB-5269	bajau, gx, kitPx, pxEditor, report	Several modules need lexicon change to support new docGraphics module	In Niagara 3.8, selecting Guide On Target or Help On View for components or views in the kitPx, pxEditor, bajau, gx, or report modules will redirect to the new docGraphics help module.
NCCB-641	bajau, hx	As a User, I want PxIncludes to work properly in hpx	From AX 3.8 version 3.8.10 and later, PxIncludes will now render properly in Hx.
NCCB-646	bajau, mobile	Asian Language Character Support in Mobile Apps and Profiles	The Niagara Mobile apps in 3.8 and above have better support for stations configured with Asian languages.
NCCB-907	bajau	bound label with blink property animated doesn't paint in px edit mode	In AX 3.8, labels with their "blink" property set to true now paint their text even while in edit mode.
NCCB-1136	bajaux, mobile	BajaScript can display incorrect display string for default property values	<p>From AX 3.2 version 3.7.201, Niagara Mobile and other Web Applications using BajaScript will now use the correct facets for displaying Niagara data from a Station.</p> <p>Prior to this change, a point that utilized the 'trueText' and 'falseText' facets might not always be displayed correctly on a Mobile Px page.</p>
NCCB-13185	baseRtsp	RTSP connection fails for H264 streaming	In AX Versions 3.7.202 and prior, RTSP streaming for H264 fails for decoding the "Track" ID from RTSP Connection. This issue is fixed in AX versions 3.6.503, 3.7.202 and 3.8.39 and later.
NCCB-9021	batchJob	Failed provisioning backups not properly disposed by "Keep a limited number of executions" retention policy	<p>In AX versions 3.6.407, 3.7.106, 3.8.38, and earlier, when count-only-successful-executions is enabled, failed jobs are never disposed of. This results in excess backups.</p> <p>This behavior is changed so that once there are at</p>

			<p>least n successful jobs, all jobs older than the oldest successful job to be retained, are deleted.</p> <p>This is fixed in the batchJob module in the following versions of Niagara:</p> <ul style="list-style-type: none"> • AX 3.8.101 • Niagara 4.0.1 <p>As a workaround in affected versions of Niagara, in case of excess jobs, dispose of failed jobs manually to save space.</p>
NCCB-8405	box	Box Error when loading multisheet view for offline Niagara proxy point that has proxy actions	From Niagara AX 3.7 Update 2 and 3.8 Update 1 onwards, an application written using BajaScript will be able to resolve Niagara Proxy Points that are marked as 'down'.
NCCB-1033	bql, chart, history	History chart History:RollupInterval 'daily', 'monthly' and 'yearly' will not render	<p>Starting in 3.7, there was a defect in the handling of the boundary conditions of history rollups. It would manifest itself in history reports when the time range of the report query was less than or equal to the rollup interval itself (ie. if you selected a daily, monthly, or yearly rollup for a time range of TODAY, the time range would be less than or equal to the rollup interval and thus the defect would prevent the proper results from displaying). The history rollup implementation also wasn't properly handling the NONE rollup selection, so that has also been fixed. Starting in 3.7U1 and 3.8, this defect is resolved.</p> <p>Below is an example of an affected use case (this is a pie chart example, but there would be similar results for any chart type):</p>

			<ol style="list-style-type: none"> 1. Using the History Chart Builder, generate and build a chart for 3 history inputs using the pie chart selection. 2. For the 'Time Range' of the report, select 'Today' (the history inputs must have valid data for this time range). 3. For the 'Rollup' of the report, select 'Day' and 'Average'. 4. When you build the chart, prior to this fix, the chart would render blank. With this fix, it will display results.
NCCB-2291	bql	Using bql to search for abstract class like systemMonitor:AbstractAlarmMonitor fails	<p>In AX 3.8 and above, when resolving a BQL Query with an abstract class as its extent is an abstract type with an abstract call in the constructor, an AbstractMethodError would occur, but would not be reported to the user, and the query would return no results. This was due to the query's column-finder abstract class stub generator attempting to call the abstract class's constructor, accidentally calling an unimplemented abstract method.</p> <p>In fixed versions AX 3.8 and above, a BQL query that uses an abstract class as its extent should return the correct number of records.</p>
NCCB-3133	bql, workbench	BqlQueryBuilder duplicates query parameters	<p>In 3.7R there is a problem with the BOrdFE when you attempt to build a bql query. Building a query from this field editor will work once, but then modifications to this field will create an exception because it improperly duplicates your columns in your bql string. In this scenario its best to manually update the bql string or use the Bql query builder from File-</p>

			>Open->Open Query, then transfer your bql string to your Ord field editor.
NCCB-2364	ccnDriver	PIC Table data should be grayed out once it added to the station database	Prior to AX versions 3.5.501, 3.6.501, 3.7.201 and 3.8.20, learned PIC Table still appears to be enabled in the learn table even after it is added to the station database. It is made disabled once added to the station database in the later versions.
NCCB-2365	ccnDriver	Could not invoke the Command Add error comes up instead of duplicate message when user try to Add the data tables which is already added to the station data base	In earlier released Niagara AX versions in 3.5,3.6 and 3.7, a Baja Runtime exception is displayed if a CCN Data Table is added twice or add a CCN Data Table which is already added to the station database. A Null Pointer exception is displayed in the error dialog window. This issue is fixed in the Niagara AX versions 3.5.501, 3.6.501 and 3.7.201 and later.
NCCB-2366	ccnDriver	Exception occurs while invoking the 'Fetch' option from Data tables	In AX 3.6 & 3.7 versions prior to 3.6.501 and 3.7.201 when user invokes "Fetch" action on the Data Tables, an exception message is shown in the station console. This is corrected in versions 3.6.501 and 3.7.105 and later.
NCCB-2367	ccnDriver	Already added PIC tables into station data base are getting added multiple times	In earlier AX released versions, in CCN Driver, discovered PIC through "Ccn Table Manager" view on "Points" folder can be added multiple times and the driver does not show any message that they are already added to the station database. This behavior is corrected and a message is shown in a dialog window if the PIC tables are already added to the station database.
NCCB-2371	ccnDriver	Unable to discover the points when the controller	In earlier Niagara released versions of 3.5,3.6 and

		is getting discover & added under the Customize folder	3.7, if a CCN Device is discovered and added to a Ccn Device Folder, CCN Table Manager view can not be opened on the CCN Device and a Class cast excpetion is shown. This issue is fixed in the Niagara AX versions 3.6.501, 3.7.201 and later.
NCCB-8431	ccnDriver, workbench	Workbench deadlocks using CCN	In AX 3.8.38, Niagara 4.0 workbench hangs if multiple tabs are open for CCN Network and discovery is happing on those multiple tabs. Fix is made to correct it in 3.8 and 4.0
NCCB-1598	chart	History Chart does not display a gap in data consistently	Starting in 3.5 (also affecting 3.6 and 3.7), there was a bug that could incorrectly chart gaps in historical data. When viewing a history line chart, if there were known gaps in the data as determined by the 'hidden' and 'start' trend flags on the history records, the charting would sometimes incorrectly draw lines across those data gaps. Starting in 3.5U4, 3.6U4, 3.7U1, and 3.8, this has now been resolved, such that gaps in historical data are properly indicated with a gap in the history line chart.
NCCB-2298	chart	chart with multiple histories using last24Hours only displays first and last timestamp	Starting in 3.6 (and also affecting 3.7 and 3.8), viewing a history chart with multiple histories in the time range of last24Hours would only show the first and last timestamp values on the x-axis. Starting in versions AX 3.6 Update 4, 3.7 Update 2, and 3.8, the timestamps are now distributed along the x-axis uniformly.
NCCB-2694	chart, seriesTransform	bars overlapping in bar chart for transform graph	In Niagara 3.7 it was discovered that bars

			<p>sometimes overlapped in bar charts.</p> <p>This occurred when there were multiple series graphed and the series's data points that had the same x-axis values.</p> <p>Starting in 3.7 Update 2 and 3.8, this defect no longer occurs.</p>
NCCB-920	chart	The Time Format is always 12h am/pm and the Date Format is always US when a History Chart is viewed in an HX view.	In AX 3.7 versions and earlier, the time and date formats on history charts in an Hx view would always display in 12h AM/PM and US date format respectively without taking the user's time format settings into account. This has been corrected in AX versions 3.8.10 and later to correctly account for the Time Format facet setting specified on the user's property sheet under the User Service
NCCB-1560	control	EnumPoint - range facet not assigned to out slot until value changes	Prior to this fix, if you changed the Enum range point facets on an EnumPoint or EnumWritable point, the new Enum range facets would not be applied to the out value (nor any applicable input values) until the value itself changed. Starting in AX versions 3.5U4, 3.6U4, 3.7U1, and 3.8 and later, this defect has been fixed, such that a change to the enum range point facets will immediately be reflected on the out value and any applicable inputs.
NCCB-375	control	set command fails on proxy point after setting min/max facets	In AX versions 3.5, 3.6, and 3.7, if during the creation of a Numeric point, min/max point facets are specified such that the initial value of the point (ie. fallback or out value) falls outside of the min/max range specified, invoking the 'Set', 'Override', or

			'Emergency Override' actions will fail. As a workaround, set the out value to a known value within the min/max range before specifying the min/max facets. This defect is resolved starting in versions 3.5U4, 3.6U3, and 3.7U1.
NCCB-7648	control	DiscreteTotalizerExt triggers excessive writes to DataRecoveryService	In Niagara AX versions up to and including 3.6.406, 3.7.106 and 3.8.38, the DiscreteTotalizerExt elapsedActiveTime and elapsedActiveTimeNumeric update every second and are persistent, which triggers writes to Data Recovery Service. The workaround is to set non-critical flag for the above mentioned properties. This behavior has been fixed in the control modules, with patches 3.6.406.1, 3.7.106.1 and 3.8.38.1, and all subsequent versions. The fix provides an eaTimeUpdateInterval property which can be used to control this behavior.
NCCB-7714	control	Change BTimeTrigger nextTrigger to be non critical	In Niagara AX control module versions up to, and including 3.6, 3.7, 3.8 and 4.0, the non-critical flag is not set on the nextTrigger property of BTimeTrigger. This results in unnecessary writes to the critical data recovery service each time the value of the nextTrigger property is updated. The control module has been changed beginning with 3.6, 3.7, 3.8 and all subsequent versions, so that the nextTrigger property of BTimeTrigger is marked with the non-critical flag. This will prevent the usual updates that occur during trigger

			execution from triggering writes to the critical data recovery service unnecessarily.
NCCB-5362	crypto (legacy only), email, fox, niagarad (Java), platCrypto, portalAPI	Remove "crypto" feature license check	Starting with the Niagara AX 3.8 Release, the "crypto" feature is no longer required as part of a license. Certificate management functionality and SSL/TLS can now be used without this feature.
NCCB-3956	cryptoCore	Certificate Management View command fails for Certificates without OU	<p>In Niagara AX 3.7.106 and earlier, certificates created on a JACE without the OU, L or ST fields are incorrectly created with blank values for these fields, rather than no value at all. This causes certain warnings about missing fields (e.g. when creating a CSR) not to appear. In Niagara AX 3.8 and 3.7 versions 3.7.201 and later, certificates are correctly created. Older, incorrectly generated certificates are also handled better.</p> <p>As a workaround in affected versions, filling in all the fields (including the non-required ones), will generate a certificate that will work as expected.</p>
NCCB-4279	cryptoCore	Importing a signed certificate and key fails without notice (if CA cert is not in Trust store)	<p>In NiagaraAX 3.7, a failure to import a certificate to a JACE fails without notifying the user of the cause of the failure.</p> <p>In NiagaraAX 3.8, an error dialog will pop up if a certificate fails to import, indicating what went wrong.</p> <p>As a workaround in NiagaraAX 3.7, the failure cause can be read in the serial shell output.</p>
NCCB-3397	devDriver, ndriver	PTZ events are not triggered if the station is	If the Video Network is disabled then the station is restarted and the Video

		started with disabled Video network	Network re-enabled, PTZ operations do not work. This is fixed in the versions 3.6.404, 3.7.105 and later.
NCCB-3989	devDriver, driver	Some Infinity Controllers require an esc sequence for page up and page down in device/point discovery	Some versions of firmware in Andover Infinity controllers do not recognize the CTRL-U (0x15) and CTRL-D (0x04) characters as valid page-up/page-down commands and will respond with a response containing a bell (0x07) character which is indicative of an error response. The driver in Niagara versions prior to 3.6.501, 3.7.107, and 3.8.20 could only send CTRL-U and CTRL-D as a mechanism to page through multiple pages of controllers or points during a device or point learn process. In versions later, a new property has been added to the BInfinityNetwork object called "Page Up Page Down" which can take on the boolean values of "use control code" (default) or "use esc seq". If set to "use control code", the learn processes use CTRL-D to page down through controller or point pages. This is the behavior of prior driver versions. If "Page Up Page Down" is set to "use esc seq", then the page up or page down command is an four-byte escape sequence defined by the VT100 specification (page up = 0x1B 5B 35 7E, page down = 0x1B 5B 36 7E).
NCCB-3022	devkit	Lexicon Editor can overwrite contents of one lexicon with another	In all versions of AX, when using the Lexicon Editor and changing the lexicon file being edited, if Cancel is selected from the Save Changes dialog, then subsequently Save the lexicon, the data will be written to the wrong

			file. This can also occur if you press Save from the previously mentioned dialog. Starting in AX 3.7U1 and AX 3.8, this issue has been resolved. As a workaround, the lexicon file should be saved via the Save button before switching lexicon files.
NCCB-4944	devkit	Declare 3.8 dependencies in basicDriver + devDriver	In versions of Niagara prior to 3.8R, the New Basic and Dev Driver Wizards in workbench would generate boilerplate code that declared dependencies on Niagara 3.0/3.2 modules. In order to encourage developers to use the latest Niagara technology, the New Driver Wizard now declares dependencies on 3.8 by default.
NCCB-1444	dmp	DMP does not utilize Fault Cause when network is in fault.	The DMP Network did not utilize the Fault Cause field to provide fault information in 3.6.3, 3.7.46.3, 3.8.11 and earlier. DMP now uses the Fault Cause field to give meaningful information in 3.6.401, 3.7u1, 3.8.12 and later.
NCCB-918	dras	Remove Crypto dependancy from dras in r37 & r38	In AX verions 3.7.104 and 3.8.10 and later, "crypto" module dependency was removed from "dras" driver to be able to use new crypto service.
NCCB-1543	driver, platLon	Lon Devices go offline until restart of the JACE	Prior to the AX versions AX 3.5.404, AX 3.6.404, AX 3.7.105, AX 3.8.18, the low level LON driver (mipP20) could exit under heavy traffic. This problem has been corrected.
NCCB-5980	driver	BPingMonitor calls doPing() faster than the ping interval if pingOk or pingFail are not called within 1 second	In driver versions 3.8.29 and earlier, if a doPing() implementation failed to call pingOk or pingFail in less than a second, a duplicate doPing() call could be initiated before the ping interval passes.

			<p>In driver versions 3.8.30 and later, a system property ('niagara.updateTicksOnPing') can be set to true, which will update the BIPingable's last attempted ping time. Setting this time before the ping is initiated ensures another ping request is not executed before the ping interval requires.</p>
NCCB-7692	driver	Change BPingHealth lastOkTime to be noncritical	<p>In Niagara AX driver module versions up to, and including 3.6.406, 3.7.106, and 3.8.38, the non-critical flag is not set on the lastOkTime property of BPingHealth. This results in unnecessary writes to the critical data recovery service each time the value of the lastOkTime property is updated.</p> <p>A workaround is to set the non-critical flag on the Health property of each device driver (including Niagara Network). This makes all properties of the ping-health non-critical, not just lastOkTime. Applying the driver module patch is preferred in cases where it is desirable to continue to persist the values of the other ping health properties via the data recovery service.</p> <p>The driver module has been changed beginning with 3.6.406.1, 3.7.106.1, 3.8.38.1, and all subsequent versions, so that the lastOkTime property of BPingHealth is marked with the non-critical flag. This will prevent the usual updates that occur during normal communication to a device from triggering writes to</p>

			the critical data recovery service unnecessarily.
NCCB-8430	eas, web	Fix for NCCB-5915 prevents applet from loading for VES	<p>Starting in Niagara AX version 3.8, VES (or EAS) was not able to load reports in the browser due to the error below. Starting in 3.8.39 (or web.jar patch version 3.8.38.2 or later), this defect has now been resolved so that VES reports will load properly in the applet in a browser.</p> <p>ERROR [11:40:45 02-May-14 EDT][web] Internal Server Error java.lang.NullPointerException at com.tridium.web.WbServlet\$AppletWriter.appletStart(WbServlet.j at com.tridium.web.WbServlet\$AppletWriter.appletStart(WbServlet.j at com.tridium.eas.BEasReport.writeApp at com.tridium.eas.BEasReport.doGet(B at com.tridium.eas.BEasService.doGet(l at javax.baja.web.BWebServlet.service(at com.tridium.web.WebProcess.service at com.tridium.web.WebProcess.service at com.tridium.web.SysServlet.service(S at javax.servlet.http.HttpServlet.service(at com.tridium.httpd.ServiceThread.han at com.tridium.httpd.ServiceThread.run(</p>
NCCB-873	eibnetlp	Eibnetlp-receiving a disconnect request from server on a non-current channel number causes current channel to disconnect	<p>In AX versions 3.5.4xx and earlier, 3.6.4xx and earlier, 3.7.1xx and earlier, the channel id on an incoming disconnect request was not checked to see if it matched the current channel id. This is not an issue in systems where only 1 gateway is used, but in multiple gateway installations, it is possible</p>

			that the wrong channel could be disconnected without this fix. Fixed in versions 3.5.501, 3.6.501, and 3.7.201 and later.
NCCB-3803	email	Can not create Incoming Account with "IMAP" as default.	Prior to AX Versions 3.8.20, 3.7.201, and 3.6.501, the BEmailAccountManager would not save a modification to the store type (POP3, IMAP). This behavior results in the BIncomingAccount from being assigned a value different than the default value (POP3). This behavior has been corrected in AX 3.8.20, 3.7.201, and 3.6.501. All 3.8, 3.7, and 3.6 builds prior to this fix are affected. To workaround, modify the BIncomingAccount directly through the property sheet.
NCCB-456	email	Email Message-ID header not unique when one alarm generates multiple emails	In NiagaraAX 3.7 release, NiagaraAX 3.6, and NiagaraAX 3.5, emails generated from the same alarm share the same Message-ID header. In NiagaraAX 3.7 update1, a timestamp has been added to the Message-ID header to make them unique, even when generated by the same alarm.
NCCB-3633	event	ComponentSource sends the events even if NONE of the events are checked.	Starting in the original release of 3.7, the Niagara EventService was added as a new feature. Two of the event sources available in the palette, ComponentSource and ComponentTypeSource, were not properly filtering out component events based on the 'Events' property that gives you checkboxes for the events you care about (the default is that no events should propagate). Instead it

			would allow all component events to pass through and disregard the 'Events' filter. Starting in 3.7U1, this defect has been resolved, such that the component events defined in the 'Events' property of the ComponentSource and ComponentTypeSource are properly obeyed when filtering component events that should propagate.
NCCB-236	exportTags	substitutePxView fails to export to pdf	From AX 3.8, AX 3.7 version 201 onwards, Substitute Px Views (Px Views created by an Export Tag Join) will now correctly export to PDF.
NCCB-2488	exportTags	Export Tags fails to join with latest BPassword Hashing Changes	<p>Due to the new password enhancements, in AX 3.6 version 3.6.401, AX 3.7 version 3.7.105 and AX 3.8 version 3.8.15 a user is required to enter a 'Default Subordinate User Password' alongside the existing 'Default Subordinate User' Property under a Export Tag's Join Profile. This extra information is needed because it can no longer be extracted from the JACE's local User Service database.</p> <p>Please note, the Subordinate username and password is passed to the Supervisor so that the JACE can tell Supervisor how to authenticate back to the JACE if that information is not already available.</p>
NCCB-2597	exportTags, niagaraDriver	Niagara Driver Proxy Points and Export Tag Join cause Station dead lock.	From AX 3.8, AX 3.7 version 105 and AX 3.6 version 402 onwards, Niagara Driver Proxy Points should no longer cause Station deadlocks when they go into subscription.

NCCB-4515	exportTags	Web service resolves folder name to incorrect ord -- ExportTags suffer	<p>From AX 3.7 version 201 and AX 3.8 onwards, the default Station directory name for File and Px Export Tags is 'nstations' instead of 'stations'.</p> <p>This change was made due to some issues loading exported Supervisor Px Views in Hx. By changing the default directory to 'nstations', the Station will load any associated files (i.e. images on an exported Px page) from the intended Station directory.</p>																																				
NCCB-1948	file	Sys.getRegistry().getFileTypes does not return BVideoFile for video files	<p>Starting in version 201 of Niagara, many popular video and audio file extensions are recognized. Microsoft Open XML Format (docx, pptx, xlsx) files and more Microsoft Visio documents are recognized as well.</p> <p>The complete list of added extensions and MIME types is listed below:</p> <table><thead><tr><th>Extension</th><th>MIME Type</th></tr></thead><tbody><tr><td>aac</td><td>audio/aac</td></tr><tr><td>avi</td><td>video/avi</td></tr><tr><td>docx</td><td>application/vnd.openxmlformats-officedocument.word</td></tr><tr><td>flv</td><td>video/x-flv</td></tr><tr><td>f4a</td><td>video/x-flv</td></tr><tr><td>f4b</td><td>video/x-flv</td></tr><tr><td>f4p</td><td>video/x-flv</td></tr><tr><td>f4v</td><td>video/x-flv</td></tr><tr><td>mpa</td><td>audio/mpeg</td></tr><tr><td>m1a</td><td>audio/mpeg</td></tr><tr><td>m2a</td><td>audio/mpeg</td></tr><tr><td>mp1</td><td>audio/mpeg</td></tr><tr><td>mp2</td><td>audio/mpeg</td></tr><tr><td>mp3</td><td>audio/mpeg</td></tr><tr><td>m4a</td><td>audio/mp4</td></tr><tr><td>mpeg</td><td>video/mpeg</td></tr><tr><td>mpe</td><td>video/mpeg</td></tr></tbody></table>	Extension	MIME Type	aac	audio/aac	avi	video/avi	docx	application/vnd.openxmlformats-officedocument.word	flv	video/x-flv	f4a	video/x-flv	f4b	video/x-flv	f4p	video/x-flv	f4v	video/x-flv	mpa	audio/mpeg	m1a	audio/mpeg	m2a	audio/mpeg	mp1	audio/mpeg	mp2	audio/mpeg	mp3	audio/mpeg	m4a	audio/mp4	mpeg	video/mpeg	mpe	video/mpeg
Extension	MIME Type																																						
aac	audio/aac																																						
avi	video/avi																																						
docx	application/vnd.openxmlformats-officedocument.word																																						
flv	video/x-flv																																						
f4a	video/x-flv																																						
f4b	video/x-flv																																						
f4p	video/x-flv																																						
f4v	video/x-flv																																						
mpa	audio/mpeg																																						
m1a	audio/mpeg																																						
m2a	audio/mpeg																																						
mp1	audio/mpeg																																						
mp2	audio/mpeg																																						
mp3	audio/mpeg																																						
m4a	audio/mp4																																						
mpeg	video/mpeg																																						
mpe	video/mpeg																																						

			mpg video/mpeg mpv video/mpeg m1v video/mpeg m2v video/mpeg mp4 video/mp4 m4b video/mp4 m4p video/mp4 m4r video/mp4 m4v video/x-m4v mov video/ quicktime qt video/ quicktime pptx application/ vnd.openxmlformats- officedocument.prese ogx application/ ogg oga audio/ogg ogg audio/ogg opus audio/ogg spx audio/ogg ogv video/ogg vst application/ vnd.visio vss application/ vnd.visio vsw application/ vnd.visio wav audio/wav wave audio/wav webm video/webm wmv video/x-ms- wmv xlsx application/ vnd.openxmlformats- officedocument.sprea
NCCB-1675	fox	Improve error message when foxs tunneling fails due to unapproved hosts in certificate management	Starting in Niagara 3.7, encrypted fox communication (foxs) is supported. It is also possible to tunnel over foxs, but in order to do so, all connections across the tunnel must be accepted (ie. in the certificate management views of all hosts involved, the hosts must be allowed to connect to one another).

In cases where the hosts are unapproved, when attempting to make a foxs connection, you will get an exception in Workbench similar to the following:

Cannot display page /

Target not found:

javax.baja.naming.UnresolvedException: foxs:/10.10.14.227

at

com.tridium.fox.sys.BFoxsScheme.re

at

javax.baja.naming.BOrd.resolve(BOrd

at

javax.baja.naming.BOrd.resolve(BOrd

at

com.tridium.workbench.shell.BNiagar

at

com.tridium.workbench.shell.NHyperl

at

com.tridium.workbench.shell.NHyperl

at

com.tridium.workbench.shell.BNiagar

at

com.tridium.workbench.shell.BNiagar

at

com.tridium.workbench.auth.AuthUtil.

at

com.tridium.workbench.auth.BCnxHa

\$CnxCommand.doInvoke(BCnxHandl

at

javax.baja.ui.Command.doInvoke(Cor

at

javax.baja.ui.Command.invoke(Comm

at

javax.baja.ui.BActionMenuItem.doInv

at

javax.baja.ui.BActionMenuItem.doCli

at

javax.baja.ui.BMenuItem.mouseRelea

at

javax.baja.ui.BWidget.fireMouseEven

at

com.tridium.ui.awt.MouseManager.fir

at

com.tridium.ui.awt.MouseManager.fir

at

com.tridium.ui.awt.MouseManager.re

java.io.EOFException:

EOF

at

com.tridium.fox.message.MessageRe

at

com.tridium.fox.message.MessageRe

```
at
com.tridium.fox.message.MessageRe
at
com.tridium.fox.session.FoxFrame.re
at
com.tridium.fox.session.FoxSession.r
at
com.tridium.fox.session.FoxSession.r
at
com.tridium.fox.session.Tuner.openC
at
com.tridium.fox.session.Fox.open(Fox
at
com.tridium.fox.sys.BFoxClientConne
at
com.tridium.fox.sys.BFoxSession.com
at
com.tridium.fox.sys.BFoxsScheme.re
at
javax.baja.naming.BOrd.resolve(BOrd
at
javax.baja.naming.BOrd.resolve(BOrd
at
com.tridium.workbench.shell.BNiagar
at
com.tridium.workbench.shell.NHyperl
at
com.tridium.workbench.shell.NHyperl
at
com.tridium.workbench.shell.BNiagar
at
com.tridium.workbench.shell.BNiagar
at
com.tridium.workbench.auth.AuthUtil.
```

Unfortunately, as you can tell from the message above, there is not a way to propagate a useful error message back to the client (Workbench) when the proxy station doesn't have approval to connect to the target station, so the best that can be done is for an improved error message to appear in the fox log available from the proxy station's remote spy. Starting in Niagara 3.8, when this condition exists, the following error message will exist in the proxy station's remote fox spy (Remote Spy -> Remote Station -> fox -> Fox Log Index ->

			<p>then choose one of the Rejected links for the failed tunnel connection):</p> <p>java.io.IOException: java.io.IOException: SSLHandshakeException: java.security.cert.CertificateException: failed certificate validation, failed hostname validation, Could not establish tunnel connection. Please check the certificate management configuration on this proxy host (station 'stationName'). You might need to approve the target host (targetHostName/ ipAddress) as an allowed host for encrypted communication.</p>
NCCB-3440	fox	Add Action to FoxService to Reset ALL active connections	<p>In AX 3.7U1 and later, the Fox Service now has an action for resetting all active fox connections. This is useful for cases where it's necessary to confirm that a stations fox connections have been reset. For example, when switching to fox over ssl with allowed host exceptions.</p>
NCCB-7717	fox	BFoxClientConnection lastConnectTime & lastDisconnectTime to be transient	<p>In Niagara AX fox module versions up to, and including 3.6, 3.7 , 3.8 and 4.0, the non-critical flag is not set on the lastConnectTime & lastDisconnectTime property of BFoxConnection . This results in unnecessary writes to the critical data recovery service each time the value of the lastConnectTime & lastDisconnectTime property is updated. The fox module has been changed beginning with 3.6, 3.7 , 3.8 and all subsequent versions, so that the lastConnectTime</p>

			<p>& lastDisconnectTime property of BFoxConnection is marked with the non-critical flag. This will prevent the usual updates that occur during connect and disconnect to a device from triggering writes to the critical data recovery service unnecessarily.</p>
NCCB-3142	gx, workbench	Enable font names in Workbench selection elements to appear in a users Native language	<p>With the Niagara AX 3.8 enhancements for Asian language support, this fix enables the display of font names in the font field editor using the workbench locale language. Note that the value for the font name (once selected) will remain in English. This maintains backward compatibility and allows consistent execution of PX applications independent of locale.</p>
NCCB-3549	gx	BFontFE selecting Sans Serif saved as Tahoma	<p>In 3.7 Update 2, 3.8, and later, a bug has been fixed where selecting the "SansSerif" font family in the BFont field editor would pre-resolve to the rendered font (Tahoma, DejaVu, etc.) before being saved. Font families will now correctly save with the selected font family name rather than the concrete font name.</p> <p>Please note that font families (Serif, SansSerif, MonoSpaced, Dialog, and DialogInput) will have the displayed concrete font selected at runtime and may change depending on Workbench theme and your selected locale.</p>
NCCB-941	gx	Animated gif's are irregular (performance) NOT Animating	<p>Starting in 3.7, it could be possible that animated images (.gif files) on px views might display irregularly (ie. visible hesitations/performance</p>

			issues). The problem would manifest itself when the same animated image was used in multiple places within the same px view. In such cases, you might notice that one of the images would behave properly, but additional ones might perform irregularly. This problem has now been fixed, starting in 3.7U1 and 3.8.
NCCB-11040	history	QNX's case-sensitivity causes problems with renamed histories	<p>In AX 3.8 versions 3.8.38 and earlier, when history is renamed to a new name with only difference in case then after station restart history import of that ID goes into fault at supervisor and then does not allow user to even discover and add newly renamed history. It also prevents history DB maintenance in supervisor station. Example of such rename is "numericWritable" to "Numericwritable".</p> <p>This fix will allow user to discover history and allow database maintenance in that case as well.</p>
NCCB-11051	history, hx	All nav tree nodes are expanded when viewing History Chart Builder with Hx User	From Niagara AX 3.8.39 onwards, the tree in the Hx History Chart Builder is now expandable. This provides users with an easier way to manage a large number of histories in a Station from within the Hx History Chart Builder.
NCCB-1524	history, pdf	pxInclude in px with chart fails to render on export to pdf	In AX 3.7, a history chart included in a PX page would not export to a PDF file correctly. The history chart has its own PDF exporter, which creates a full-page history chart rendering inside a PDF file. This same exporter was also used when a history

			<p>chart is included in a PX page and exported.</p> <p>Versions 3.7.105 and later allow the history chart to retain its position when it is part of a PX page and exported to a PDF file.</p>
NCCB-1656	history	Hx Profile:- History Chart Builder - switching to Navigation view & collection table, doesn't work when user logs in as Read Invoker	<p>Prior to Niagara 3.8, if you logged in as an Hx user in a browser, and your user did not have admin write permissions, you would not be able to open the 'Collection Table' or 'Nav Container View' on certain objects (such as the History space). This was inconsistent with the behavior a similar Workbench or Wb Profile user would experience, as they would be able to open these views. Starting in Niagara 3.8, this is now fixed such that an Hx user without admin write permissions is allowed to open these views from a browser.</p>
NCCB-3673	history	Metadata Browser does not remove metadata from histories whose source is local to the station where the change is made	<p>Starting in builds 3.5.36, 3.6.36, and 3.7.7, it was possible that trying to remove metadata properties from histories (ie. using the Metadata Browser view) would not work on the first attempt. A second attempt would remove the metadata property from the histories. In 3.8, this defect has been resolved, such that metadata property removals from histories will work on the first attempt.</p>
NCCB-5367	history	Appends to a history during a station save can cause a deadlock	<p>Starting in Niagara 3.7, it was possible that a history deadlock could occur if history appends were occurring at the exact same moment that a station save job was attempting to save the history. In this rare race</p>

			condition, you would have to kill your station and restart. Starting in 3.7U2 and 3.8, this potential deadlock scenario has been resolved. The fix is also included in the 3.7.106.1 history patch for 3.7U1.
NCCB-64	history, mobile	Niagara mobile history app should use history display names so that the histories are easier to identify	From AX 3.8 and AX 3.7 version 3.7.105 onwards, the Niagara Mobile History App will now use history display names.
NCCB-751	history	Renaming a history from the history menu agent doesn't work as expected; it should be removed	<p>Starting in AX version 3.8 and later, the right-click command to 'Rename' a history has been removed. Due to behavior that frequently didn't meet with user expectations, it was decided that the command should be removed entirely in order to prevent unintended consequences. In particular, the command only renamed the history in the history space, so the next time the source of the history (ie. a history extension on a control point or a history import/export descriptor) triggered a new collection, it would recreate the old history with the old name. The end result would be that the history was split, not renamed as the user might expect.</p> <p>The proper way to rename a history is to rename it on the source of the history (ie. the source history extension or history import/export descriptor). For example, this can be done using the History Extension Manager view on the HistoryService.</p>
NCCB-898	history	History Record Popup window does not correctly display lexicon baja:timeFormat	In AX versions 3.6.406 and earlier and 3.7.106 and earlier, the default timeFormat in the

			<p>Chinese baja lexicons (zh and zh_CN) was not acceptable for the context sensitive time formatting that Niagara performs at runtime. Starting in 3.6.501, 3.7.201, and 3.8 and later, as a workaround, the default timeFormat for Chinese baja lexicons was changed to the following format:</p> <p>timeFormat=YYYY-MMM-D HH:mm:ss a z</p>
NCCB-923	history, hx	The 'Live update' and 'Delta' Buttons are not displayed fully and are not working when a History Chart is viewed in an HX view.	From AX 3.7 version 105 onwards, the 'live update' and 'delta' buttons now work on a Hx History Chart.
NCCB-101	hx, report	Cannot scroll inner div in some mobile browsers	<p>Most mobile browsers support scrolling scrolling inner divs on their own, but some do not. IOS4.0 and older supports inner div scrolling, but only with 2 fingers, but most people don't know about it. Android 2.3's browser (and older versions) do not support it at all.</p> <p>For this issue, inner div scrolling has been added for these particular browsers for commonly used HxPxWidgets like ScrollPane, HxHistoryTableView and report:HxPxReportPane. If a developer wants to add innerDiv scrolling for these browsers to their own widgets, an HxUtil function has been added that the developer can utilize:</p> <pre>HxUtil.addTouchScroll(St elemId, HxOp)</pre>
NCCB-10130	hx	BHxGenericFE does not handle unbound bindings exception in process method	In Niagara 3.8.38 and earlier, BHxGenericFE only correctly handled an unresolvable binding

			ord if it was NULL. Now in 3.8.38.3 hx.jar, BHxGenericFE has been modified to correctly handle unresolvable binding ords that are non-NULL as well.
NCCB-1017	hx, kitPx	HxPxLabel does not support wordWrapEnabled property	HxPxLabel now supports the wordWrapEnabled property in 3.8+
NCCB-2630	hx, smartTableHx, touchscreen	Text Selection is not disabled in Touchscreen keyboard for browsers like chrome	From AX 3.8 and later, selecting some rows in the Touch Hx Alarm Console will not cause text to be incorrectly highlighted in Google's Chrome Browser. This fix has been applied across board in Hx to prevent text in Hx from being incorrectly highlighted.
NCCB-2695	hx	hx: I want different colors to be used for each Enum in a Schedule View so I can easily differentiate between the values being used.	<p>In AX 3.8, EnumSchedules in Hx are now color coded to make it easier to identify the different Enum values. Each value will receive its own color from a default palette of 14 colors.</p> <p>You can specify your own default palette by creating lexicon entries. Simply create entries in the "schedule" lexicon with names "EnumSchedule.colors.0", "EnumSchedule.colors.1", etc. If you need more than 14 colors, you may specify as many as you like in this way. For null values, use "EnumSchedule.colors.null." These lexicon values will apply across the board to all EnumSchedules.</p> <p>You may also make a color palette specific to an individual EnumSchedule. To do this, edit the EnumSchedule's facets, available in Workbench on the "Properties" tab. Create a new facet named "colors" with an</p>

			<p>EnumRange type. You may now specify colors for each value in your Enum - the "colors" ordinal should correspond to the "range" ordinal, and the value should be a color.</p> <p>For instance, say your EnumSchedule was backed by the FrozenEnum range "driver:PollFrequency". This range has three values: fast, normal, and slow with ordinals 0, 1, and 2 respectively. Say I wanted "fast" to display in red, "normal" to display in green, and "slow" to display in blue. I would create a new "colors" facet with type EnumRange, and give ordinal 0 a value of "red", ordinal 1 a value of "green", and ordinal 2 a value of "blue".</p> <p>BooleanSchedules also support color customization. Follow the same directions as above, but use ordinal 0 for false and 1 for true. The lexicon values will be "BooleanSchedule.colors.0", "BooleanSchedule.colors.1", and "BooleanSchedule.colors.null".</p> <p>Note that all colors can be specified as any string that can be parsed by BColor: color names like "red" and hex strings like "#F00" (RGB), "#FF0000" (RRGGBB), and "#FFF00000" (AARRGGBB) all work.</p>
NCCB-3054	hx	hx: AbsTime and Time period shift forward 1 hr when non default locale is used	Between 3.5R and 3.7U1, clicking save an AbsTimes in hx when the locale is using a 24h TimeFormat will cause that AbsTime to shift 1 hour forward on

			<p>each save. This includes the hx property sheet and the hx scheduler.</p> <p>To workaround this issue, use the default "am/pm" TimeFormat for hx users.</p>
NCCB-3509	hx	HxUserManager does not respect user prototype when creating users	From AX 3.8, the HxUserManager will now use the Default Prototype to populate the default values for fields when using the New Command. This replicates behavior in the WbUserManager.
NCCB-3620	hx	'Live Update' and 'Delta' buttons not showing completely for Hx history chart/table views on JACE	<p>From AX 3.8, the 'Live Update' and 'Delta' buttons on an Hx History Chart View on a Px will appear correctly.</p> <p>Before this fix, the buttons could appear as being squashed when the Hx History Chart View was used on a Px page.</p>
NCCB-3899	hx	HxOverrideFE does not enforce maxOverrideDuration facet for ControlPoints	From AX 3.6 version 3.6.501 and AX 3.7 version 3.7.201 onwards, any overridden points will use a Control Point's maxOverrideDuration facets when invoking an override Action from Hx.
NCCB-3938	hx	Hx Exception Messages with newlines do not properly display	<p>From AX 3.8 onwards, error messages with Java Exception information will display properly.</p> <p>Prior to this fix, any new line characters in the Exception information would not render correctly.</p>
NCCB-3968	hx	BHxRelaxedFE provides bad defaults for "Relaxed Until" when set to Strict and Always	BHxRelaxedFE now provides a 30-day alternative default for the "Relaxed Until" value if your Fox Legacy Authentication is set to 'Strict' or 'Always'. This just replicates the workbench field editor behavior correctly in hx.

NCCB-4545	hx	Non-Chrome browsers have no tooltip for Hx SmartCommands	Tooltips now display again for SmartCommands
NCCB-4549	hx	HxOverrideFE should provide maxOverrideDuration as default time period	HxOverrideFE will now default the time period to the maxOverrideDuration if present.
NCCB-648	hx	hx: Clicking play after refresh throws "Already Subscribed" Exception	<p>Prior to this fix, clicking the Hx Charting 'Live Update' button could cause errors.</p> <p>This has been fixed from AX 3.7 version 3.7.44.5, AX 3.6 version 3.6.47.12, AX 3.5 version 3.5.404 and onwards.</p>
NCCB-673	hx, svg	ImageButton does not show the "image" property in HxPx	<p>In Hx 3.7 and previous, the "image" and "normal" properties of Hx ImageButtons behaved differently than their Workbench equivalents. In 3.8, Hx ImageButtons now prioritize their different image slots in a way that more closely matches Workbench.</p> <p>Note that in a browser, the mouse listener is registered on the actual image, not the button itself. This means that in Hx, a button with no "image" or "normal" properties will not respect "mouseOver" or "pressed" since there is no image to receive those mouse events. If you wish for the default appearance of an Hx button to have no image, but to display an image when moused over or pressed, you should use a blank, transparent image as the "image" or "normal" property.</p>
NCCB-743	hx	Number format exception on IE10 (Surface RT)	Attempting to zoom in on an HxPx page in IE10 and clicking the mouse is problematic in Niagara 3.6 Update3-. This is because all other browser gives integer values and IE10 gives float numbers which

			is not expected. Accepting float numbers for IE10 has been corrected in 3.7 Update 1+.
NCCB-850	hx	IE10RT does not support Canvas plugin which breaks HxPx pages that require <canvas>	IE10 does not support any hpxx widgets that require a <canvas> dom element in 3.6 Update 3-. IE9- and other browsers work fine.
NCCB-896	hx	HxTableView doesn't use slot facets for field editor creation	<p>Prior to AX 3.7 Update 1 and AX 3.8, field editors specified in BFacets were ignored in BHxTableView and its sub-classes.</p> <p>In AX 3.7 Update 1 and AX 3.8, this has been corrected such if there is an HxFieldEditor registered on the WbFieldEditor, the HxFieldEditor is now properly used. If no such HxFieldEditor is registered, BHxTableView will use default field editor for that Type.</p> <p>Fixing this problem has allowed the Hx User Manager to start using the correct field editor so that it starts enforcing the User Service's configured Password Strength like the Hx Property Sheet was already doing.</p>
NCCB-901	hx	New Users created in the HxUserManager are created with no password	From AX 3.7 version 103 and onwards, new Users created in the Hx User Manager View will now require a password based on the Station configured password strength.
NCCB-922	hx	It is not possible to edit 'Events' of a schedule when it is viewed in an HX view.	Weekly scheduler widgets embedded in Px pages, when viewed with Hx in Internet Explorer, encountered some misalignment problems when expanding the "Add Event" block. In AX 3.7 Update 1 and later, this behavior has been fixed.

NCCB-2577	icons	Web Profile - PxInclude under the Widget tree display with cross mark	In AX 3.8, PxIncludes now show their icon correctly in the Px widget tree when using the Palladium theme.
NCCB-3109	icons	Picture icon shows as red X in Palladium theme	In AX 3.8, BPicture widgets now have their icon set correctly (in the Px widget tree and in the right-click menu) when using the Palladium theme.
NCCB-1003	kitControl	MinMaxAvg component outputs do not accept facet settings	In AX 3.5 versions 3.5.39.1 and earlier, AX 3.6 versions 3.6.47.1 and earlier, and AX 3.7 versions 3.7.44.5 and earlier, the outputs of the MinMaxAvg component in kitControl do not accept facet settings. You can set the facets but the settings are not taken by the output slots. In later versions when you set the value of the facets slot, the output slots use the facets that you have specified.
NCCB-1561	kitControl	kitControl-util - MinMaxAvg any input value NaN makes output NaN	<p>In AX 3.8.10 and earlier, kitControl's MinMaxAvg component passes any input value of NaN to its output property. This makes it difficult to cascade MinMaxAvg components.</p> <p>In AX 3.8.11 and later, input NaN values will be ignored.</p>
NCCB-1689	kitControl	SequenceLinear Delay Time not working properly	<p>In AX versions 3.8.10 and earlier, the SequenceLinear's Delay Time function isn't being applied to the first stage output quite as expected. If the input goes from zero (no outputs on) to the point at which the first output turns on and then back to zero, the first output will turn on and then off without applying the delay time.</p> <p>In AX versions 3.8.11 and later, the time delay function is enforced for</p>

			the first output's on to off transition.
NCCB-9493	kitControl	BElectricalDemandLimit class contains hard-coded text -- not lexicon references	<p>In AX 3.6 versions 3.6.406 and earlier, AX 3.7 versions 3.7.106.1 and earlier, and AX 3.8 versions 3.8.38.1 and earlier, the ElectricalDemandLimit component in kitControl did not allow the translation of status messages to languages other than English. ElectricalDemandLimit in versions 3.6.406.1, 3.7.106.2, 3.8.38.2, and later support Lexicon references, so translations of the status messages can be made.</p> <p>There is no workaround for affected versions.</p>
NCCB-8398	kitPx	Unbound ActionButtons in Hx cause strange behaviour when used in a PxInclude	In Niagara 3.8.38 and earlier, BHxActionBinding only correctly handled an unresolvable binding ord if it was NULL. Now in 3.8.38.1 kitPx.jar, BHxActionBinding has been modified to correctly handle unresolvable binding ords that are non-NULL as well.
NCCB-96	kitPxGraphics	New graphics in kitPxGraphics for 3.8	<p>In AX 3.8, a number of additional graphical widgets have been added to the kitPxGraphics module:</p> <p>Dampers/Actuators</p> <p>This folder contains full-size, high-detail images of Belimo, JCI, and Siemens actuators. It also includes small images of these actuators, intended to be dropped on top of the other widgets in the Dampers folder.</p> <p>Misc/ERV</p>

			<p>An animated ERV widget. Drop the static widget Misc/ERV/Erv onto your Px page, and then drop the animated Misc/ERV/BottomFan and Misc/ERV/TopFan widgets on top of it, as needed.</p> <p>Misc/FCU</p> <p>An animated FCU widget. Drop the static widget Misc/FCU/Fcu onto your Px page, and then drop the animated Misc/FCU/CoolingCoil, Misc/FCU/Fan, and Misc/FCU/HeatingCoil widgets on top of it, as needed.</p> <p>Misc/JACE</p> <p>Static images of JACEs in three different sizes.</p> <p>Misc/UIElements/Alarms/Alarm1 Misc/UIElements/Alarms/Alarm2</p> <p>Animated widgets to indicate alarm status.</p> <p>Sensors/SensorElecmt Sensors/SensorWatermtr</p> <p>Static widgets for electric meters and water meters.</p>
NCCB-1002	ldap	Ldap module error message (WebService) is incorrect.	<p>In NiagaraAX 3.7 and earlier, the LdapUserService displayed an incorrect error message on the station output when trying to log in via the web using cookie-digest authentication. The error said: "Digest authentication is not supported by the LdapUserService, please change the authentication property of the FoxService to basic."</p>

			In NiagaraAX 3.8, the error message has been changed to: "Cookie-digest authentication is not supported by the LdapUserService, please change the authentication property of the WebService to basic or cookie."
NCCB-1951	ldap	LDAP user service does not support password configuration features	<p>Starting in Niagara AX 3.7 update 2 and Niagara AX 3.8, the password configuration features (reset, expiration, and history) now apply to the LdapUserService and ActiveDirectoryUserService.</p> <p>Local users (such as the admin user) can now use all the password configuration features. These features do not apply to LDAP users - their passwords are managed by the LDAP server, not the station.</p> <p>Other subclasses of UserService may also use the password configuration features. By default, this is enabled for all users. To disable this behaviour, override the canUserPasswordFeatures(BUser user) method in the UserService subclass. It should return false if the user should not be able to use the password configuration features.</p>
NCCB-2323	ldap	Copy Kerberos Configuration File in /jre/lib/ security upon installation option: "copy settings from previous"	Starting in AX 3.8, the Windows Installer copies Kerberos Configuration files from previous installations.
NCCB-361	ldap	Using localhost in browser url prevents login	In AX 3.7 versions 3.7.46.5 and earlier, AX 3.6 versions 3.6.301 and earlier, AX 3.5 versions 3.5.402 and earlier, browsers can get into a state in which they do not

			<p>allow a user to log in using a previously used domain in the URL (e.g. localhost), due to incorrect modules being downloaded.</p> <p>In versions 3.7.101 and later, 3.6.302 and later, and 3.5.403 and later, the correct modules are downloaded and users can log in.</p>
NCCB-969	ldap, workbench	Open a station via File > Open > Open station should allow for Kerberos credentials	<p>Starting in NiagaraAX 3.8, the "Open Station" and "Open Platform" login dialogs have been changed.</p> <p>Previously, the user would enter all the required information (connection type, IP, port, username and password) in a single dialog. In NiagaraAX 3.8 and later, the dialog has been split into 2 steps. In the first step, the user enters the connection type, IP and port. In the second step, the user enters their credentials for the station.</p> <p>This change enables workbench to automatically display an appropriate credentials editor for stations that require a different form of credentials (e.g. Kerberos-enabled stations).</p>
NCCB-1702	lexicon	The Japanese sample text for "menu.search.label" is grammatically incorrect	In Niagara 3.8, the default Japanese lexicon module contains an updated "menu.search.label" text.
NCCB-2245	lexicon	niagaraLexiconZhcn.jar does not contain required font properties.	In 3.8, the default lexicon module for the zh_CN locale contains font specifications for usage in China.
NCCB-13636	lonworks	LearnNv removes Lon proxy points which contain underscore in the Nv name	For lonworks patch builds 3.8.38.3, 3.7.106.3, 3.6.406.3 doing a learnNv on a device which contained any nv with certain characters in

			the name such as '-' would remove the special character. If there was a proxy point associated with that nv it would be deleted. This is fixed in lonworks patch builds 3.8.38.5, 3.7.106.5, 3.6.502.2
NCCB-14323	lonworks	LonByteArrayUtil format number exception	LonByteArrayUtil.getBytes() could throw NumberFormatException when passed an undelimited hex string to convert. This was fixed in 4.0.17.8, 3.8.40.1, 3.7.109, 3.6.408
NCCB-1544	lonworks, platLon	Adding / removing or enabling / disable Lon Network may lock up station if there is no incoming lon traffic	In AX 3.6 version 3.6.305 and earlier, in some JACE platforms: deleting and then re-adding the LonNetwork can cause the station to be restarted. Although this is not a typical use case, it is not unusual. Once the JACE station has restarted, adding the LonNetwork again should proceed without issue. To avoid the unexpected station restart, upon deleting the LonNetwork, save the station and restart prior to re-adding the LonNetwork.
NCCB-3457	lonworks	KitLon object TodEvent updates incorrectly when MaxSendTime occurs	The TodEvent object in kitLon could send conflicting updates on schedule transitions. This was fixed in changes to kitLon and lonworks. The fixes to kitLon are in patch builds 3.8.38.1, 3.7.106.1 and 3.6.502.1. The fixes to lonworks are in patch builds 3.8.38.5, 3.7.106.5 and 3.6.502.2
NCCB-3996	lonworks	Nci's in Lon Somfy Animeo devices fail to write.	Some *.Inml files incorrectly contained networkVariables with a serviceType of request. The lonworks driver could attempt to update the nv as a request which could fail to write. Any Inmls with this condition were corrected.

			The lonworks driver was modified to prevent this such that in the creation or installation of InmIs, we only allow nv updates with valid service types. These changes were made in lonworks patch build 3.8.38.5 and 3.7.106.5.
NCCB-4195	lonworks	Lonworks device replace command does not work when using Service Pin	LonDeviceManager Replace action using servicePin would fail. This was fixed in lonworks patches 3.8.38.5, 3.7.106.5, 3.6.406.5.
NCCB-6502	lonworks	LonTodEvent object should accommodate nextEvent as an Enum from EnumSchedule	A new type, LonEnumTodEvent, was added to kitLon. LonEnumTodEvent has properties currentState and nextState as StatusEnums with enum type lonworks:LonOccupancyEnum. This change was made to kitLon 3.8.38.1, 3.7.106.1, 3.6.502.1
NCCB-8244	lonworks	Jace as a hosted node responds with wrong nv for the transaction id	The lonworks interface could get in a state where it could send an invalid response to an incoming message. This was observed on station receiving intense polling of nvs. This is fixed in lonworks patches 3.8.38.4, 3.7.106.4, and 3.6.406.4.
NCCB-9106	lonworks	LON XML tool strips out underscores in snvt names	During creation of Inml files from xif files, network variable names are modified to follow java naming conventions which includes removing "_". This was changed to leave underscores between adjacent fields of numbers (i.e. nviTemp23_45 was nviTemp2345 and is now nviTemp23_45). This was changed in Lonworks patches 3.8.38.3, 3.7.106.3, 3.6.406.3
NCCB-9181	lonworks	Lonworks Device LearnNv tool skips creating NVs that contain dash in the NV name	LearnNv would not learn nvs with a dash in the name. This was fixed in Lonworks patches

			3.8.38.3, 3.7.106.3, 3.6.406.3
NCCB-9353	lonworks	LearnNv action deletes proxy points	LearnNv action could delete some existing proxy points. This was fixed in Lonworks patches 3.8.38.3, 3.7.106.3, 3.6.406.3
NCCB-10976	mbus	Already parented exception when using history importer elements	In particular scenarios it is possible to get a AlreadyParentedException displayed on the application directors output from the station. These changes add additional protection measures to remove the ability for these to be caused.
NCCB-10980	mbus	Mbus gateway devices support requires 0xA2 Collision detection	Secondary addressing will not work well with devices that use a collision detection character such as 0xA2. This adjustment adds support for the 0xA2h in the secondary addressing algorithms as a collision marker. Secondary discovery of devices behind a gateway using 0xA2 should prove much more consistent.
NCCB-1015	mobile	Mob App: Schedule Commands button does not reset after Save	In the Mobile Schedule app in 3.8 and later, the button to add a new special event has been renamed from Save to Add to make it clear that no changes are pushed to the station at that time. To save the new special event to the station, either use the Save button on the main schedule view, or the Save command from the commands menu.
NCCB-1244	mobile	As a User, I want the shadow effect on my widgets to be optional for mobile px	From AX 3.8, the Niagara Mobile Blue and Lucid themes have no text shadows. Prior to this change, some of the text in Niagara Mobile was more difficult to read because of the text shadows.

NCCB-12928	mobile	Mobile profile with English units shows Metric units in Actions > Set dialog box	In Niagara 4, support for Units and UnitConversions has been added to BajaScript v2. As a result, bajaux and Mobile numeric field editors on points that are configured with a units facet will properly respect any user-specific unit conversion configured.
NCCB-1637	mobile	Getting App Error when we go back from "open Alarm source" to "Alarm Console"	From AX 3.8 version 3.8.15 and AX 3.7 version 3.7.201 onwards, clicking the Niagara Mobile back button from 'Open Alarm Source' to the 'Alarm Console' View will no longer cause an error dialog to appear.
NCCB-1682	mobile	Niagara Mobile History Chart breaks when selecting Time Range on HistoryExt view	In AX 3.7, there was a bug in the Mobile History app that would cause 404s when selecting different time ranges when directly viewing a History Extension component. This has been fixed in 3.7 Update 2 and 3.8.
NCCB-2689	mobile	Mobile Px Gradient Support	<p>From AX 3.8 onwards, Linear and Radial gradient support has been added to Mobile Px.</p> <p>The support is reasonably limited on IE 9 (and below). Radial gradients aren't supported and a linear gradient only supports 2 colors. If a radial gradient is used in IE (9 and below), the first color of the gradient will be used to render color.</p>
NCCB-2690	mobile	Mobile Px Bargraph support	<p>From AX 3.8, Mobile Px now supports kitPx:Bargraph.</p> <p>Not all of the features of a Bargraph are rendered in Mobile Px. The value and scale text won't be rendered. This is partly due to the size limitations one encounters when</p>

			engineering graphics for a smaller Mobile screen.
NCCB-2696	mobile	mobile: I want different colors to be used for each Enum in a Schedule View so I can easily differentiate between the values being used.	<p>In AX 3.8, EnumSchedules in the mobile schedule app are now color coded to make it easier to identify the different Enum values. Each value will receive its own color from a default palette of 14 colors.</p> <p>You can specify your own default palette by creating lexicon entries. Simply create entries in the "schedule" lexicon with names "EnumSchedule.colors.0", "EnumSchedule.colors.1", etc. If you need more than 14 colors, you may specify as many as you like in this way. For null values, use "EnumSchedule.colors.null." These lexicon values will apply across the board to all EnumSchedules.</p> <p>You may also make a color palette specific to an individual EnumSchedule. To do this, edit the EnumSchedule's facets, available in Workbench on the "Properties" tab. Create a new facet named "colors" with an EnumRange type. You may now specify colors for each value in your Enum - the "colors" ordinal should correspond to the "range" ordinal, and the value should be a color.</p> <p>For instance, say your EnumSchedule was backed by the FrozenEnum range "driver:PollFrequency". This range has three values: fast, normal, and slow with ordinals 0, 1, and 2 respectively. Say I wanted "fast" to display in red, "normal" to display</p>

			<p>in green, and "slow" to display in blue. I would create a new "colors" facet with type EnumRange, and give ordinal 0 a value of "red", ordinal 1 a value of "green", and ordinal 2 a value of "blue".</p> <p>BooleanSchedules also support color customization. Follow the same directions as above, but use ordinal 0 for false and 1 for true. The lexicon values will be "BooleanSchedule.colors.0", "BooleanSchedule.colors.1", and "BooleanSchedule.colors.null".</p> <p>Note that all colors can be specified as any string that can be parsed by BColor: color names like "red" and hex strings like "#F00" (RGB), "#FF0000" (RRGGBB), and "#FFF00000" (AARRGGBB) all work.</p>
NCCB-2918	mobile	Mobile Client Environment does not detect Android or Playbook devices by default	<p>In 3.8, the default user agent string for a mobile client environment is "mobile android playbook touch". This will properly detect iOS, Android, and Playbook devices as before, as well as Windows Surface tablets. Note that this applies for brand new stations only. With a station upgraded to 3.8, you can edit the user agent string by navigating to Services - WebService - Client Environments - Mobile Client Environment.</p>
NCCB-2947	mobile	MobileJavaScriptButton defaults to huge size	<p>From AX 3.8, the Niagara Mobile Px JavaScript Button now sizes appropriately when added to a CanvasPane on a Px page.</p>

NCCB-3053	mobile	Mobile History App does not use display names for history groups	In AX 3.8, the Mobile History app now displays history groups using their configured display names under HistoryService rather than their slot names.
NCCB-3141	mobile	Read only & Read/Write users can see but not view Mobile Alarm Console (exception thrown)	<p>From AX 3.7 version 201, AX 3.8 and later, the Mobile Alarm Console now correctly respects user permissions for viewing, acknowledging and forcing alarms to clear. This follows the same conventions as the Workbench and Hx Alarm Consoles.</p> <p>For 3.7, a user must have...</p> <ul style="list-style-type: none"> • operatorRead permissions to view a Mobile Alarm Console. • adminRead permissions on an alarm's associated Alarm Class in order to see the alarm in the Alarm Console. • adminWrite permissions on an alarm's associated Alarm Class Component in order to acknowledge or add notes to an alarm. • adminInvoke permissions on an alarm's associated Alarm Class Component in order to force alarms to clear. <p>For 3.8 and later...</p> <ul style="list-style-type: none"> • operatorRead permissions to view

			<p>a Mobile Alarm Console.</p> <ul style="list-style-type: none"> operatorRead permissions on an alarm's associated Alarm Class in order to see the alarm in the Alarm Console. operatorWrite permissions on an alarm's associated Alarm Class Component in order to acknowledge or add notes to an alarm. adminInvoke or adminWrite permissions on an alarm's associated Alarm Class Component in order to force alarms to clear.
NCCB-4022	mobile	mobile does not enforce maxOverrideDuration facet for ControlPoint.active/inactive	In 3.8 and later, mobile RelTime field editors will respect "min" and "max" RelTime facets in property sheet and Px. In addition, invoking an Override action on a Writable component will respect the "maxOverrideDuration" facet both on the Writable itself and on Station/sysInfo.
NCCB-4078	mobile	Setting invalid max facet displays wrong error message and takes too long in mobile property sheet	In Niagara 3.8 and later, any validation errors when saving a BFacets editor on the Mobile Property Sheet will display an error dialog instead of simply outputting to the console.
NCCB-413	mobile	Mob Sch:App error when user double clicks the Schedule save option	In AX 3.8, quickly double-tapping the Save button in the Mobile Schedule app no longer results in an error message.
NCCB-470	mobile	Saving a schedule on a slow network is susceptible to timeouts	In AX 3.7 Update 1 and later, the Mobile Schedule app is more resilient to a slow network connection

			when saving your changes to the station.
NCCB-671	mobile	Niagara Mobile History App ignores 'Show Home' and 'Show Logout' Profile Options when displaying Command dialog.	From AX 3.8 and later, the Commands for the Mobile History App will include a Log Out Command.
NCCB-689	mobile	Niagara Mobile save changes 'No' results is broken.	<p>From AX 3.7 version 103 and onwards, the Niagara Mobile Px 'Save Changes' Dialog box will appear as expected.</p> <p>Prior to this fix, the Mobile Px 'Save Changes' would not appear under certain conditions when navigating away from a page that had been modified.</p>
NCCB-87	mobile	Canvas Pane and Scroll Pane support for Mobile Px	<p>From AX 3.8 and later, a user can add a standard Scroll Pane or Canvas Pane to Mobile Px page. This enables Mobile graphics to utilize absolute positioning.</p> <p>Absolute positioning allows a user to position and size graphics to whatever fixed dimensions they require. Using absolute positioning, a user can create graphics that feature air handlers and duct work images. Since absolutely positioned graphics (using a Canvas Pane) are fixed in size, care should be taken by the user to ensure the graphics are appropriately sized for the targeted mobile device.</p> <p>The recommended way to use a Canvas Pane is in conjunction with the existing Basic Mobile Pane. Using smaller Canvas Panes on a Basic Mobile Pane, enables users to create small chunks of absolutely positioned graphics that will still auto size other</p>

			graphical elements to the size of the targeted Mobile device.
NCCB-895	mobile	Mobile PX app renders bound table at wrong size in browser.	In AX 3.8, the Mobile Px now shares its BoundTable implementation with the Mobile History app. When adding a BoundTable to a Mobile Px page, it now has better column headers, touch scrolling, and pagination.
NCCB-10037	modbus	ModbusTCP Slave reports zeroes on startup	In Ax versions 3.6.406, 3.7.106, and 3.8.38, on station start ModbusSlave and ModbusTcpSlave would start to respond to client register reads before the register map has been initialized. This change insures that the register map has been initialized before responding to client register reads.
NCCB-10429	modbus	ModbusTCP and ModbusTCP Slave restart issues	In earlier modbus server (slave) versions, holding registers and coil values written by a modbus client were not persisted through a reboot of the server station. This change will cause these register and coil values to be persisted through a reboot. Further, you can specify blocks of registers and coils to be persisted via the dataRecovery service. The resolution is included in the following modules and versions: modbusCore-3.8.38.3, 3.7.106.3, 3.6.406.3; modbusSlave 3.8.38.2, 3.7.106.2, 3.6.406.2; modbusTcpSlave 3.8.38.2, 3.7.106.2, 3.6.406.2
NCCB-10984	modbus	Resolution lost when writing signed 32 bit long value in ModbusTCP	in releases prior to AX 3.6.407, AX 3.7.107, AX 3.8.101, and AX 3.8.39, writing of modbus long values resolution was limited to 7 decimal digits when it should handle all numbers

			<p>between -2147483648 to 2147483647. Correction included in the following patched jar files::</p> <ul style="list-style-type: none"> • modbusCore 3.8.38.3 • modbusCore 3.7.106.3 • modbusCore 3.6.406.3
NCCB-3210	modbus	All network communication in driver is blocked while ModbusTcp is attempting to make a socket connection	<p>In AX ModbusTcp versions AX 3.5.39.1, AX 3.6.47.1, AX 3.7.44.5 an issue was introduced that blocked all modbusTcp communications when the modbusTcp driver is attempting to open a socket to a modbusTcp device. If the device is off-line this could block modbusTcp communications for over a minute.</p> <p>This issue is corrected in ModbusTcp versions AX 3.5.404, AX 3.6.404, AX 3.7.105, AX 3.8.19 and later.</p>
NCCB-3544	modbus	Regression: ModbusTCPGateway devices can no longer connect after fix for NCCB-3210	<p>In AX ModbusTcp versions AX 3.5.404, AX 3.6.404, AX 3.7.105, an issue was introduced that prevented modbusTcpGateway devices from connecting. They go down soon after creation. Non-gateway ModbusTCPDevices would work OK.</p> <p>This issue is corrected in ModbusTcp versions AX 3.5.406, AX 3.6.405, AX 3.7.201 and later.</p>
NCCB-6033	modbus	Disabling a ModbusTcpDevice will chew up CPU	<p>In ModbusTcp versions 3.6.406.1, 3.7.106.1, & 3.8.38.1 and some earlier versions, disabling a modbusTcpDevice will cause the CPU usage to increase. Repeated disables and enables</p>

			<p>will cause additional increments to CPU usage. In these same versions, a device created by duplicating a ModbusTcpDevice while its socketStatus is not closed, will not start communicating until the station is restarted.</p> <p>ModbusTcp patch modules with versions 3.6.406.2, 3.7.106.2, and 3.8.38.2, and also later release versions, correct for both of these issues.</p>
NCCB-2512	ndedicatedMicros	Requesting event list fails with null pointer except for DS2 dvr	Prior to AX versions AX 3.6.403, 3.7.105, 3.7.201 and 3.8.19, fetching event lists from Dedicated Micros DVR in the Playback View is failed with Null Pointer Exception due to synchronization issues in sending the requests to the DVR. This issue is resolved in later versions.
NCCB-3093	ndedicatedMicros	NDedicatedMicros fails to notify DVR of "startRecording" message due to NullPointerException	In AX 3.6 & 3.7 versions 3.6.402, 3.7.104 and earlier, NDedicated Micros driver fails to send "start recording" message to the DVR that is configured on the Alarm Extension. In versions 3.6.403, 3.7.105 and later will send this message properly.
NCCB-3127	ndedicatedMicros, videoDriver	Workbench/Fox/Station can get stuck in infinite wait when failing to contact DedicatedMicrosDisplay, potentially could cause WatchdogTimeout	Prior to AX Version 3.8.20, A Dedicated Micros Video Display component could block the main engine thread if communication with the DVR was down. Communication with the DVR has been moved to a background worker thread to mitigate this issue
NCCB-3951	ndedicatedMicros	ndedicated dvr doPing() fails if credentials are required when issuing the ping request	Prior to AX verions 3.6.306, 3.6.407, 3.6.501, 3.7.201, 3.7.107 and 3.8.20, ndedicatedMicros driver was not using the DVR credentials for HTTP requests and fails to

			communicate with DVRs having firmware version 04.5(069) and later. This is resolved in later versions by including credentials for all HTTP requests.
NCCB-4262	ndedicatedMicros	Dedicated Micros DS2 DVR cannot handle unencoded backslashes in URL when performing digest authentication	The Dedicated Micros Video Display component property sheet now contains a property for percent encoding requests to compensate for differences in the way digest authentication is handled by the SD Advanced and Digital Sprite 2 DVRs. Encoding needs to be enabled for requests issued to the SD Advanced to permit correct nonce calculations
NCCB-4270	ndedicatedMicros	ndedicatedMicros camera ping is always in "failed" state	Prior to AX versions 3.6.501 and 3.7.201, DVR health status was not updated with the ping success status for ndedicatedMicros. Health status was always shown as "Fail[null]" without any time stamp even though DVR status is OK and DVR is communicating. This behavior is corrected in AX versions 3.6.501 and 3.7.201
NCCB-4112	ndriver, workbench	Update Driver Wizard to only allow NDriver-based creation	Added support to NewDriver wizard for drivers based on NDriver. Removed support for new drivers based on BasicDriver and DevDriver which are being deprecated in 4.0. All new drivers should be built on NDriver. NDriver is an extension of the Niagara driver model with support for serial,udp,tcp,http comm stacks and basic manager views. This change was made in 3.8.30
NCCB-5205	ndriver	BNDiscoveryPreferences should not provide getNeedsJob()	The BNDiscoveryPreferences getNeedsJob() API was

			deprecated in ndriver 3.8.39, 3.7.202 & 3.6.503.
NCCB-5209	ndriver	BNDDiscoveryJob always ends in the same state	Ndriver discovery job was always ending in successful state even if the job was canceled or encountered an exception. Discovery job was fixed to correctly indicate canceled or failed states in Ndriver 3.8.39, 3.7.202 and 3.6.503
NCCB-1704	niagaraDriver, niagaraVirtual	Niagara Virtuals to BACnet virtuals fail to link if the Device Name includes slash '/' character	From AX 3.7 version 3.7.201 onwards, when discovering Slots using Niagara Virtuals, any Slot names that have '\$:/' will be skipped. Slot names with '\$:/' are now illegal in Niagara Virtuals.
NCCB-1882	niagaraDriver, niagaraVirtual	Niagara Virtuals to Niagara Virtuals doesn't result in Virtualized Control Points	From AX 3.7 version 201 onwards, Niagara Virtuals to Niagara Virtuals now results in Virtualized Control Points. A Virtualized Control Point will behave more like a normal Control Point on a Px page (i.e. one can animate the status of a Control Point).
NCCB-2195	niagaraDriver, niagaraVirtual	Niagara Virtuals causing Px pages to load slowly.	From AX 3.7 version 3.7.201 onwards, Px pages that use Niagara Virtuals will now load quicker due to some added optimizations. Before this change, Px pages with lots of ORDs that map to Niagara Virtuals could take a long time to load.
NCCB-2327	niagaraDriver, niagaraVirtual	Niagara Virtuals causes ClassCastException when partially loading an Action.	From AX 3.7 version 3.7.201 onwards, a user will not get any annoying error messages in Station output when loading a Px page that contains ORDs to Actions on Niagara Virtual Components.

NCCB-2620	niagaraDriver	NiagaraAlarmDeviceExt Worker does not start when transitioning from Disabled to Enabled	<p>In all versions of Niagara if a Niagara Station is auto-added to the Niagara Network (as a result of the remote station attempting communications with the local station), the Niagara Alarm Device Ext may fail to start properly when the new station is enabled. This results in alarms not being sent to the remote station.</p> <p>Starting in AX 3.5.501, 3.6.401, 3.7.105, 3.8.17 this issue has been resolved.</p> <p>As a workaround, the remote Niagara Station may be disabled then re-enabled in order to restore the remote sending of alarms.</p>
NCCB-3143	niagaraDriver	Down status does not propagate from Device to UserDeviceExt in Niagara Driver	A NiagaraNetwork's NiagaraStation has a User Device Extension. From AX 3.7 version 3.7.201, if the NiagaraStation goes into a 'down' state, this state will also be reflected in the User Device Extension's Status Property as well.
NCCB-3339	niagaraDriver	Workbench cannot load property sheet for NiagaraStation on a 3.5 or 3.6 station	When using a 3.7 Workbench to open 3.6 Stations, some problems were found when viewing a Niagara Driver's Virtual Gateway via the Property Sheet. These problems have now been resolved.
NCCB-3618	niagaraDriver	Changing prototype permissions does not set syncRequired	In Niagara, network Users can be synchronized between Stations. A network User can reference a User Prototype. Therefore, when a User is synchronized from Station A to Station B, certain Properties will be synchronized from the local Prototype User instead of the User. By

			<p>default, the 'permissions' and 'nav file' properties are picked up from the prototype user as these are most likely to be synchronized local to the target Station.</p> <p>In AX 3.8 versions 3.8.24 and onwards, modifying a User Prototype will cause the Niagara User Device Extension's 'syncRequired' to be changed to true. This will in turn resync any network users.</p>
NCCB-6744	niagaraDriver	NiagaraNetwork's worker thread pool is not coalescing cyclic work leading to the queue filling up	<p>In AX 3.8.35 and earlier, it was discovered that the cyclic work registered to the NiagaraNetwork's thread pool worker did not properly coalesce cyclic work, which could sometimes lead to the queue filling up and performance degradation issues (and possibly QueueFullExceptions in the station output). In AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.36 and later, this defect has been resolved such that duplicate work does not fill up the queue and lead to performance problems.</p>
NCCB-868	niagaraDriver	Supervisor loses links when station restarts	<p>From AX 3.7 version 3.7.201 onwards, the Wiresheet will stop a user from creating links to a Niagara Proxy Point Action (which is an unsupported feature).</p> <p>Prior to this fix a user could create links to Niagara Proxy Points. However, after a Station restart, the links would be lost. Due to the fact that Actions are a very poor way to create inter-Station logic, creating links between Niagara Proxy Points has been disabled.</p>

NCCB-1920	niagarad (Java)	Java niagarad RequestState structure does not add new status updates after the first entry	<p>In 3.7 releases prior to 3.7.201, the following could occur:</p> <p>On a PC running multiple stations simultaneously, only the first station started can be successfully copied onto a client Workbench PC. The second or later station can be selected in the Station Copier, but the Copier does not advance past the 'Saving station "<STATION_NAME>"...' step.</p> <p>The Application Director on both the server and client Workbenches show that the Save Station succeeded.</p> <p>The station is saving, but the Job Status is being incorrectly returned to the Workbench client. In releases after 3.7.201 and 3.8.11, this behavior has been corrected.</p>
NCCB-2180	niagarad (Java), platDdns	Java niagarad DDNS AsyncChangeLoopThread crashes daemon when socket error occurs in native layer	AX 3.7 version of Niagara Daemon will exit if provided an invalid DDNS configuration. This would prevent all future daemon communications until a platform reboot took place. Starting in AX 3.7.105, AX 3.7.201 and AX 3.8.13, the DDNS functionality has been reworked to correctly recover from an invalid DDNS configuration.
NCCB-2247	niagarad (Java)	Niagara Daemon does not set content type to "text/xml" when sending an XML error response	When the Niagara Daemon was ported to Java in AX 3.7, some of the existing error reporting functionality was incorrectly implemented. This has been corrected in AX 3.8.13. Specifically, the content type of HTTP message sent back to a client were incorrectly labeled text/html instead of text/xml. This caused the client to parse the

			message differently and specific error information was lost.
NCCB-2273	niagarad (Java), platform - General	platform module CommandUtil class unnecessarily localizes daemon exceptions	In versions of AX previous to 3.8.13, the Workbench client dialog process was duplicating the localization of error message reported by the Niagara Daemon. This behavior caused dialogs to be created that contained the same message twice. This behavior can be shown in the attached images. In versions including and after 3.8.13, the CommandUtil class will defer the localization of error messages to BDialog when it catches a localizable error.
NCCB-2522	niagarad (Java)	Pacman 22814: Loading/refreshing BPlatformAdmin view causes niagarad socket error	Prior to AX Version 3.8.15, a nuisance error message was printed to niagara daemon output every time the Platform Administration View was refreshed. This error caused no problems, but could be incorrectly associated with a legitimate error in the daemon. This message ("Software caused connection abort: recv failed"), is now corrected.
NCCB-2567	niagarad (Java), platDdns	platDdns trace enabled - SimpleDateFormat presentation issue	Prior to AX version 3.8.16, the output of the Niagara Daemon DDNS servlet was always incorrectly set to TRACE. The problem is merely cosmetic and causes noisy output from the daemon. In addition to this, one of the strings printed incorrectly demonstrated the next update time as a string with minutes in the place of months. Both problem have been corrected in AX 3.8.16. Neither have a functional impact on the behavior of DDNS.

NCCB-3305	niagarad (Java)	remote desktop using / admin switch crashes Niagara service on logout from rdp connection	Prior to AX Versions 3.7.201 and 3.8.20, a LOGOFF_EVENT generated by the logoff of a user in the Windows Administrators group would cause the niagara daemon process to exit unexpectedly. This behavior has been corrected. This behavior only existed in 3.7 and 3.8 Windows environments.
NCCB-3376	niagarad (Java), platform - General	station or niagarad running on Windows 7 sets invalid Time Zone	Prior to AX 3.8.19, the niagara daemon and station process failed to call SetDynamicTimeZoneInfo() on Windows 7 systems; instead, it called SetTimeZoneInfo(). This leads the Windows 7 installation to believe that the Time Zone is invalid. A workaround for this problem is to manually update the Time Zone in Windows 7+ through the Time and Date Manager.
NCCB-4255	niagarad (Java), platDaemon	Commissioning Wizard should enforce a change of digest platform credentials when using defaults	Beginning in AX 3.8, the Commissioning Wizard process will now force the user to change the JACE digest credentials if it determines that it is using the platform defaults. This enforcement will only occur when commissioning from a 3.8 JACE to a 3.8+ JACE, i.e. commissioning 3.8R to 3.8U1/3.8U2. You will not be forced to change the credentials when commissioning from a 3.7 or lower, i.e. commissioning 3.7U1 to 3.8R. This enforcement is to encourage good security practices.
NCCB-5927	niagarad (Java)	Niagara Daemon creates non-secure forwarding port when using sslOnly	Prior to Niagara AX 3.8, the Niagara Daemon would create a server socket on the non-secure

			daemon port (default 3011) when using the "SSL Only" configuration. The purpose of this socket was to forward non-secure requests to the secure port (default 5011). This non-secure server socket will no longer be created.
NCCB-5928	niagarad (Java)	Niagara Daemon does not create SSL socket by default	Prior to Niagara AX 3.8, the Niagara Daemon did not create a SSL server socket for workbench communications by default. Starting in 3.8, the Niagara Daemon will create both a secure and a non-secure server socket by default. If you wish to disable the non-secure socket, please set the Niagara Daemon to use the "SSL Only" option.
NCCB-7961	niagarad (Java)	CodeCache size in JIT enabled daemon is not bound	Prior to Niagara 4.0/3.8U1/3.7U2, the compiled code cache for the HotSpot virtual machine running the niagara daemon was not bounded, potentially resulting in exhausted system memory as the cache grew. This has been corrected.
NCCB-2479	nmilestone	XML parse exception for milestone response	In AX 3.6 & 3.7 versions 3.6.402, 3.7.104 and earlier, PTZ operations occasionally fail resulting in an XML parse exception in the station console. This has been resolved in AX versions 3.6.403, 3.6.403, 3.7.105.
NCCB-2511	nmilestone	Trying to load list of events for NMilestone DVR fails with exception	In AX 3.6 & 3.7 versions 3.6.402, 3.7.104 and earlier, NMilestone driver fails to load the events from DVR. In versions 3.6.403, 3.7.105 and later events are loaded from DVR and shown on click of "Events" button in Live/Playback view.
NCCB-3271	nmilestone	Starting/Stopping disabled Milestone network throws exceptions in station output	In AX versions 3.6.403, 3.7.104 and earlier, when the station is started that

			has a Milestone network with disabled status, there an error message shown in the station console. This has been fixed in the versions 3.6.404 and 3.7.105 and later.
NCCB-2473	nrapidEye	nRapidEye gives no clear indication that it's initialized	In AX versions 3.6.404, 3.7.105 and earlier, the initialization status of RapidEye driver with DVR was not shown. Starting in AX version 3.6.404 and 3.7.105, a property was added to the RapidEye DVR to show the Init Status.
NCCB-3297	nrapidEye	Cannot acknowledge alarms of type "Connect/ Disconnect - From SensorSession" for RapidEye DVR	In AX version 3.6.403, 3.7.104 and earlier, user are not able to acknowledge the alarms coming from RapidEye DVRs when a camera stream is started or stopped. Starting in AX version 3.6.404, 3.7.105 and later, users can now acknowledge these alarms.
NCCB-7308	nre	StationManager.createStation results in corrupt config.bog	Developer customers who use the javax.baja.platform.StationManager.c in the public platform API to create station configuration files will encounter "Cannot load station" errors when the station starts. The problem affects AX 3.8 version 3.8.37, and is fixed in version 3.8.38.
NCCB-2580	obix, obixDriver	oBIX client does not properly handle server error response codes	In Niagara installations using an obix module version earlier than the patch versions noted below, the HTTP response code is not handled properly in the case of a server Redirect. This can occur when you are using the Niagara AX obixDriver's oBIX client to connect to an oBIX server that does not accept the authentication the client presents programmatically.

			<p>In this event, because the redirect is not followed, you will be unable to connect. However, the connection does not fail fast, but continues trying to process from an empty input stream, eventually yielding a NullPointerException in the station output.</p> <p>The HTTP response code handling has been corrected, so that Redirect codes now fail fast, yielding a ping failure which is reflected along with the HTTP status code in the oBIX Device's pingHealth property.</p> <p>This patch was applied to the following versions: 3.5 update 4 (3.5.404) 3.6 update 4 (3.6.401) 3.7 update 1 (3.7.105)</p>
NCCB-5933	obix, obixDriver	oBIX requests may not timeout, leading to thread pool filling up and oBIX driver hangup	<p>When using the Niagara AX oBIX driver using the obix module version 3.6.405, 3.7.106, or earlier, especially when using a Java VM version 1.5 or newer, you may experience problems with the oBIX driver when communications are intermittent to the server devices. Because of a problem with determining the availability of timeout settings, the 'sessionTimeout' configured on the BOBixClient may not be correctly applied, and any requests to a nonresponsive device will wait forever for a response. This consumes a thread from the ObixThreadPool each time it occurs, until all worker threads are stuck waiting and no further oBIX communications can occur. The primary symptom of this condition is that things</p>

			<p>like ObixHistoryImports will be stuck "In Progress" or "Pending", and proxy point subscriptions will no longer occur. Already subscribed points <i>may</i> continue to update if the device remains responsive.</p> <p>Due to an improved method of configuring the timeout for the HTTP request, this problem has been fixed beginning with the 3.6.406.1 and 3.7.106.1 obix module. Niagara AX 3.6U5, 3.7U2 and later builds are also fixed and will not display the problem.</p> <p>Please note that the correction is applied in the obix module, not the obixDriver module.</p>
NCCB-1903	obixDriver	TimeZoneException: Unknown timezone: CST	<p>In Niagara installations using an obixDriver version earlier than 3.5.404/3.6.401/3.7.201/3.8.13, the ObixNetwork's oBIX Server reports the timezones of history timestamps using the "short name" rather than the "long name", also called the time zone ID. This is in noncompliance with the oBIX Specification itself. In some cases, the short name is unambiguous, and clients may still be able to correctly identify the time zone. But in other cases, such as for Central Standard Time, the short name "CST" is ambiguous and clients may not be able to identify the time zone. Notably, Niagara AX clients will throw a "TimeZoneException: Unknown timezone" when attempting to import histories from this server.</p>

			In updated versions of the obixDriver module 3.5.404, 3.6.401, 3.7.201, and 3.8.13, this problem has been corrected and the time zone is reported with its full name, e.g., "America/New York".
NCCB-2035	obixDriver	Obix Driver Should Serve Up Imported Niagara Histories Using The Original Timezone	<p>In Niagara installations using an obixDriver version earlier than 3.5.404/3.6.401/3.7.201/3.8.13, the ObixNetwork's oBIX Server does not serve its histories with the correct timezone in all cases. If the history was collected on a different machine, and then imported into Niagara using a HistoryImport such as a NiagaraHistoryImport, ObixHistoryImport or BacnetHistoryImport, the timezone of the history may be different than the timezone of the server station. This is displayed correctly in the workbench. But if this history is served to an oBIX client, the timestamps use the station's timezone instead of the timezone of the history.</p> <p>In updated versions of the obixDriver module 3.5.404, 3.6.401, 3.7.201, and 3.8.13, this has been corrected, and the server will correctly use the timezone of the individual history in reporting each history's records.</p>
NCCB-2582	obixDriver	Stale timer not reset on oBIX proxy points	In Niagara installations using an obixDriver module version prior to AX 3.5.501, AX 3.6.305, AX 3.7.105, AX 3.7.201, or AX 3.8.17, the successful polling of an oBIX watch will not reset the stale flag for proxy points whose value did not update. The lack of an update only means that the value did not change, but it

			should still be considered "fresh". In obixDriver module versions beginning with the patches listed above, the 'pollRefresh' operation available on the oBIX Watch is periodically invoked by the driver. This forces an updated value for all subscribed points, even those whose value has not changed. This will drive an update to all points with a valid subscription.
NCCB-2607	obixDriver	oBIX Server needs to include timezone in history record prototype	<p>In Niagara installations using an obixDriver version earlier than 3.5.404/3.6.401/3.7.105/3.7.201/3.8.13, the ObixNetwork's oBIX Server does not include the timezone information in the history record prototype added at the end of history query responses. If the history was collected on a different machine, and then imported into Niagara using a HistoryImport such as a NiagaraHistoryImport, ObixHistoryImport or BacnetHistoryImport, the timezone of the history may be different than the timezone of the server station. This is displayed correctly in the workbench. But if this history is served to an oBIX client, the timestamp in the prototype uses the station's timezone instead of the timezone of the history.</p> <p>In updated versions of the obixDriver module 3.5.404, 3.6.401, 3.7.105, 3.7.201, and 3.8.13, and patch version 3.6.50.3, this has been corrected, and the server will correctly use the timezone of the individual history in the record prototype.</p>
NCCB-3319	obixDriver	Niagara encoding of null control points is incorrect	Beginning with 3.6.501, 3.7.201, and 3.8.20, the Niagara oBIX encoding of

			<p>ControlPoints has been corrected for the case when the point's status is {null}. Previously, the individual slots reported the null status correctly, but the overall point never reported the 'null' attribute, even when the point's status was {null} . This applied both to the top-level point when it was accessed directly, and when the point was encoded as a <ref> when being accessed in a parent URI. The point's {null} status is now correctly reflected with the oBIX 'null' attribute.</p>
NCCB-3340	obixDriver	oBIX watch re-created when device disabled	<p>The inappropriate re-creation of an oBIX Points Watch upon disabling a device has been corrected. This problem existed in Niagara AX installations using obixDriver module versions beginning with 3.6.48, 3.6.301, and 3.7.103. When an ObixClient representing an oBIX server in a Niagara Station was disabled, the Points watch would be killed, but then immediately re-created. The effect was that the points would continue to be updated if the server was actually accessible. Beginning in 3.6.501, 3.7.201, and 3.8.20, this behavior has been corrected. When the ObixClient is disabled, the Points watch is killed and does not get recreated until the device is re-enabled.</p>
NCCB-3414	obixDriver	Obix alarm ack not working for NiagaraNetwork imported alarms	<p>The presentation and management to oBIX of alarms received by the station through the NiagaraNetwork has been corrected. Previously</p>

			<p>an alarm received by the station from the NiagaraNetwork could not be acknowledged by an oBIX client through the station's ObixNetwork server. The alarm would stay unacked but the client would receive a success response.</p> <p>Unfortunately there is no workaround for affected versions that will allow the alarm to be successfully acknowledged. It must simply be acknowledged from the supervisor console.</p> <p>This correction has been applied for 3.6U5, 3.7U2, and 3.8. It is also available in a 3.7.106.1 patch and for 3.7U1 versions 3.7.107 and greater.</p>
NCCB-3508	obixDriver	Obix Alarm Loop causes alarmDb corruption & disconnect.	<p>When setting up Niagara AX stations to deliver alarms via oBIX, it is especially important not to set up an "alarm loop". This occurs when alarms sent by one station are routed by a receiving station into an alarm class that the first station also pulls in. If this happens, the alarm databases for both stations can become corrupted, and oBIX communication will be disrupted. The recommended approach is to use different alarm classes for importing and exporting oBIX alarms, as well as for alarms to be managed within the station.</p> <p>Beginning with Niagara builds AX 3.5.406, AX 3.6.405, AX 3.7.106, this situation is handled more gracefully, without causing corruption of the alarm database.</p>

			<p>If you do find yourself with an alarm loop and a corrupted alarm database, you can recover from it with the following steps. You need to start only one station, remove the alarm using the AlarmService.AlarmDbMaintenance, remove the offending ObixAlarmImport, and stop the station. Then do the same with the other station.</p>
NCCB-4003	obixDriver	Niagara oBIX client decoding of null control points is incorrect	<p>Beginning with versions 3.6.501, 3.7.201, and 3.8.20 of the Niagara obixDriver module, the client decoding of null values is now fixed to correctly integrate the 'null' attribute to the {null} status bit. Previously, only the value was used. This was incorrect because the value is meaningless if the null attribute is true. This behavior has been corrected and if an oBIX proxy point reads an incoming object with the 'null' attribute equal to true, the point's status will be {null} .</p>
NCCB-4077	obixDriver	Cannot create ObixExport on fallback slot	<p>Beginning with versions 3.6.501, 3.7.201, and 3.8.20, the Niagara obixDriver ObixExports can be successfully created and linked to the fallback slot of the target point. Previously, both fallback (a valid choice) and na (an invalid choice indicating 'not yet configured') were allowed choices for the ObixExport 'priority' property. If either of these were selected, the export would go into a {fault} status with a fault cause of java.lang.IllegalArgumentException. This has now been fixed.</p>

			You cannot select 'na' as this is not valid. If you select 'def', the ObixExport is linked to the fallback slot of the target point.
NCCB-4095	obixDriver	ObixExport does not accept null writes	Beginning with versions 3.6.501, 3.7.201, and 3.8.20, the Niagara obixDriver ObixExport class will now correctly handle writes with the 'null' attribute set. Previously, the ObixExport would take the value from the incoming oBIX <obj>, but would ignore the null state. The class now responds appropriately.
NCCB-4503	obixDriver	oBIX history imports don't re-archive after missing due to comms failure	<p>Beginning with 3.7.106.3, oBIX HistoryImports will now go into</p> <p>{fault} status when their regularly scheduled import is skipped due to the parent device being down. This allows the retry trigger in the ObixHistoryDeviceExt to identify the skipped history imports, and they will be retried according to the retry trigger schedule. In addition, two hidden properties, retryDelay and retryGroupSize allow you to configure the amount of bandwidth that the import retries will use, by limiting them number of imports that can retry concurrently, and by the delay before retrying additional imports. Imports whose retry is skipped will simply remain in fault until the next retry trigger, so you will see the faulted imports come back to</p> <p>{ok} in groups as you specified in retryGroupSize. This change is available in Niagara AX obixDriver</p>

			<p>module versions 3.7.106.3, 3.7.201, 3.8.21 and later. If you are using an earlier version, and are experiencing the problem with history imports not re-importing after returning from device down, you can either use a larger buffer size on the server's log, or use a shorter import period, and simply import the data more frequently.</p>
NCCB-7413	obixDriver	Points lost from watch upon resubscription after network failure	<p>When using the Niagara AX OBIX driver in version 3.7.106, you may experience difficulties in maintaining and recovering point subscriptions if network communication is lost between the AX station and the OBIX server. This can appear in various behaviors, but points may be placed into polling mode and registered with the device's poll scheduler, or they may be stuck in an Unsubscribed subscription state, or they may even be marked as Subscribed, but not actually be part of the point watch. In this latter case, it may be difficult to identify that the condition has even occurred unless you are trending the point with a history extension and notice the lack of value changes.</p> <p>The behavior of the driver has been improved beginning with versions 3.7.106.4 and 3.8.39 of the obixDriver module. This is supported by versions 3.7.106.2 and 3.8.39 of the obix module, respectively (although it is not a strict dependency). Improvements to the driver include:</p>

			<ul style="list-style-type: none"> • Improved diagnostic information for determining point state and transitions • Verification of point subscriptions is performed whenever the subscription count and watch size do not match • Points that get marked stale or subscribed for polling are resubscribed with the watch • Point watch is no longer created when device is disabled • Refresh period is updated and point subscriptions are verified upon attaching point watch • Thread pool max thread count is set to at least the number of devices to improve performance <p>With these changes you should see improved stability and recovery of point watches during communication failures.</p>
NCCB-7879	obixDriver, web	reading and writing points via obix causes memory leak	<p>In NiagaraAX 3.8 release, 3.7 update 1 and 3.6 update 4, repeatedly connecting to a station using HTTP-Basic authentication could result in a memory leak, causing the station to eventually crash.</p> <p>In NiagaraAX 3.8 update 1, 3.7 update 2 and 3.6 update 5, the issue has been fixed, and memory is appropriately release</p>

			<p>no matter what kind of authentication is being used.</p> <p>For affected versions of Niagara, patches are available on Niagara Central.</p> <ul style="list-style-type: none"> • web 3.8.38.3 • web 3.7.106.13 • web 3.6.406.6
NCCB-10086	opc	string proxy point of array data type does not respect precision facet	In previous versions of Niagara before 3.6.503, 3.7.202 & 3.8.39, OPC driver limits the precision of a float array point value to 1 decimal point. This has been fixed in later versions to support upto 6 precision values.
NCCB-4191	opc	32 bit Install of AX is installing the 64 bit version of opc.dll	Ax version 3.7.106 installed on a 32 bit platform, contains 64 bit opc.dll in NiagaraHome\bin folder. This causes Opc Network not to work in 32 bit platform. Ax versions 3.7.107 and later, contains the 32 bit opc.dll for 32 bit Niagara installation.
NCCB-1225	orion	FoxOrionSession.update fails if OrionType is missing property Type	FoxOrionSession is now more tolerant for OrionObjects on older stations that don't include new Property Types only available in newer stations. FoxOrionSession is now similar to the config.bog marshaling when there is a version mismatch for modules. For example, regular fox gives warnings like "WARNING: remote VM does not have frozen slot "entsec:EnterpriseSecurityService.thr when you are missing a type on the older station. Now a similar trace message is given when you have this problem with FoxOrionSession:

			Type '<newType>' not found for property: <orionType>.<newProperty>
NCCB-1227	orion	Changing station TimeZone incorrectly adjusts all BAbsTimes when Rdbms is Oracle or Db2 in orion	<p>Oracle, Db2, and Hsql now support a new Rdbms Device Property called "Timestamp Storage" for orion. Before you ping your Rdbms device, you can now use this property to pre-select your desired Timestamp Storage Policy. The default value for this property is always set to "Dialect Default". This is intended for Legacy support of any existing OrionDatabases. The Orion "Dialect Default" for Oracle and Db2 uses "Local Timestamp" which is only good for databases that never change timezone and that don't share their Orion Database with another station in another TimeZone. The benefit of this setting is that if you look through a Sql Manager (outside of Niagara), the Column storage is a sql.Timestamp in your LocalTimezone, so its easy to do reporting outside of Niagara.</p> <p>Hsql's "Dialect Default" uses "UTC Millis" which stores all its Timestamps as a java.Long equal to the number of milliseconds since the Java Epoch; this number is equivalent to BAbsTime.getMillis(). This is very convenient to Niagara because TimeZone changes cannot corrupted the Timestamps. You can now use this mechanism for oracle and db2 if your station is likely to change timezones.</p> <p>If you want to still use sql.Timestamp as your storage mechanism</p>

(because long's are difficult to do reporting with", there is now a new option for Timestamp Storage called "UTC Timestamp". This setting just stores the Timestamp against UTC so that Daylight Savings Transitions and TimeZone Transitions do not corrupt the Timezones. The side effect of this (for reporting outside of Niagara) is that you have to do your own UTC offset conversion if you want to determine the sql.Timestamp as it would be stored to your Local Time.

The "Timestamp Storage" property is not available for MySql an SqlServer because sql.Timestamp is not precise enough to the Millisecond in those databases. RdbmsHistory may not need this level of preciseness, but orion does, so no sql.Timestamp storage is available for these databases, "UTC Millis" is always used..

For Hsql, Oracle, and DB2, you cannot easily change your Timestamp Storage once your Rdbms Device has been pinged. This is because your Schema may already have been be created using a different Timestamp Storage and there is no direct conversion between the storage types. This is because Timestamps may be indexes or primary keys and its difficult to safely convert these columns from one type to another.

If you want to change your TimeStamp Storage, you can safely use the OrionMigrator. Instructions

			<p>for its use are available in NCCB-1259.</p> <p>If you are sure that your schema has not yet been created and you want to use an existing Rdbms Device, there is an "confirm required" action on the the Rdbms Device called "Allow Dialect Modifications" that will allow you to change the Timestamp Storage property after a refresh. Once the device has a successful ping, the Timestamp Storage property will change to read-only again.</p> <p>This property does not yet effect Timestamp Storage for rdbmsHistory which store the Timestamps against your localtime, then stores an extra column for your utc offset. This solution does not work well for orion because Columns to values must have a one-to-one mapping for the object oriented nature of orion.</p>
NCCB-1259	orion, rdb	Provide orion-specific UTF-8 support for databases (SqlServer, Oracle, Mysql, etc)	<p>By Default, all Rdbms databases have a new property called unicodeEncodingScheme. The value of this property defaults to false to support existing Rdbms databases. If you want want full UTF-8 Support (nvarchar columns instead of varchar columns), set this property to true before your you connect to your database for the first time. If you have an existing orion database without UTF-8 support, use the orion migrate to migrate your data to a new RdbmsDevice with unicodeEncodingScheme=true</p>

set before you setup the orion migrator.

Here are steps for using the OrionMigrator:

1) To use the OrionMigrator, first make sure you have 2 working Rdbms devices. One of those Rdbms devices should already be used for the Orion App(s) you are using.

2) Open up the orion palette and drop the OrionMigrator into the Services Container

3) Modify the "Old Db Ord" to point to the Rdbms Device that you are currently using for your Orion App(s).

4) Modify the "New Db Ord" to point to the Rdbms Device that you want to use for your Orion App(s).

5) If you plan on migrating all Orion Apps to the same Rdbms Device, then leave the AppOrdList blank. This will then also move the OrionAudit and OrionAppVersion tables there as well.

6) Choose a migration type.
New Database - optimized for speed, throws an exception if any record already exists
Insert Only - if a record exists skip it
Overwrite - if record exists, overwrite it, if the update fails, stop the migration

			<p>Force Overwrite - if record exists, overwrite it, ignore all errors</p> <p>NOTE: If you are using the Orion Migrator with an Enterprise Security station and you have an Intrusion Zone in the station, then you must use "Overwrite" instead of "New Database".</p> <p>7) Restart the station to get the OrionMigrator into an {ok} status</p> <p>8) After the restart, call the "Migrate" action on the OrionMigrator</p> <p>9) If successful, all Orion Apps that were migrated will have their database Ord changed to point to the new Rdbms device. You will be told how many items were migrated.</p> <p>10) If for some reason the Migrator fails, your OrionApps will continue to function in the old Rdbms Database. No database Ords will change. There may be some data in the new database. You might try to use the "Force Overwrite" Migration Type to complete the transfer.</p> <p>11) If successful, remove the OrionMigrator from the station and then restart the station to complete this process.</p>
NCCB-2318	orion	OrionService using Oracle/Db2 always tries to recreate OrionAppVersion table	<p>Orion has support for Oracle and Db2 in these older versions: All Niagara 3.4 versions and earlier Niagara 3.5 Release Niagara 3.6 Release</p>

			<p>Orion does not have support for Oracle and Db2 in more recent versions: All Niagara 3.5 Updates Niagara 3.6 Updates 1-3 Niagara 3.7 Release</p> <p>Orion support for Oracle and Db2 has been corrected in these newest versions: Niagara 3.6 Update 4 Any Niagara 3.7 Update All Niagara 3.8 versions</p> <p>As a workaround, please use SqlServer, MySql, or Hsqldb instead.</p>
NCCB-3077	orion	orionTest:TypesTest fails equality test due to treatment of a BPassword as a regular BSimple	<p>Due to the recent addition of AES encryption, BOrionObject.equivalent checks will no longer work as before between comparing BOrionObjects with password properties that are in an unmounted and mounted state. If you need to do generic equivalency checks between BOrionObjects with password properties, make sure to write your own equivalency check and make sure to ignore passwords or write your own equality check that makes sense for your application.</p>
NCCB-5535	orion	OrionSessionManager spy page should record the top10 longest orionSessions	<p>In orion AX 3.7.106.1 and later, OrionSessionManager will now provide the top 10 longest orionSessions that have previously been closed. This will be useful in diagnosing which OrionSessions cause performance problems.</p>
NCCB-2268	pdf	Landscape doesn't work when Exporting to Pdf in Report Service	<p>In AX version 3.6.31, updates to the Export Source Page Layout did not have an effect when the report is generated by the station.</p>

			In AX versions 3.6.501, 3.7.201, 3.8+, and later, this problem is fixed.
NCCB-2576	pdf	Scheduler and other Widgets without viable Default Constructor prevent entire PxPage from exporting.	Now when you export to pdf and the PxPage includes a Canvas Pane with one of the 200+ widgets that were not designed to be exported to pdf, those widgets will no longer prevent the entire PxPage from exporting, they will just be skipped.
NCCB-3050	pdf	DynamicPxView's don't export to PDF properly in Workbench.	When a Dynamic Px View is exported in Workbench, a network call will now be made to the Station VM for the Px XML. This follows the same pattern of design as when Dynamic Px Views are normally loaded in Workbench (an RPC call is always made).
NCCB-54	pdf	Include Asian characters in MicroFont info	<p>The Niagara AX framework enables the use of lexicons to generate text in a particular language. Java natively supports Unicode character maps, which include Asian (Chinese, Japanese, and Korean, or CJK) character sets. In-line typing in a native Asian language is not supported in Niagara AX 3.7 text widgets. Enhancements to support this functionality are included in Niagara AX 3.8.</p> <p>Font definitions must be correctly configured to support Chinese, Japanese, and Korean character representations. There are default configurations in the default lexicon modules provided by Tridium. These can be changed by configuring the appropriate bajaii.lexicon file. Note that these entries apply to Windows fonts. Linux</p>

			<p>font definitions may be different.</p> <p>The bajaui.lexicon entries that apply to font are shown below, with some example values.</p> <p>palladium.font.fixed.bold=bold 12pt monospaced palladium.font.fixed.normal=12pt monospaced palladium.font.large.bold=bold 16pt dialog palladium.font.large.normal=16pt dialog palladium.font.plain.bold=bold 11pt dialog palladium.font.plain.normal=11pt dialog</p> <p>font.monospaced=NSimSun font.serif=Arial Unicode MS font.sansserif=Arial Unicode MS font.dialog=Arial Unicode MS font.dialoginput=Arial Unicode MS</p> <p>Entries for the font.* entries will be specific to a particular language (or locale). To execute the workbench to run with a specific language, you must assign the appropriate locale setting:</p> <p>wb -locale:<xx></p> <p>where <xx> is the locale. The locale parameter can also be applied to a station. The locale value for Chinese is "zh", Japanese is "ja", and Korean is "ko". You can also set the system locale using this key in the !lib/system.properties file:</p> <p>niagara.lang=<xx></p>
NCCB-549	pdf	Utilize microfont information in PDF generation	Prior to Niagara AX 3.8, the PDF generator had very limited support

			<p>for multiple fonts and character sets. Niagara AX 3.8 introduces support for PDF documents containing CJK text.</p> <p>Typical PDF documents contain font information embedded inside the file. CJK fonts contain hundreds, even thousands, of characters, making it impractical to embed in a PDF file. The PDF specification allows the use of "reference" fonts, where the fonts are identified in the document, but the information required to render them is not.</p> <p>Note that reference fonts are particular to CJK languages, so the existing pdf module still contains limited support for other languages that contain non-ASCII characters. The default lexicon modules for Chinese, Japanese, and Korean contain default lexicon entries for specifying font reference name and font size for tables. These can be overridden if necessary, but the Adobe Reader application has very specific font names it uses for referenced fonts, so any changes to the default PDF font information should be tested thoroughly before deployment.</p>
NCCB-855	pdf	PDF export fails if a Label has an image property pointing to a non-existent file	<p>In Niagara AX versions 3.7 and earlier, a PX page with a missing image file would generate an exception when exporting to a PDF file.</p> <p>This fix in Niagara AX 3.8 will enable a PX page with a missing image file to be exported to PDF.</p>
NCCB-1580	platCrypto	CertificateManagerService Export fails at default File Chooser location	In AX 3.7, when using cert management commands, the default directory for the

			<p>file chooser is an invalid location for saving files. If the user saves a certificate to that location, the file will not save, but no error message will be displayed to indicate that anything has gone wrong.</p> <p>In AX 3.8, the default directory for the file chooser for certificate management commands has been changed to:</p> <ul style="list-style-type: none"> • <niagara_home>\certManagement for Workbench • C:\Users\<username>\niagara\certManagement for wbapplet <p>As a workaround in AX 3.7, navigate to a valid directory to correctly save the file.</p>
NCCB-3970	platCrypto	Certificate Signer Tool Save fails at default File Chooser location	<p>In AX 3.7, when using the certificate signer tool, the default directory for the file chooser is an invalid location for saving files. If the user saves a CSR to that location, the file will not save, but no error message will be displayed to indicate that anything has gone wrong.</p> <p>In AX 3.8, the default directory for the file chooser for saving certificate signing requests has been changed to:</p> <p><niagara_home>\certManagement for Workbench C:\Users\<username>\niagara\certManagement for wbapplet</p> <p>As a workaround in AX 3.7, navigate to a valid</p>

			directory to correctly save the file.
NCCB-1222	platDaemon	[Pacman 24502] R2 station folders aren't retained during commissioning	<p>Prior to AX versions 3.8.11, 3.7.105 and 3.6.305, the R2 Commissioning Wizard incorrectly resolved the remote file paths of R2 stations being copied during this process. This did not prevent the files from being copied to the remote platform, however, it did result in them being copied to the wrong location. An example of this is /niagara/niagaraR2/stations/demo/file/file.txt would have been copied to the location /niagara/niagaraR2/stations/demo/file.txt. This behavior during the R2 Commissioning Wizard has been resolved in noted versions. To workaround this problem in affected installations, do not install stations during the Commissioning Wizard--instead, use the R2 Station Copier after R2 Commissioning has completed to correctly transfer stations.</p>
NCCB-2485	platDaemon	Characters from non English language's prevent station from rebooting	<p>Prior to AX 3.8.30 and 3.7.201, the Application Director could fail to update the status of a station from 'Stopping' to 'Stopped' in Chinese locales. This has been corrected.</p>
NCCB-3051	platDaemon, platform - General	R2 on qnx requires second commissioning when installed to clean JACE	<p>Prior to the Fixed Versions (AX 3.7.105, AX 3.6.401, AX 3.7.201, AX 3.8.17), the R2 commissioning wizard would fail to enable R2 on a support JACE device if the nre version of the remote device was unknown or less than 3.6.32. The device would require a second commission before R2</p>

			was enabled. This can be avoided by using the standard Commissioning Wizard to upgrade the nre-core of the device to 3.6.32+, and then running the R2 Wizard. This behavior is now enforced by the Install R2 Command. You will not be able to install R2 until the device has been commissioned to a supported AX version.
NCCB-3689	platDaemon	AuthenticationException when switching to basic digest authentication during commissioning	Previous to AX 3.8.19, the option to change Platform Credentials during the Commissioning Wizard process could fail on Windows platforms when switching from Basic Authentication to Digest Authentication. This would result in an AuthenticationException in the Commissioning Wizard progress window. This has been resolved in builds after 3.8.18.
NCCB-4612	platDaemon	Changes to platform password on JACE-4/5 via serial shell may not persist	In AX 3.7.106, a change was introduced that could prevent the Niagara daemon from recognizing a platform password change achieved through the serial debug shell on JACE 4 and 5 platforms. A reboot is required on these platforms before the password change will be recognized by the niagara daemon. This prevented platform logins until the platform was rebooted. This behavior has been corrected in 3.8 and 3.7U2.
NCCB-692	platDaemon, platform - General	Pacman 24269: JACE 403/545/404 platforms unexpectedly reboot after upgrading to AX 3.6	Prior to 3.6.401, AX 3.8.11, AX 3.6.303, and AX 3.7.103, the JACE 403/545/404 platforms could reboot unexpectedly under heavy serial driver traffic. This issue has been resolved.

NCCB-878	platDaemon	JACE Commission fails Authentication Exception when non-ascii characters are used in the password	<p>Prior to AX version 3.8.9, the Authentication Wizard available through the Platform Administration View and the Commissioning Wizard permitted the use of non-ascii characters in the digest/file password field editor. The use of these characters in the password resulted in the user no longer having access to the Platform Connection. This behavior could be corrected through resetting the password of a JACE platform to the factory default password through the debug serial shell. In AX versions included and after 3.8.9, the field editor for this value will now prevent the user from entering invalid characters, preventing the resulting error condition. In affected versions, be sure to use standard ASCII characters, values (33-126), when creating passwords.</p>
NCCB-1559	platDataRecovery	Data recovery provided no indication when performing too many station saves	<p>Prior to AX 3.8.20, a AX user was unable to determine if the Data Recovery Service was causing the station to save too often. Frequent station saves could have led to diminished lifetime of FLASH storage and negative impacts on station performance.</p> <p>Starting in AX 3.8.20, the user will be able to configure both a station save limit and a station save period. If more Data Recovery Service originated saves occur than the configured limit within the configurable period, a warning will be present to the Workbench user. This warning will suggest that you prune the</p>

			component space that is eligible for Data Recovery Service protection (non-critical flag).
NCCB-4048	platDataRecovery	NPM3 config dist does not install platDataRecovery	Prior to AX 3.7.106.4 and 3.7.201, the nre-config-npm3xx-jre-etfs2048.dist file did not automatically include the platDataRecovery.jar module during the Commissioning Wizard even though the NPM3 platform has a built-in SRAM module. A manual install of the platDataRecovery.jar module was required to provide Data Recovery Service access.
NCCB-7159	platDataRecovery	lonworks:LonFloat could cause premature flash exhaustion via platDataRecovery	In Niagara AX lonworks module versions up to, and including 3.6.406.1, 3.6.502, 3.7.106.1 and 3.8.38, the NON-CRITICAL flag is not set by default on device Network Variable lonPrimitives. The NON-CRITICAL flag is used to prevent persistent properties from being filtered through the DataRecovery Service. The lonworks driver has been changed in patches 3.6.406.2, 3.6.502.1, 3.7.106.2 and 3.8.38.1, and all subsequent versions so that the NON-CRITICAL flag is set on all device Network Variable lonPrimitives. Also, an action has been added to BLonNetwork to set NON-CRITICAL flag on all existing lonPrimitives.
NCCB-858	platGprs	gprsd code review reveals potential deadlock	Fixed potential deadlock condition on gprsd which could only occur under very rare circumstances when writing from a client app (like Niagara station) to the gprsd devices, and only if there was an error passing data from the

			client app to gprsd devices. This issue has been resolved in AX 3.5.501, AX 3.6.304, and 3.7.104, or later, and any 3.8 or later build. It is not anticipated that this condition would ever be hit in practice, but it is possible.
NCCB-2049	platIEEE8021x	Add license feature check for 802.1x	In AX 3.8, we will support wired IEEE 802.1X authentication for TCP/IP devices. This functionality will be licensed through the feature "ieee8021x".
NCCB-4267	platIEEE8021x	IEEE8021X Platform Configuration view will not recognize JACE server certs that contain numerals	Prior to AX 3.7.201, Client Certificates used in the 802.1X Adapter Editor that began with a numeral would be incorrectly labeled as "NONE". This has been corrected in later builds.
NCCB-4552	platIEEE8021x	IEEE8021XPlatformService cannot utilize certificates imported with CertManagerService (reboot req'd)	Prior to AX 3.7.201 and 3.8.22, it was possible that the certificates used for 802.1X wired authentication would not save properly if the certificate's parent folder did not previously exist. To address the problem without a fix, reboot the JACE once the certificates have been imported through the Certificate Manager interface and re-apply the changes to the 802.1X service.
NCCB-4566	platIEEE8021x	Wired IEEE 802.1X may not function if "Fast Reauthentication" is not supported by server	Prior to AX 3.7.201, 3.7.107, and 3.8.26, JACE IEEE 802.1X Wired Authentication could fail when used in tandem with RADIUS servers that did not support/enable "Fast Reauthentication". This behavior has been corrected.
NCCB-10438	platMstp	Bacnet MS/TP fails to start in J4xx using platMstp 3.8.38.6	In AX 3.8.38, the platMstp.jar is not compatible with the mstp daemon binary provided with the OS on Jace 4xx platforms ONLY. Other

			Jace platfroms do not have this issue. This has been corrected in patch jar 3.8.38.7 and later releases. Also note that for Jace 4xx platforms only, this issue is not present in the non-patch jar 3.8.38.
NCCB-1035	platform - General	Non-super user cannot access PlatformService	In versions of Niagara AX prior to 3.7.201 and 3.8.12, non-super station users were prevented from viewing the System Platform Service. This behavior has been corrected in noted version to allow non-super users read-only access to Platform Services.
NCCB-10742	platform - General	Timezone database requires updating	The Niagara Time Zones database (timezones.jar) has been updated in the latest builds of 3.8R, 3.8u1, 3.7u1, 3.7u2, 3.6u4 and 3.6u5. This update is based on Olson Time Zone data version 2015d.
NCCB-12304	platform - General	java.net NetworkInterface does not return correct IPv6 address for JACE	Previous to Niagara versions 4.0, 3.8.101, 3.8.39, 3.7.107, 3.7.202, and 3.6.503, the virtual machine NetworkInterface class incorrectly reported the IPv6 address of an adapter, setting the least significant contents of the second segment (3818:919:3:38:1:1:28:2015 -> 3818:900:3:38:1:1:28:2015) to zero. Use the values reported by the TCP/IP Platform Service to correct this issue until you have an opportunity to update.
NCCB-13033	platform - General	PlatformService failureRebootUpdateThread fails to complete resulting in many thread to be created waiting to start updating	Previous to AX 3.8.101, AX 3.6.503, AX 3.7.202 and Niagara, errors resolving the local daemon could result in a build up of "BSystemPlatformServiceQnx::failure threads in the station, eventually causing the station to fail. This has been corrected.

NCCB-1555	platform - General	Valid user credentials are rejected by platform daemon running on Windows Server 2008	Prior to AX 3.7.201 and AX 3.8.19, case sensitivity was enforced when determining if a Native Win32 user was a member of a local or domain group. This prevented a user from being identified as a valid member of a local or domain group. The check is now case insensitive in fixed versions.
NCCB-2486	platform - General	Chinese Windows OS: Cannot set Timezone in Workbench "Set System Date/Time".	Prior to AX 3.8.30, Workbench was unable to correctly set the native time zone in Chinese locales. This behavior has been corrected.
NCCB-2652	platform - General	NXT station will not start after commissioning	Prior to AX 3.5.404, AX 3.6.305, AX 3.6.401, AX 3.7.105, AX 3.7.201, and AX 3.8.17, a factory condition JACE NXS or NXT was unable to upgrade to a version of Niagara AX beyond version 3.4. The source of this defect was that the required Microsoft C and C++ runtime libraries were not in the library path at commissioning time, causing the process to silently fail. The runtime libraries are now distributed correctly and this error no longer occurs.
NCCB-3215	platform - General	Failure in savePlatformServicesProperties() prevents config.bog save	Prior to AX 3.8.19, if an error occurred during the System Platform Service savePlatformServiceProperties() call, the station save process would halt and the save status was marked as bad. In AX 3.8.19, the station save process is recognized and a message indicating the error that occurred is printed instead of halting the process.
NCCB-4280	platform - General, platIEEE8021x	System Platform Services fail to save/start if installed on QNX platforms without 'ui' install flag	Prior to 3.7.201, if the BIEEE8021XPlatformService failed to export the x509 certificates used for client authentication

			<p>for any reason, a <code>ClassNotFoundException</code> was thrown instead of the correct <code>CannotSaveException</code>. This exception could cause other Platform Services to malfunction and mask the underlying exception preventing the certificates from exporting. This has been corrected in later builds to throw a <code>BajaRuntimeException</code> instead of a <code>CannotSaveException</code>.</p>
NCCB-5482	platform - General	Installing a backup.dist to a replacement JACE does not restore /security.	<p>In NiagaraAX 3.7 and earlier, contents of the <niagara_home>/security directory are not restored when installing the backup on a replacement JACE.</p> <p>In NiagaraAX 3.8, contents of the <niagara_home>/security are always restored.</p>
NCCB-1042	program	Cannot run batch edits if program.jar installed with runtime only (no ui content)	<p>Prior to this fix, if you installed the program module of version 3.5.40, 3.6.47.1, or 3.7.44 or later with only RUNTIME module content filter level on a JACE, then whenever you tried to do a batch edit from the BatchEditor view on the ProgramService, it would fail with the error indicated below:</p> <p>Failed: runRobot java.lang.NoClassDefFoundError: com/tridium/program/ui/ batch/BatchRobot at java.lang.ClassLoader.defineClass1(N Method) at java.lang.ClassLoader.defineClass(U Source) at java.lang.ClassLoader.defineClass(U Source) at com.tridium.program.BCode \$ProgramClassLoader.findClass(BCo</p>

			<pre> at java.lang.ClassLoader.loadClass(Unk Source) at java.lang.ClassLoader.loadClass(Unk Source) at com.tridium.program.BCode.loadClas at com.tridium.program.BCode.newInsta at com.tridium.program.BProgramServic at auto.com_tridium_program_BProgram at com.tridium.sys.schema.ComponentS at com.tridium.sys.schema.ComponentS at javax.baja.sys.BComponent.invoke(B at com.tridium.fox.sys.broker.BBrokerCh at com.tridium.fox.sys.broker.BBrokerCh at com.tridium.fox.sys.BFoxConnection. at com.tridium.fox.session.SessionDispa at com.tridium.fox.session.SessionDispa at java.lang.Thread.run(Unknown Source) This bug has now been fixed, such that the batch edit should work without generating this error. It is resolved by using an updated program module of version 3.5U4, 3.6U3, or 3.7U1 or later. </pre>
NCCB-3506	provisioningNiagara	Alarm changes classes upon acknowledgement	<p>In all prior version of Niagara, alarms generated by the provisioningNiagara Platform Connection component were assigned the source of the Niagara Network Station instead of the Platform Connection. This caused alarm acknowledgements to be routed incorrectly to the Station instead of the Platform Connection. If the Station and Platform had</p>

			different Alarm Classes set, the Alarm Class of the alarm would change after it was acknowledged. This has been resolved in AX 3.5u5, AX 3.6u5 and AX 3.7u2.
NCCB-3780	provisioningNiagara	Software install via provisioning with platform SSL enabled takes up to 5 minutes to station to start back up	In AX 3.7R there was an issue with reconnecting to the platform after a reboot by provisioningNiagara. Starting in AX 3.7U1 this issue has been resolved.
NCCB-5192	provisioningNiagara	Good backup dists are deleted due to Retention policy with "Count only successful executions" disabled	<p>In AX 3.7.106, AX 3.8.24, When Count only successful execution is enabled, failed jobs are never disposed. This results in excess backups.</p> <p>This behavior is changed so that once there are n successful jobs, all jobs that are older than oldest successful job, are deleted. This is fixed in following versions of Niagara:</p> <ul style="list-style-type: none"> • AX 3.7.106 • Niagara 4.0.1 • AX 3.8.24 <p>As a workaround in affected versions of Niagara, in case of excess jobs, dispose failed jobs manually to save space.</p>
NCCB-7082	provisioningNiagara	alarm for failed step includes stack trace which prevents exporting	<p>In Niagara AX versions 3.6, 3.7, and 3.8, attempting to export an alarm which contains an exception with a stacktrace in its message text will fail with an additional exception. This exception generally begins with:</p> <pre>java.lang.IllegalArgumentException: 'J'</pre> <p>This sort of alarm with a stacktrace may occur if you have a provisioning failure, such as an authentication problem trying to back up a station from a supervisor.</p>

			<p>If you need to export the alarm, the only workaround is to manually edit the alarm message text to remove any dollar signs ('\$') before exporting the alarm, as these are being incorrectly interpreted as an escape character by the exporter.</p> <p>This behavior has been fixed in alarm module 3.7.106.5 and 3.8.38.1, and for 3.7u2, and 3.8u1.</p>
NCCB-1243	pxEditor	Add new pictures to a Px Page in the Px Editor with Right Click	In AX 3.8 and later, a BPicture can be added to a Px page through the right-click menu.
NCCB-1245	pxEditor	Px Editor Zoom Feature	<p>From AX 3.8 and onwards, a user can now zoom in and out when editing a Px page.</p> <p>The zoom in, out and reset commands are located in the Tool and Menu Bar.</p> <p>The status bar shows the current zoom level.</p> <p>For as long as Workbench stays open, the zoom and scroll level for a particular page will be cached so if a user returns to editing the same Px page, the zoom and scroll positions will be restored.</p>
NCCB-1249	pxEditor	Scaled Images in PxEditor	In AX 3.8, Mobile Px pages support the use of CanvasPanels. CanvasPanels in a fluid layout only support scale modes of "fitRatio" and "none." Any other scale modes will simply be treated as "none." A CanvasPanel is in a fluid layout if its parent is a BasicMobilePanel or a MobileGridPanel.
NCCB-243	pxEditor	PxEditor - 'Bound Ord' Sidebar advertises editing, but does nothing for PxInclude.Ord 'Binding'	From AX 3.8 onwards, the PxEditor's 'Bound Ord' Sidebar now allows editing for BPxInclude ords.

			Before this fix, the Sidebar only allowed editing on BBinding ords.
NCCB-244	pxEditor	kitPxGraphics does not work with PxEditorView on PxFile	<p>In AX 3.7 Workbench, when directly editing a Px file on a station, dragging images from the kitPxGraphics palette would fail.</p> <p>The workaround was to create a new view on a mounted component and edit that view, rather than to edit the Px file directly.</p> <p>In 3.7 Update 1, this has been fixed so that kitPxGraphics images will work whether editing the file directly or as a view on a component.</p>
NCCB-245	pxEditor	boundTable does not apply facets for history query	From AX 3.7 version 3.7.104 onwards, Facets are now applied to a BoundTable for history queries. Therefore, units, precision etc, will appear correctly.
NCCB-1918	rdb	ResultSetTable does not handle null timestamp value	If a result set returned from a SQL query included results with NULL values for timestamp columns then this would result in a null pointer exception occurring when constructing the corresponding result set table in Niagara. NULL timestamp values are now handled correctly and are mapped to a default placeholder timestamp in the framework.
NCCB-1989	rdb	The Configured Point Facet Values are not updating in Database value column(Asian characters)	Starting in AX version 3.8.15, history exports to new databases will store history config facet information in a new column titled 'VALUEFACETS'. This column will be available as part of the column schemas for the HISTORY_CONFIG and

			HISTORY_TYPE map meta tables.
NCCB-2632	rdb	SqlScheme retrieves wrong timestamps when using orion and Timestamp Storage=utcTimestamp	SqlScheme now accounts for the utcTimestamp setting.
NCCB-3102	rdb	BAbstractConnectionPool.getComponents should not be synchronized on the BComponent instance	For AX versions 3.6.501, 3.7.201 and 3.8.19, navigating to component views under an RDBMS device would occasionally lock the user interface and prevent further interaction. This has been corrected with appropriate synchronization.
NCCB-452	rdb, rdbSqlServer	RDB: Point polling stops when RDB Device is in unacked alarm status	In AX 3.7 versions and earlier, RdbmsPointQuery points under an RDB device would go into fault status if the RDB device was in any state other than ok. This issue has been corrected in AX versions 3.8.11 and later.
NCCB-4553	rdb	The History data with Asian character table name is not exporting to the SQL server database export manager.	Prior to AX version 3.8.30, exporting histories containing Unicode characters in the history names would cause the exports to fail with a runtime exception. This has been corrected in version 3.8.30 and above.
NCCB-4092	report, seriesTransform	Using Report Service to export Series Transform Px graphs to PDF fails to export	In AX 3.7 update 1, changes were made to check for user permissions when resolving the history source of a transform graph. This introduced a potential Null Pointer Exception which as a side effect causes PDF exports of a Series Transform PX graph component to fail. This issue is resolved with the fix for NCCB-4508 to AX 3.7.201 and greater. There are no workarounds for version 3.7 update 1

NCCB-56	report	Support automated reports containing Asian characters to export to CSV for Excel	Prior to Niagara 3.8, reports generated in CSV that contain Asian characters do not open in Excel. The CSV exporter for reports now inserts the correct BOM (Byte Order Mask), so resulting CSV files containing Asian characters will now open directly with Excel.
NCCB-7106	report	ComponentGrid's 'Grid Table' view is very slow to load in Workbench	Starting in Niagara AX versions 3.5.30, 3.6.25, 3.7 initial release, and 3.8 initial release, the 'Grid Table' view of the report module's ComponentGrid object could be very slow to load in Workbench. Starting in 3.6.503, 3.7.107 (and report.jar patch 3.7.106.2), 3.7.202, 3.8.39 (and report.jar patch 3.8.38.1), and 3.8.101, the performance has been improved.
NCCB-1914	schedule	Imported schedule not following the Master Schedule 'in' slot.	<p>In NiagaraAX 3.8 release, and 3.7 update 1 and earlier, the 'in' slot on an imported schedule no longer gets its value from the master schedule. This has been fixed in NiagaraAX 3.8 update 1 and 3.7 update 2.</p> <p>For affected versions, patches are available:</p> <ul style="list-style-type: none"> • schedule 3.7.106.2 • schedule 3.8.38.1
NCCB-2606	schedule	Schedule import fails when remote schedule has multiple incoming links	In AX 3.7 update 1 and earlier, importing a schedule from a remote station can result in a failed status when the remote schedule has multiple incoming links. In AX 3.7 update 1 and earlier, and AX 3.6 update 4 and earlier, the resulting failed schedule export can sometimes cause a

			<p>NullPointerException when the fault cause is unknown.</p> <p>In AX 3.7 update 2 the schedule import has been fixed and in AX 3.7 update 2 and AX 3.6 update 5, an unknown fault cause will be displayed as "Could not determine fault cause".</p>
NCCB-9052	schedule	Custom schedule doesn't recognize week boundary	<p>"Calendar Week" 1-6 has been added to the week of month schedule. The original week options still exist as they are still useful and we do not want to break existing week of month schedules. The new Calendar Week defines a week as Sunday-Saturday rather than the first, second, third of fourth 7 days of the month. Calendar Week 1 includes everything up through the first Saturday of the month. The first day of a calendar week is based on the "first day of week" which is configurable via a lexicon. If the week of month schedule is in a running station, the first day of week will be taken from the station, otherwise it will be taken from workbench (this can cause a slightly odd display in Workbench if the station and Workbench locales do not match since the schedule will highlight the week based on the station's locale, even though the calendar is rendered with the Workbench's locale) .</p>
NCCB-919	schedule	The Time Format is always 12h am/pm when a schedule is viewed in an HX view.	<p>In AX 3.7 versions and earlier, the time and date formats on schedules in an Hx view would always display in 12h AM/PM and US date format respectively without taking the user's time format settings into account. This has been corrected in AX</p>

			versions 3.8.10 and later to correctly account for the Time Format facet setting specified on the user's property sheet under the User Service
NCCB-9971	schedule	Modify Event in HxSchedule does not propagate to the schedule's output	In AX 3.7.107, AX 3.8.101, AX 3.8.39, AX 3.7.202, Niagara 4.0.13.3, or higher when you modify a schedule event's value, this will now trigger a schedule's execute action which will now correctly update the schedule's output. In previous builds this was not the case. The following portal patches also include the fix: schedule 3.7.106.3 schedule 3.8.38.3
NCCB-12790	seriesTransform	Cannot edit y axis descriptors for transform chart binding collection	In Niagara AX 3.8.38 and Niagara 4 4.0.15.0 and earlier, users could not change the y-axis descriptors for a seriesTransform graph: while it would appear to allow the user to change the stroke color or brush, those changes were not persisted. This has been fixed in AX 3.8.39 and Niagara 4.0.17.0 and newer.
NCCB-12791	seriesTransform	Cannot configure Y axis scale for transform chart binding	In Niagara AX 3.8.38 and Niagara 4 4.0.15.0 and earlier, users could not override the scale of the y-axis in seriesTransform graphs. This has been fixed in AX 3.8.39 and Niagara 4 4.0.17.0.
NCCB-1973	seriesTransform	The Sum, Avg, Max & Min value displays with 'nan' if any of the sources value has 'nan'	In AX 3.7 versions 3.7.46 and earlier, the Aggregate and Rollup functions will not allow operations on rows which include NaN values as data values. The result of performing an operation on a row with an NaN value is NaN.

			<p>In Ax 3.7 U1 and later releases, the NaN value column will be skipped for the individual row in which it is found for that operation. This means that when performing an Average function, if 6 columns are being averaged together and 2 columns include NaN values, the result will be an average of the 4 remaining columns which have valid data for the operation. So it will be an average of 4 columns rather than 6. It is left to the end user to be aware of how this may skew data results.</p>
NCCB-1977	seriesTransform	<p>The history collection table value doesn't match with the Transform graph collection table value when roll up interval is set to 30 minutes</p>	<p>In AX 3.7 versions 3.7.46 and earlier, the Rollup node failed to correctly roll up data at some intervals. The rollup cursor failed to create a copy of the record before including the record as part of the rollup function parameters.</p> <p>The source record is now copied to prevent the cursor value from being overwritten on iteration of the source cursor.</p>
NCCB-2062	seriesTransform	<p>Composite: Execution option does not work, after deleting all slots in the Schema</p>	<p>In AX 3.7 versions 3.7.46 and earlier, when using the Composite node editor to automatically create a composite of several source nodes, the editor would fail to auto-populate more than once if rows were removed.</p> <p>Now the editor will allow the removal of rows from the editor and can be auto-populated more again, meaning that all default rows discovered from the source nodes will be populated back into the Composite Schema settings.</p>

NCCB-2177	seriesTransform	isParentValid should return false for Transform Graph Nodes that are not parented by a Transform Graph	<p>In AX 3.7 versions 3.7.104 and earlier, BGraphNode uses the default implementation of the isParentValid() method and therefore instances of BGraphNode can be added to any component (except for other graph nodes which are not permitted by the isChildLegal method). But graph nodes will only function correctly if they are parented by an instance of BTransformGraph (or an instance of BNodeContainer that is in a transform graph).</p> <p>In 3.7.201 and later, graph nodes check their parent when they are added or moved and they can only be added to (or exist) in transform graphs or other node containers.</p>
NCCB-2558	seriesTransform	Transform table column display with Nan but in actual the values are associated with that & the Sum, Avg, Max & Min value are getting updated correctly	<p>Previous to AX 3.7 U1 and AX 3.8, the Series Transforms Rollup component would allow the user to select a value as a Pass Through value, similar to the Aggregate component.</p> <p>However, as Rollups happen over a period of time rather than for each record in the series, the Pass Through functionality makes little sense and has been cause for confusion. For that reason the Pass Through functionality has been removed.</p>
NCCB-4090	seriesTransform	removing pass through function from rollup node prevents automatic selection of input schemas	<p>In AX 3.7 update 1, changes were made to correct the Rollup graph node by removing the Pass Through function from the node configuration table. This also removed the auto-configure functionality of the graph node which</p>

			<p>created a Pass Through function configuration for each field of the incoming schema for the Rollup graph node.</p> <p>This is addressed by modifying BFunctionMapBuilder to always provide a default transform function for every data field of the source node. The Rollup node uses the Average function as the default function for all fields. Aggregate still uses the pass through function.</p> <p>The workaround for this issue in earlier versions is to manually configure each data field of the Rollup graph node by adding the each field to the Rollup output schema and setting the desired rollup function on that field.</p>
NCCB-4508	seriesTransform	BHistorySourceNode.doResolve method throws NPE	<p>in AX 3.7 update 1, the history node introduced permissions checking to validate that the user has permissions to view the history source being manipulated as part of the transform graph being resolved. This introduced an Null Point Exception being thrown when the transform graph was executed using a NULL context.</p> <p>This change modifies BHistorySourceNode with a placeholder to ignore permissions check if context or user is NULL. This is in keeping with the in-place standard in Niagara to allow a NULL user in a context permissions to perform the operation.</p>

			For affected Ax 3.7 update 1 versions, there is no workaround.
NCCB-6480	seriesTransform	Boolean Histories Display "False" Instead of "Nan"	In Niagara AX versions 3.7.106, 3.8.38 and earlier, and Niagara 4 version 4.0.12.0 and earlier, seriesTransform graphs based on boolean history sources would always resolve the sources as "false" for any cases where the history source did not have valid data for a given timestamp. In AX 3.7.107, 3.8.39, and Niagara 4 4.0.13.0 this has been fixed so that boolean sources now use the last known good value when there is no valid data for a boolean history at a given timestamp.
NCCB-885	seriesTransform	Duplicating a history source node produces "duplicateSlotException" message on the standard output	<p>In AX 3.7 and 3.7 update 1, duplicating a history graph node in a transform graph through a copy and paste would cause a duplicate slot exception to print out in the standard console out of the station.</p> <p>To address this issue, BNodeContainer now checks if the node being added to the node container is a copied node with copied slots. If the slots already exist, it sets the slot value with the appropriate BLink used by BNodeContainer to track changes made to underlying graph nodes. Otherwise, a new slot is added for the node.</p> <p>There is no workaround in previous versions.</p>
NCCB-2251	smartTableHx	SmartTable's inline javascript needs special protection from SnoopHtmlWriter	For Enterprise Security or touchscreen.jar's AlarmConsole, "src" or "href" cannot be included in any of the displayed information or the page

			will fail to load due to an underlying problem in the Niagara Framework's SnoopHtmlWriter. Avoid this problem in previous builds by not using "src" or "href" in any information in your station for items such as displayName, lastName, alarm facets, etc.
NCCB-3451	sms	SmsService fails to send messages via serial GPRS modem	From AX 3.7 version 3.7.106 onwards, the SMS Service will now read the signal strength correctly from an external GPRS modem.
NCCB-846	sms	SMS Service incorrectly parses ping response, causing service to be marked down	A bug was discovered in the SMS module in which would cause the gprs service to be incorrectly marked "down". The response to the "AT +CSQ" incorrectly parsed the signal level from the modem response, throwing a NumberFormatException which was incorrectly being caught as a modem failure and marking the device down. In this failure mode, the user would see the "sms status" property marked as "ok" immediately followed by "down". Any sms messages due to be sent would then be queued up in the send queue, and sms message delivery would likely not happen until such time as the device could be marked "ok" again via another means. Fixed in AX 3.8.9, AX 3.7.103, AX 3.6.401. Will not be fixed in AX 3.5 because there was a major refactoring of SMS module between AX 3.5 and AX 3.6
NCCB-4411	snmp	SNMP string points do not support non-ASCII data	Support was added to the snmp driver for a string proxy point with string type variable data to provide a string representation of the

			raw byte data instead of the ascii representation. This is accomplished by adding a boolean facet to deviceFacet with the key "raw" and value true. This feature was added to snmp patch builds 3.6.406.1, 3.7.106.2, 3.8.38.2.
NCCB-9687	snmp	SNMP V2 traps are not received in AX/N4 Alarm console	In snmp versions 3.7.106.2, 3.8.38.2 and earlier, Some SNMPv2 traps did not appear as alarms in the alarm console. If trace logging was enabled, an ArrayIndexOutOfBoundsException was observed. This problem is resolved in snmp versions 3.7.106.3, 3.8.38.3, and all subsequent update builds of Niagara AX.
NCCB-2257	sysdef	Remove sysdef purge warnings during station startup	In AX 3.8 and earlier, when a station started, sometimes the following message would be logged WARNING [08:55:18 20-Jan-10 EST] [niagara.sysdef] Cannot purge, the local host is not in the provider yet. This warning gave the impression that something was potentially wrong with the system, when in fact this a normal and expected outcome in some cases. This issue is addressed by changing the log level to TRACE, and changing the wording lessen the implied severity of this condition occurring.
NCCB-2616	touchscreen	Touch Login Template layout problems	Touchscreen:TouchLoginTemplate has had its layout corrected. TouchLoginTemplate has also been redesigned to keep up with any future changes to "web:DefaultLoginTemplate" so there should be

			no more future layout problems when DefaultLoginTemplate needs to be tweaked.
NCCB-3365	touchscreen	TouchAlarm Console should not always require alarm acknowledgement notes	The Touchscreen Alarm Console now acts like the HxAlarmConsole and doesn't require notes on acknowledgement.
NCCB-1156	videoDriver	Live View Presets Widget does not respect readonly	In AX versions prior to 3.6.501 and 3.7.201, a read-only user was able to see the Pan/Tilt/Zoom, Iris,Focus and Presets controls in the Live Video or Playback View. If the user tries to do any PTZ operations, an error message is shown in the station console with security permissions required. This behavior is changed in versions 3.6.501 and 3.7.201. These controls are not displayed for read-only users.
NCCB-1942	videoDriver	Video Driver related registry errors while starting 3.8.11 Workbench.	Prior to AX version 3.8.20, a System Registry was shown for videoDriver:VideoMultiStreamViewer when the workbench is started through the console. This is corrected in versions 3.8.20 and later.
NCCB-2493	videoDriver	AlarmPopUp notifies wrong users with wrong AlarmRecords	Prior to AX Versions 3.6.402, 3.7.105, 3.7.201 and 3.8.18, alarm popup notifications were being issued to all connected users without routing only the specific alarms for the specific subscribed user.
NCCB-2563	videoDriver	RTSP streaming can leak threads and memory during the decode,stop and startup stages	Prior to AX Versions 3.6.402, 3.7.105, 3.7.201 and 3.8.18, certain threads relating to decoding RTSP video streams were identified to be getting leaked, leading to eventual high memory consumption.
NCCB-3071	videoDriver	Closing BVideoCameraWidget	Prior to AX versions 3.6.402, 3.7.105,

		Dialog does not stop Binder, leads to Thread Leak and Memory Leak	3.7.201 and 3.8.18, repeated use of the BVideoCameraWidget dialog would lead to multiple lingering threads and increased memory usage.
NCCB-3092	videoDriver	Simultaneous video loading can cause Thread and Memory leak due to infinite wait()	Prior to AX Versions 3.6.402, 3.7.105, 3.7.201 and 3.8.18, lingering threads for video stream bindings were leading to increased resource consumption and eventual memory leaks. Video related threads are now being appropriately cleaned up.
NCCB-3113	videoDriver	Using "New Window Command" when viewing video does not load video properly	Prior to AX Versions 3.6.501 and 3.7.201, if a "New Window" is opened when the camera is being streamed in Live View or Play back View, video is not loaded unless a refresh is done on "New Window". This behavior is corrected in AX versions 3.6.501 and 3.7.201
NCCB-3124	videoDriver	VideoPop Fails to pop up in workbench if you are looking at a different station or a spy page.	Prior to AX Version 3.8.20, the video popup feature would not take the current station session to which the user was connected into account when launching a video popup alarm. Popups would also fail to occur if the user was viewing a non-station space. This issue has been corrected in version 3.8.20
NCCB-3779	videoDriver	Video Alarm Ext Parameters does not load remote camera ord if the camera is not leased, throws Cannot Load Plug in exception.	Video Alarm Ext Parameters does not load the remote camera Ord if the camera is not leased - it throws a Cannot Load Plugin Exception. This has been resolved in the versions 3.6.501, 3.7.201 and 3.8.19.
NCCB-10343	wbapplet, workbench	3.8: appletReloadOnHyperlink false prevents browser	In workbench 3.8.38.3 and above, you will now be able to hyperlink to files even when

		from launching file hyperlink	<p>appletReloadOnHyperlink is set to false. By Default, you will still be Hyperlinked to the GenericAppFileView, but a Launch Button will be present that will allow you to reload the page and launch the file.</p> <p>If you have a Px Page and you would force a reload when you hyperlink to particular file, you may edit the hyperlink in the PxEditor and add the following viewQuery: appletReload=true</p> <p>Here is an example: file:^History.pdf view:? appletReload=true</p>
NCCB-3116	wbapplet	WbApplet fails to reload with Java 1.7 Update 21	<p>The release of Java 7 Update 21 caused the Java plugin to be more aggressive in its caching of certain resources retrieved by the applet. The applet maintains its own cache of Niagara modules and other files, and this double-caching caused the applet to fail to reload unless the Java cache was cleared or disabled.</p> <p>The workaround for this issue is to disable the Java plugin cache by going to Control Panel - Java - Temporary Internet Files - Settings - uncheck "Keep temporary files on my computer."</p> <p>In 3.5 Update 4, 3.6 Update 4, 3.7 Update 1, and 3.8 and newer, applet-specific resources will no longer be cached by the Java plugin itself, so the Workbench applet can properly manage its own Niagara-specific resource cache without having to disable the Java cache.</p>

			<p>If you still experience this problem after installing one of the mentioned update builds, please clear your Java cache by following the workaround instructions above.</p>
NCCB-7047	wbapplet	Auto Logoff Occurring When It Should Not	<p>In NiagaraAX 3.8 release, 3.7 update 1 and earlier, and 3.6 update 4 and earlier, the "Auto Logoff Enabled" and "Auto Logoff Period" were not being properly applied when using the "cookie" authentication scheme, causing users to be automatically logged out after 10 minutes, regardless of the settings.</p> <p>In NiagaraAX 3.8 update 1, 3.7 update 2 and 3.6 update 5, this has been fixed so that the "Auto Logoff Enabled" and "Auto Logoff Period" are correctly applied.</p> <p>For affected versions of NiagaraAX, patches are available on Niagara Central.</p> <ul style="list-style-type: none"> • web 3.6.406.5 • web 3.7.106.12 • web 3.8.38.1
NCCB-9600	wbapplet	"java.lang.ThreadDeath" exceptions observed at JAVA console while navigating between the pages using WB default WEB profile	<p>Oracle's Java plug-in Update 65 can cause problems with Niagara's Workbench Applet in all versions of Niagara. The problem can cause images on graphics not to appear properly.</p>
NCCB-2574	wbutil, workbench	PasswordHistory ignored for GenericFieldEditor in PxView	<p>In AX 3.7 update 2 and AX 3.8, Password History is now correctly enforced from a GenericFieldEditor on a PxView.</p> <p>Prior to this fix, if a User's Password property was mapped into a GenericFieldEditor on a</p>

			Px page, setting a new password wouldn't take the Password History into account.
NCCB-3630	wbutil	User Manager should not allow the admin user's expiration or permissions properties to be edited	<p>In all releases prior to 3.8, the User Manager view allowed the expiration and permission properties of the frozen admin user to be edited. On save, the view would silently ignore any changes to those properties since they are marked readonly on the actual admin user.</p> <p>Starting in 3.8, the user editor dialog will not allow the expiration or permissions properties of the predefined admin user to be editable.</p>
NCCB-3690	wbutil	Metadata Browser is slow to navigate histories	Starting in 3.8, the performance of the Metadata Browser view in Workbench will be improved when navigating the histories of a station. Prior to this change, the performance was very slow, especially when navigating histories in the Metadata Browser view. While performance depends on the number of histories, you should see considerable improvement in response time when using 3.8 Workbench.
NCCB-4075	wbutil	BFacetsFE mru does not respect readonly	The Facets Field Editor has a button called "Most Recently Used". This button attempts to allow editing of a readonly field, but then fails during the save. Starting in AX 3.8, this button is set to readonly when the field editor is readonly.
NCCB-4547	wbutil	New password criteria is not applied when creating a password offline when creating a new station	Starting in AX 3.8, the 'New Station Wizard' now validates against the defaults for Password Strength Criteria.

			The Password Strength Criteria may be changed after the station is created.
NCCB-871	wbutil	Limit New Station Wizard from allowing Asian Characters	Starting in AX version 3.8.17, station names in the New Station Wizard will only permit ASCII characters and will not permit characters from the extended Unicode character sets
NCCB-3550	weather	Weather report air quality updates failing	In all versions of Niagara, The air quality data updates would fail. Starting in AX 3.8, the updates work as expected. The API key for the data source http://www.airnowgateway.org/ has also been exposed. Users may replace the default API key with their own personal key by registering with the website listed above.
NCCB-633	weather	Hx Weather Manager View is unusable.	In AX 3.7, the Hx Weather Manager doesn't allow typical Manager View operations to be performed. Starting in 3.7 Update 1, the Hx Weather Manager view now has 'New', 'Edit' and 'Delete' Commands.
NCCB-6476	weather	Air quality reporting cannot be turned off	In AX 3.8 and earlier, it was not possible to disable the air quality updates in the Weather Service. In versions AX 3.6.501, AX 3.7.201, AX 3.8.36 and later, there is now a property on the Weather Provider to enable/disable the updates.
NCCB-678	weather	Weather Manager slow loading times	Prior to AX 3.7U1 and AX 3.8, loading the Weather Manager view on the Weather Service could be slow, especially when there are a lot of child Weather Reports. Slow network connections would make the performance worse. The load performance has

			been improved starting in 3.7U1 and 3.8.
NCCB-10399	web	Locale needs to resolve with country code	In AX 3.8 versions 3.8.38 and earlier, the web interface would not properly load Lexicons which contained country-specific variants (e.g, "fr-CA"), instead falling back to the two-letter language tag. In versions 3.8.39 and later, this has been fixed. There is no workaround for affected versions.
NCCB-1572	web	As a touchscreen user, I want a back button available when an error is displayed in from the web server.	In AX 3.8, when receiving a 404 error from the station (for instance, when navigating to a nonexistent ORD), the 404 page will include a Back button. This is to make it easier for touchscreen users, who may not have access to the browser's built-in back button, to get back to a usable URL. If you wish to disable this behavior, set "niagara.web.showBackButtonOnError" in system.properties.
NCCB-3491	web	WebService.logFileEnabled console and httpd log errors	When the WebService.logFileEnabled is set to true, a stream of exceptions are added to the station output with an exception stating that the response was "Already written". With AX 3.8 Release, the exception has been handled and it now provides the corrected authenticated user info in the httpd log.
NCCB-4018	web	Wbapplet doesn't work with Guest user	In NiagaraAX 3.7 update 1 and NiagaraAX 3.6 update 4, the guest user does not work consistently when using the cookie authentication scheme for web authentication. In addition, when using the wbapplet, the guest user does not work at all.

			<p>In NiagaraAX 3.8, 3.7 update 2, and 3.6 update 5, this has been fixed so that the guest user works correctly.</p> <p>For affected versions, patches are available on Niagara Central:</p> <ul style="list-style-type: none"> • web 3.7.106.8 • web 3.6.406.3 • web 3.5.406.3 <p>Alternatively, the guest user still works with cookie-digest authentication and an Hx profile.</p>
NCCB-4026	web	Custom BLoginTemplates must implement IStateLoginTemplate	<p>In AX 3.7R and AX 3.7u1 if a BLoginTemplates does not implement IStateLoginTemplate, a <code>java.lang.IllegalStateException</code> Already written exception will be thrown on the station when the login page is loaded in a web browser. In AX 3.7u2 and AX 3.8 this issue has been resolved. As a workaround in AX 3.7R and AX3.7u1, any custom login templates should implement IStateLoginTemplate to avoid getting the exception.</p>
NCCB-4127	web	Browser logon fails if there is a . in username after upgrade to 3.7.106	<p>In Niagara AX release 3.7.106, it was not possible to have a username with a special character (like a ".") work with a browser login. In 3.7.201, this problem has been resolved, and usernames can now contain special characters.</p>
NCCB-4242	web	Broken Pipe Exception while downloading zipped applet resources leaves GZIPOutputStream unclosed	<p>GZIP and other zip related streams can have a small heap footprint and a large native footprint. When there are many zip streams open, there can be a situation where there is no reason to run garbage collection which can allow</p>

			a JACE2 environment to run low on native memory. It is then important to ensure that all zip streams get closed immediately after use. There were a few locations in our Web Server that were not immediately closing these streams after use. This is now fixed in 3.6U5, 3.7U2, and 3.8.
NCCB-5406	web	Web Password Reset dialog leads to confusion/difficulty resetting	In NiagaraAX 3.8, the HTTP password reset form has been reworded to improve clarity.
NCCB-5409	web	Unable to login JACE-2 with https web browser	<p>In NiagaraAX 3.7 update 1 with patches web-3.7.106.5 and workbench-3.7.106.1, users cannot log in to a JACE-2 station using the applet over HTTPS.</p> <p>This has been fixed in NiagaraAX 3.8 and NiagaraAX 3.7 update 2.</p> <p>As a workaround in affected versions of NiagaraAX, users can still log in over HTTPS when using an Hx profile.</p>
NCCB-686	web	Logging in with Mobile Chrome results in invalid 404 request for 'apple-touch-icon.png'	Prior to this fix, a user could get an HTTP 404 error for 'apple-touch-icon.png' when attempting to log into a Station using an Android device's Web Browser. This has now been resolved from AX 3.7 version 3.7.201 onwards.
NCCB-690	web	createApplet.js codebase for plugin fixed as http throws mixed content warning in IE8 when using https	With the increased usage of SSL with Niagara, browsers may display a "mixed content" warning in AX 3.7 versions 3.7.102 and earlier, AX 3.6 versions 3.6.302 and earlier, and AX 3.5 versions 3.5.403 and earlier. In versions 3.8.9, 3.7.103, 3.6.303 and 3.5.404 and later, the references to the Oracle

			JRE site contains an SSL agnostic URL that prevents the "mixed content" warning from appearing.
NCCB-708	web	Https-foxs returns to /login when the applet is loaded.	<p>In AX 3.7 version 3.7.102, the jar files necessary to bootstrap wbaapplet are missing during download. In versions 3.7.103 and later, the correct jars are now downloaded.</p> <p>For affected versions, it is necessary to upgrade to web module version 3.7.103 or later.</p>
NCCB-763	wiresheet	Wiresheet does not work with PxInclude	<p>From AX 3.8 onwards, the Wiresheet can now be used on a Px page that's being used in a PxInclude.</p> <p>To enable this, PxInclude caching has been turned off by default. This enables the Wiresheet to load in a PxInclude.</p> <p>The caching can be re-enabled via the following 'system.properties' setting (please note, this isn't recommended)...</p> <pre>niagara.pxInclude.cache=</pre>
NCCB-1039	workbench	workbench TextEditor compile and slot commands do not work with srcTest folder of module	TextEditor Build and Slot Commands now take into account differences between test code and production code to ensure the right code gets compiled.
NCCB-1583	workbench	EULA display changes in Workbench	Starting in AX 3.8.17, the End User License Agreement and Third Party License Agreements are displayed differently in Workbench. If a Branded / OEM EULA is present, it will be appended to Tridium's EULA. The same applies to the Third Party Licenses. The Ords linking to these files on the About page have changed to:

			<ul style="list-style-type: none"> • EULA: workbench:/licenses/licenseAgreement.txt view:workbench:TextFileView wordWrap=true • Third Party Licenses: workbench:/licenses/readmeLicenses.txt view:workbench:TextFileView wordWrap=true <p>The format of these files has changed to CRLF line endings and be one paragraph per line. The files should only contain additions to Tridium's EULA and Third Party Licenses. these files should be located in /lib and named <brandId>LicenseAgreement.txt and <brandId>ReadmeLicenses.txt.</p> <p>A new view has been created to support this format. It is the workbench:TextFileViewer. It is a read-only view that supports automatic word-wrap.</p>
NCCB-1892	workbench	Enum Schedule color coding	<p>In AX 3.8, EnumSchedules in Workbench are now color coded to make it easier to identify the different Enum values. Each value will receive its own color from a default palette of 14 colors.</p> <p>You can specify your own default palette by creating lexicon entries. Simply create entries in the "schedule" lexicon with names "EnumSchedule.colors.0", "EnumSchedule.colors.1", etc. If you need more than 14 colors, you may specify as many as you like in this</p>

way. For null values, use "EnumSchedule.colors.null." These lexicon values will apply across the board to all EnumSchedules.

You may also make a color palette specific to an individual EnumSchedule. To do this, edit the EnumSchedule's facets, available in Workbench on the "Properties" tab. Create a new facet named "colors" with an EnumRange type. You may now specify colors for each value in your Enum - the "colors" ordinal should correspond to the "range" ordinal, and the value should be a color.

For instance, say your EnumSchedule was backed by the FrozenEnum range "driver:PollFrequency". This range has three values: fast, normal, and slow with ordinals 0, 1, and 2 respectively. Say I wanted "fast" to display in red, "normal" to display in green, and "slow" to display in blue. I would create a new "colors" facet with type EnumRange, and give ordinal 0 a value of "red", ordinal 1 a value of "green", and ordinal 2 a value of "blue". BooleanSchedules also support color customization. Follow the same directions as above, but use ordinal 0 for false and 1 for true. The lexicon values will be "BooleanSchedule.colors.0", "BooleanSchedule.colors.1", and "BooleanSchedule.colors.null".

Note that all colors can be specified as any string that can be parsed by

			BColor: color names like "red" and hex strings like "#F00" (RGB), "#FF0000" (RRGGBB), and "#FFF00000" (AARRGGBB) all work.
NCCB-2036	workbench	BKioskService pulls password from user service to authenticate	Due to the latest security enhancements, the auto log-in for the Kiosk Service now requires a user to enter an 'autoLoginPassword'. If the user fails to log in, the user is taken back to the original Kiosk log in screen.
NCCB-2553	workbench	BRelTimeFE shows incorrect Sign value	Multiple calls to BRelTimeFE.doLoadValue can be problematic if the value switches from a positive value to negative value without a refresh. This is now corrected so that a refresh is not required.
NCCB-2569	workbench	Px Editor hyperlink property cannot be edited correctly if view has passing parameter	<p>In AX 3.7 and previous, working with ViewQuery parameters in an ORD field editor could be difficult. Adding ViewQuery parameters to the ORD could prevent the view selection dropdown from working, and selecting a new view could erase your parameters. The workaround was to edit the text of the ORD directly.</p> <p>In AX 3.8, an additional editor button has been added to the ORD field editor that allows you to work with ViewQuery parameters. Whenever working with an ORD field editor that allows for view selection (for example, a HyperlinkButton in the Px Editor), you will see two additional buttons - a double arrow and a history button. These buttons allow you to edit</p>

			<p>ViewQuery parameters directly.</p> <p>Simply click the double-arrow to open the parameter editor. You can add and remove individual keys and set their values. (Remember that the semicolon (;), percent (%), question mark (?), equals (=), and pipe () characters are invalid for View Queries.) The parameter string will automatically constructed and appended to the ORD for you.</p> <p>You can also choose from a history of previously entered sets of ViewQuery parameters, very similar to the existing history selections for Facets and EnumRange.</p> <p>The parameter editor button will not be visible if the view selection dropdown is hidden. To enable the view selection widgets, set the ORD slot's <code>chooseView</code> facet to true.</p>
NCCB-2571	workbench	BUserPrototypeFE.loadService throws exception when working offline	<p>NiagaraAX 3.8+, Users are now editable in the UserService when editing an offline bog file; choosing a UserPrototype is no longer be a problem. In 3.7 Update 2, UserPrototype selection does not work, but no exceptions will spam the console when you load the offline UserManager on a User.</p>
NCCB-3610	workbench	Java deadlock between Fox:ClientSync and BWbView.WbViewBinder	<p>WbViewEventWorker has been added as a utility for helping WbViews with deadlock problems that steam from BWbComponentEvent.handleComponentEvent. Now instead of incorrectly doing additional subscription on the subscription callback thread,</p>

			the subscription is safely done a little later on the WbViewEventWorker. Developers should review their callbacks for handleComponentEvent and ensure to limit their calls to "reload" or "registerForComponentEvents".
NCCB-4523	workbench	Stack overflow in MgrTable when adding multiple history imports	There is no more potential for Stack Overflow now that the MgrTable uses the new WbViewEventWorker for additional subscription required in handleComponentEvent. For details, see NCCB-3610: Java deadlock in workbench trying to manipulate users.
NCCB-4526	workbench	Newly added BComplexEntry.lease has rare race condition that can prevent PropertySheet load	Starting 3.7U1, if a Property Sheet is trying to expand one child, there is a rare race condition that can prevent the Property Sheet from loading that child if another child gets removed. This is fixed in 3.8R.
NCCB-5920	workbench	New Station Wizard should have options to enabled/disabled Foxs/HTTPS	Starting with the Niagara AX 3.8 Release, the New Station Wizard allows the choice of configuring secure connections (for Fox and Web) or non-secure connections. By default, the wizard presents the configuration for secure connections.
NCCB-647	workbench	BPermissionsBrowser doesn't show all BSpaces	<p>Prior to AX 3.8, the following three views worked in workbench, but were missing some or all of the spaces when viewed in an applet due to timing issues; refreshing sometimes helps:</p> <ul style="list-style-type: none"> • PermissionsBrowser • CategoryBrowser • MetadataBrowser (alternate view on BStation)

			<p>Developers using javax.baja.treetable.TreeTableModel should check if their model needs to be updated at the end of the doLoadValue method and update it if it needs initialization:</p> <pre>if (! model.needsInitialization() model.updateTreeTable(tr</pre>
NCCB-653	workbench	Web profile appears to be editable by read-only user	<p>In AX 3.7 and earlier, expanding a property sheet entry for a Component did not lease the Component first. This caused some problems when editing Components with MixIns, such as Users' web profiles.</p> <p>In 3.7 Update 1 and later, the Component is leased before expansion, so web profiles and other mixins will display correctly in the expanded entry.</p>
NCCB-666	workbench	BHostOrdFE throws exception when you change host scheme from NiagaraStation prop sheet	BHostOrdFE no longer throws an exception when you change the host scheme from a NiagaraStation's Property Sheet.
NCCB-684	workbench	Trouble in opening platform tunnel option	Tunneling to Platform connections would not work due to problems in the Connection Dialog. As a workaround in previous versions, you can manually type in the tunnel ord with Ctrl+L.
NCCB-851	workbench	Workbench copy fails silently if target is missing jar file	<p>When using workbench to copy a tree of objects to a remote station, the modules required for a complete paste of the tree are now interrogated before the copy occurs. If there is a missing module required for a root entry you will receive this error dialog:</p> <p>"The following missing modules are required</p>

			<p>for root targets to be transferred: <module1>, <module2>"</p> <p>If there is a missing module for a child slot of the component tree, you will still be able to attempt the transfer, but now you must confirm that you want to complete the transfer by answering this confirmation dialog:</p> <p>"The following missing modules are required for child slots to be transferred: <module1>, <module2> Continue with partial transfer?"</p>
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