

Integra 3.8.111 (3.8 Update 1)

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Product: Integra
Product Strategy: 3.8.111

Summary

This software release includes several resolved issues as well as new features for the AX Integra hardware platforms and Supervisor systems. All upgrade files relative to this release can be found on the [Dealer Toolbox](#) by visiting [Product Support > Software Updates](#). New features include:

- Support for the IT-8000 running AX software
- The Java Web Start application has been added. This allows users to display Niagara Java Applet interfaces in a standalone application to mitigate support for browser based Java plugins
- Support for Windows 10 based systems running Integra Workbench and Supervisor
- Java security policy files will now auto-download

Resolved Issues (v3.8.111)

Issues listed below have been resolved between build 3.8.41 and the new 3.8.111. Issues resolved between the prior release build, 3.8.37 and 3.8.41 can be found beginning on page 33 of this broadcast.

Release Notes not assigned to a module

HAREMB-36	Concurrent local host name resolution crashes virtual machine
Prior to Niagara AX 3.6U5, 3.7U2 and 3.8U1, concurrent requests to resolve DNS hosts names could cause a station to exit. These situations typically occurred when multiple outgoing email accounts on JACE attempted to send a message at the same time. This has been corrected.	
NCCB-11266	The Workbench schedule editor should not allow an enum schedule to have values set outside of its defined range
The editing of enum schedules in Workbench has been updated in Niagara AX 3.8U1 and Niagara 4.2 to limit the values available in the drop down to the enum range defined in the schedule's facets. This is intended to avoid the accidental setting of an invalid enum ordinal as arbitrary values could be typed in previous versions. An enum schedule with no range facets applied will still allow free editing of values.	
NCCB-12380	Unlimited Policy File Distribution for Niagara Applet
In 3.6, 3.7, 3.8 and 4.0, users of niagara applet needs to download the unlimited strength policy file, replace it in appropriate java installation directory and restart the browser. This manual step may cause error and is inconvenience to them.	
Niagara applet in 3.6.407.1, 3.7.108, 3.8.41, 4.0, these steps are automated. Now, these policy files are automatically installed to proper location after user's consent.	

NCCB-12727	User with non-ASCII characters in their names are unable to login via browser
<p>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.</p> <p>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.</p>	
NCCB-13746	Backport STARTTLS support to 3.8u1
<p>'STARTTLS' support has been added to Niagara AX starting in Niagara 3.8 update 1. The 'useStartTls' property is now available on outgoing and incoming email accounts, and can be set to 'true' to use the STARTTLS command when connecting to an email server.</p>	
NCCB-14105	Applet should cache to Local Profile, not Roaming Profile
<p>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.</p>	
NCCB-14755	Migrate AX to use Oracle Eng Srvcs Windows Java 8 JREs
<p>Starting in Niagara AX 3.8.101, the Java Runtime Environment (JRE) version has been upgraded to Java 8 version 1.8.0.66.</p>	
NCCB-15093	AX: Each call to PlatformProvider::getDefaultPassword leaks 1 file descriptor
<p>In versions after Niagara 3.8 and prior to Niagara 4 and Niagara 3.8 Update 1, loading the Platform Administration View could cause the Niagara daemon to leak a reference to file descriptor. This has been corrected.</p>	
NCCB-17509	Linux station crashes when attempting to connect via VPN
<p>Prior to Niagara AX 3.8 Update 1, certain VPN configurations could cause Niagara to crash when running on Linux. This crash has been fixed in 3.8 Update 1.</p>	
NCCB-19395	Update BWbWebProfile for Web Start
<p>As of 3.8U1 and 4.2, WbWebProfile now contains two new configuration settings to control the appearance of the Web Start application. These settings allow the the address bar and status bar parts of the user interface to be hidden or shown, as preferred. Both will be shown by default.</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 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-7293	Update the Java virtual machine to 1.5.0.55 in 3.8 update 1
<p>Oracle based JACEs in the 3.6 Update 5 build have been updated to use the most recently available version of Embedded 1.5 Java (1.5.0.55.1).</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 / points, unlike all previous releases.</p>	
NCCB-7712	build does not compile bajadoc for classes with BPassword
<p>In AX 3.8 when running bajadoc on modules that contain classes with BPassword properties, a NullPointerException can be thrown causing the bajadoc to not be generated for that class. This has been resolved in AX 3.8u1.</p>	
NCCB-8296	MBus network only supports single instance in station
<p>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.</p>	
NCCB-9105	The schedule mobile app does not use the time format of the user's locale
<p>As of Niagara AX 3.8U1 and Niagara 4.2, the mobile schedule app will use the clock format defined for the user's locale. Previously, the weekly and daily schedule views would use hard-coded 12-hour labels, and the time editors would use a fixed 24-hour clock format. The clock format used for the mobile schedules is specified by the 'baja:timeFormat' lexicon key.</p>	
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>	

Release Notes assigned to one or more modules

NCCB-10366	Win32 Installer (setup)	3.8 images missing test.exe file
Starting in Niagara AX 3.8.102 the test.exe binary has been re-added to the list of available binaries to permit end users and developers to run unit tests for their modules.		
NCCB-11261	Win32 Installer (setup)	Workbench will not launch on Server 2012 until launched from the console
When installing onto certain Windows Server versions (2008 R2, 2012, 2012 R2, and 2016), running wb.exe or wb_w.exe will require elevated permissions. This ensures that required access permissions to certain files are met. Note: Windows is inconsistent in its application of the elevated permission requirement to the executable files themselves. If there is any issue running wb.exe or wb_w.exe from the Niagara bin directory, use the desktop or Start menu shortcuts instead or right-click these files and select "Run As Administrator".		
NCCB-11716	alarm	AX Alarm Portal needs support for Certificate Manager
In Niagara AX 3.8 release and earlier, and Niagara 4.0, the Alarm Portal doesn't have access to any tools, making difficult to do certain things like manage certificates for TLS connections. In Niagara AX 3.8 update 1 and Niagara 4.1, the Alarm Portal has been enhanced to provide access to the license, certificate management, and credential management tools.		
NCCB-15989	alarm	"Force Clear" option appears in the Alarm Portal when it should not
Added a permission check in the Alarm Portal for the "Force Clear" option.		
NCCB-16272	alarm, kitPx	Alarm Instructions disappear from px widget window
In Niagara AX and Niagara 4.0, when editing Alarm Instructions in a Px page, changes made may be periodically overwritten and lost. This has been fixed in Niagara AX 3.8.101, and Niagara 4.1. For affected versions of Niagara, users can quickly make an edit and click 'OK' on the popup dialog. If they re-open the Alarm Instructions editor, changes will no longer get overwritten until the view is refreshed.		
NCCB-18362	alarm, niagaraDriver	'offNormal' alarm transition is lost when alarm quickly transitions back to 'normal'
In NiagaraAX 3.6 update 4 and earlier, 3.7 update 1 and earlier, 3.8 initial release, and in Niagara 4.1 and earlier, alarms state transition information could be lost in certain circumstances. For example, suppose a station is set up to send alarms to a supervisor that itself sends out alarm emails; if an alarm quickly transitions from 'offnormal' to 'normal', the 'offnormal' email could be lost due to alarm coalescing. In Niagara 4.2 and Niagara 3.8 update 1, an option has been added to not coalesce alarms. The 'coalesceAlarms' property on the AlarmService must be set to false on both the supervisor and the controller. Patches are available for Niagara 3.7 update 1 and Niagara 3.6 update 4. * alarm 3.6.406.4 * alarm 3.6.406.4 * alarm 3.7.106.8 * niagaraDriver 3.7.106.6		
NCCB-2313	alarm, niagaraDriver	Acknowledge large number of alarms leaves alarms ack-pending
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.		

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 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-4802	alarm	ClassCastException when resolving view on local: fox: alarm:
<p>In Niagara AX versions 3.8, Alarm DB view works only for AlarmService but not on AlarmDB similar behavior is shown by AlarmDB Maintenance View.</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-6286	alarm	Changing the filter/time range on the Alarm Console causes Workbench to freeze while alarm records load.
<p>In Niagara AX 3.8 release, 3.7 update 1 and earlier, and 3.6 update 4 and earlier, applying a filter or time range to the Alarm Console view causes workbench freezes until all alarms have loaded. No progress is shown while the alarms are loading.</p> <p>In NiagaraAX 3.8 update1, this has been fixed so that workbench is not frozen, and the Alarm Console will update as new alarms are loaded.</p>		
NCCB-7703	alarm, email, onCall	OnCall Recipient Does Not Send Email
<p>In NiagaraAX 3.8, 3.7 update 1, and 3.6 update 4, if a user associated with an OnCallRecipient does not have an email address configured, no error message is shown when emails cannot be sent.</p> <p>In NiagaraAX 3.8 update 1, 3.7 update 2 and 3.6 update 5, an error message will be displayed in the station console if a user associated with an OnCallRecipient doesn't have an email address configured.</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
<p>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.</p>		
NCCB-5525	alarmOrion	AlarmOrion needs to minimize connection pool usage
<p>In AX 3.7 Update 1 build 3.7.106 and earlier, alarmOrion uses an unneeded amount of concurrent connections which causes performance problems and reaches the default max pool size sooner than it needs to. This is fixed in alarmOrion 3.7.106.1 or higher, AX 3.7 Update 2 and AX 3.8 Release.</p> <p>To workaround this problem in affected versions, consider changing the Rdbms's hidden ConnectionPool property to use a "max active" of $100+(2*N)$ where N is the number of NiagaraStation in your station.</p>		
NCCB-5526	alarmOrion	AlarmOrion floods BFacets interning with too many unique values
<p>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.</p>		
NCCB-18478	backup	Backup installation prints error message to console, fails to restore BPassword slot
<p>In Niagara AX 3.8.38 and 3.8.41, making a backup of a running station does not properly transcode passwords to a portable format. Installing these backups causes the passwords to become blank, requiring them to be re-entered. In 3.8U1 and in patched versions, passwords will be properly transcoded when making backups of running stations.</p>		
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-11020	bacnet	BACnet trend logs extensions duplicate their export on station start
<p>In bacnet modules 4.0.11.0 and earlier if a point with a child BacnetTrendLogExt is in the component tree higher than the export table, duplicate export descriptors will be created. In bacnet modules 4.0.11.1 and later the Trend-Log Extensions are now initialized in the 'atSteadyState' callback instead of 'descendantsStarted' avoiding the creation of duplicate export descriptors.</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-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 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.</p>		
NCCB-12459	bacnet	Deadlock subscribing to BACnet NetworkPorts
<p>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.</p>		
NCCB-17093	bacnet	BACnet log imports don't play nice with daylight savings times when importing from Eagles

<p>In bacnet modules prior to 3.5.39.6, 3.5.406.2, 3.6.47.26, 3.6.305.7, 3.6.407.2, 3.6.502.2, 3.7.46.8, 3.7.108.3, 3.7.201.2, 3.8.41.12, 3.8.101, and bacnet-rt modules prior to 4.0.22.16.3 and 4.1.27.16.1 the BBacnetLocalDevice's UTC_OFFSET is shifted as the device enters and exits daylight savings time. This is not in compliance with the BACnet specification which requires the UTC_OFFSET remain the fixed offset from local standard time. The Niagara BACnet client no longer improperly corrects for this offset when identifying the timezone of a device during a trend-log import. Unpatched Niagara devices will continue to shift their claimed UTC_OFFSET when entering DST. All Niagara to Niagara configurations using BACnet to transfer historical data through BACnet trend-log must be updated in a coordinated manner.</p>		
NCCB-19067	bacnet	Hashcode calculation for PointCmd overflows for large Niagara handles
<p>In bacnet modules versions before 3.8.41.14, 3.8.109.1 and bacnet 4.2 the bacnet driver cannot write to points whose handle value exceeds Integer.MAX_VALUE. Corrected modules no longer attempt to convert a Niagara handle to an integer.</p>		
NCCB-2223	bacnet, niagarad (Java), platform - General	LinkLayer fails when loading network adapters with foreign characters
<p>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.</p>		
NCCB-4081	bacnet	BACnet listens on all network ports
<p>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.</p>		
NCCB-5029	bacnet	First value in bacnet export table does not retain value after disconnect and reconnect
<p>In all bacnet modules 3.8.37 and earlier the first export descriptor on the ExportManager was not subscribed. In bacnet modules 3.8.38 and later the first export descriptor is subscribed when the ExportManager is loaded.</p>		
NCCB-5648	bacnet	Pinging BACnet devices on startup can take a long time.
<p>In bacnet modules 3.8.34 and later, if the BacnetNetwork's worker is using a worker pool, device pings will be dispatched to the worker pool to be handled asynchronously.</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 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-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-5956	bacnet	BTL TC50432-7: ReadRange not returning elements of Active_COV_Subscriptions properly
<p>Beginning with 3.7.107 and 3.8.40, and all versions of Niagara 4, the BACnet Device object will respond to a ReadRange-Request for the Active_COV_Subscriptions property with the proper results. Previous versions would return an empty list of results, even when subscriptions existed.</p>		
NCCB-6252	bacnet	Can't Write To Priority Array On Bacnet Proxy
<p>If you are using the Niagara AX BACnet driver with any of the following versions of the bacnet module, you may see a problem with writing to certain proxy points. The affected versions are:</p> <p>Niagara AX 3.6: bacnet version 3.6.47.8 or later, up to 3.6.406.1 or 3.6U5 Niagara AX 3.7: bacnet version 3.7U1, up to 3.7.106.3 Niagara AX 3.8: bacnet version 3.8R</p> <p>The affected proxy points are those that map a single element of the Priority_Array property of a commandable BACnet object, such as an Analog Output, or an Analog Value with prioritization. These points should evaluate the Niagara prioritization of inputs, and write the 'out' value to the configured element of the Priority_Array in the remote BACnet object. If the referenced array element has a value of NULL, then an affected proxy point will not be able to write a non-NULL value to the controller. If the referenced array element has a non-NULL value, then the affected proxy point will be able to write its value with either a NULL or non-NULL value.</p> <p>This has been corrected in Niagara beginning in 3.6.406.2, 3.7.106.4, and 3.8U1. Proxy points will correctly be able to write to priority array elements regardless of the current value.</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 DeviceRegistry are updated when an 'i-am' message is received from the device. Keeping the "DeviceRegistry" up to date will prevent unnecessary segmentation.</p>		

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.
<p>In bacnet modules 3.8.37 and earlier, newly added BBacnetDevices 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.</p>		
NCCB-7324	bacnet	Problems using BBacnetDevice.getMaxAPDULengthAccepted()
<p>In bacnet modules 3.8.37, BBacnetDevice.getMAXAPDULengthAccepted() 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.</p>		
NCCB-7388	bacnet	ReadRange Responses return more records than requested
<p>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: If a BACnet trend-log contains duplicate sequence numbers some ReadRange requests could return more items than requested. This update limits the items returned to the amount requested, instead of using the sequence number.</p>		
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.</p> <p>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
<p>In bacnet modules 3.7.104 until 3.7.106.9, if a BBacnetDevice was alphabetically before BBacnetDevice (e.g. "BABacnetDevice"),</p>		

<p>the new device dropdown will contain B BacnetDevice 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 B BacnetNetwork).</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 B Bacnet 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 B BacnetDevice is not updated, avoiding the impact to SRAM.</p>		
NCCB-8394	bacnet	Hotspot VM crash with BACnet ethernet port in 64bit AX
<p>In Niagara4 the Windows BACnet/Ethernet functionality has been updated to use WinPcap. WinPcap is available from http://www.winpcap.org/.</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-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-11440	bacnetAws	Backup from AWS stops too soon, after 4096 bytes
<p>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.</p>		
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>		

For affected versions of Niagara, patches are available on Niagara Central:

baja 3.8.38.5
baja 3.7.106.8
baja 3.6.406.6

NCCB-10152	baja, webChart	Remove 'Cannot find agent target type' registry Spam when optional module is missing
<p>Starting in Niagara 4.0, the log level for the following registry message has been reduced from SEVERE to FINE for the "sys.registry" debug logger:</p> <p>FINE [sys.registry] Cannot find agent target type "<Agent Target Type Spec>" for "<Agent Type Spec>"</p> <p>It was determined that these log messages were usually a nuisance in normal operating conditions, so in the rare event that you expect they could contain valuable information, you will now need to set the "sys.registry" log to the FINE level in order to see them.</p>		
NCCB-12037	baja	Watchdog Timeout can sometimes reboot station when its not needed during high CPU Consumption
<p>Prior to this fix, on very rare occasions when the CPU was spiked for long periods on a JACE, it was possible for the JACE to experience a watchdog timeout (default 60 seconds) even if the station's control engine was processing at a rate faster than 60 seconds. While watchdog timeouts are still possible, starting in AX 3.6.503, 3.7.202, 3.8.101, and Niagara 4.0, improvements have been made to reduce the risk of unnecessary watchdog timeouts.</p>		
NCCB-12536	baja, platDataRecovery	Plat Data recovery can get corrupted and prevent station started
<p>Prior to Niagara 4, 3.8U1, 3.7U2 and 3.6U5, the station may fail to start properly if corruption occurred in the Data Recovery Service's active directory. This has been corrected.</p>		
NCCB-15217	baja	Duplicate keys in a facet can cause excessive duplicates in the facets intern casche
<p>Prior to this fix, duplicate keys in facets would cause a growing number of duplicates in the intern cache. This will no longer occur starting in Niagara AX 3.8U1 and Niagara 4.2. Duplicate keys in facets are still not recommended and may not behave as expected. However, if they do occur, there will not be detrimental effects on the intern cache.</p>		
NCCB-18113	baja	Unable to copy AX 3.6U4 station to AX 3.8 (entSec 2.2 station to 2.3) environment when existing Niagara 3.8 installation already exists
<p>In AX 3.8.41 and before, adding stations from 3.6U4 or 3.7U1 would cause any reversible passwords to become unusable. In 3.8U1, the 'makeportable' plat command has been added to convert a station to use portable encoding for reversible passwords.</p>		
NCCB-18245	baja	BAbsTime rarely initializes to wrong value
<p>In very rare cases, baja BAbsTime instances could initialize their date/time fields to the wrong value if multiple threads were</p>		

accessing them simultaneously during lazy initialization. This could lead to incorrect absolute time values in Niagara. Starting in Niagara versions 3.8.107 and 4.2.31.6, this rare defect has now been fixed.

NCCB-4973	baja, bajai, lexicon	Country specific lexicons are not loaded

In AX release 3.7 and earlier, the Lexicon class constructor had two arguments: a BModule and a String, where the String was the "language" identifier. In AX 3.8, the constructor will take two additional String arguments for "country" and "variant" identifier. For example, the locale for mainland china is zh_CN (language and country identifiers are used). Any class that inherits from Lexicon will need to include these two additional arguments.

NCCB-5465	baja	Busy ThreadPoolWorker has too many locks which leads to poor performance

In AX 3.8.29 and earlier, ThreadPoolWorkers could experience performance problems due to mutual exclusion locks in the code that could lead to multiple threads competing for resources. ThreadPoolWorkers are used in numerous places, most notably by the NiagaraNetwork to handle asynchronous work.

In AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.31 and later, the ThreadPoolWorker has been reworked to reduce synchronized sections of code and eliminate some unnecessary locks that would cause threads to block and wait. This should improve performance, especially under stressful conditions (ie. lots of simultaneous asynchronous work). As part of this fix, a max queue size was added to the NiagaraNetwork's thread pool worker. The default max queue size is now 150000 (down from unlimited), but it can be changed with the System property "niagara.network.workerPool.queueSize". This max queue size can help prevent heap overuse on a Supervisor if the queue feeding the NiagaraNetwork thread pool worker gets backed up for some reason. On a JACE, if the queue starts backing up, you may hit heap limits prior to reaching the max queue size, so even this lower default max queue size is high for a JACE, so this max queue size is intended more for Supervisors. In all cases, under normal circumstances, the queue should not get backed up as long as the work posted to the queue is immediately being pulled off by an available worker thread. A "MaxWorkWaitingInQueue" spy diagnostic was also added to the NiagaraNetwork's thread pool worker to tell you the maximum amount of work that has waited simultaneously in the queue at any point in time since the station last started.

To change the NiagaraNetwork's thread pool worker max queue size, add the following to the system.properties file (150000 used here as an example):

```
niagara.network.workerPool.queueSize=150000
```

NCCB-5483	baja	Heavy use of BSimple interning can block engine thread

In AX 3.8.29 and earlier, the interning of BSimple instances was sometimes unnecessary and could lead to performance problems (ie. blocked threads, including the control engine). It was found that some BSimple values, such as specific instances of BFacets, BTime, and BRelTime, were being interned even though it wasn't necessary. Removing these unnecessary intern calls could significantly improve performance.

Starting in AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.30 and later, the following changes are in effect which improve interning performance:

1. BSimple instances can exclude themselves from interning. BFacets, BTime, and BRelTime now skip interning in the following cases:
 - a. BFacets will skip interning when the BFacets instance contains a key called "sourceName". This targets Niagara alarms that were being interned unnecessarily. Other facet keys that will cause interning to be skipped include: "historyId", "lastTimestamp", "firstTimestamp", "startTime", "endTime", "foxSessionId", "historyCursorPreRec", and "historyCursorPostRec". You can optionally add more keys that will exclude BFacets instances from interning by adding a "niagara.intern.excludedFacetKeys" System property (each key you declare in the list should be separated by a semicolon).
 - b. BTime will skip interning if the milliseconds part is not zero (indicates a more specific time which is not likely a good candidate for interning).
 - c. BRelTime will skip interning if the milliseconds part is not zero and there is a non-zero seconds, hours, minutes, etc. part. This

also attempts to detect more specific BRelTimes which are not good candidates for interning.

2. Added a 'maxInternTicks' to the spy to indicate the maximum time it has taken to perform interning.

3. Added an optional max intern cache size that can cap the size of a BSimple's intern cache. This can be set using a System property ("niagara.intern.maxCacheSize").

NCCB-5485	baja	BSimple intern debugging causes heap memory leak
<p>In AX 3.8.29 and earlier, if you had enabled debugging of Simple Type interning using the "niagara.intern.debug=true" System property, the debugging itself could lead to a heap memory leak. This debugging is not enabled by default, so the leak would only occur if you explicitly enabled debugging using the System property.</p> <p>In AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.30 and later, this memory leak has been fixed even when debugging is enabled.</p>		
NCCB-6289	baja	When prompted to authenticate from the applet for niagara point discovery, the save credentials fails and raises an exception.
<p>In AX 3.8 Initial Release, when performing a point discovery from the applet, the user may be prompted to re-enter their credentials. The login dialog that appears allows for the credentials to be saved, however, this does not function correctly and the credentials will not be saved for the applet. In AX 3.8 Update, this has been fixed.</p>		
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> <p>baja 3.8.38.5 baja 3.7.106.8 baja 3.6.406.6</p>		
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-8095	baja	Port NCCB-4973 to default

Provided backward compatibility for NCCB-4973 in AX 3.8.101		
NCCB-11537	bajaScript	String#encodeToString returns a String object rather than a string, when BajaScript minified
Apps using BajaScript may have encountered a bug with String.prototype.encodeToString() returning a String object rather than a plain string. This would cause triple-equal comparisons to fail even when both strings had the same value. In 3.7U2, 3.8U1, and 4.0, this bug has been fixed.		
NCCB-14430	bajaScript	Backport NCCB-10255 baja.AbsTime changes to 3.7 and 3.8
In Niagara 3.7U2 and 3.8U1, a getMillis() method has been added to BajaScript's baja.AbsTime so that two AbsTimes are equivalent if they represent the same instant, regardless of time zone.		
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-6287	bajaScript	BajaScript ORD resolution needs to use updated ORD Target object after subscription.
From AX 3.7 version 201, AX 3.8 version 101 and later, BajaScript will have improved ORD resolution to Properties that aren't Components.		
For instance, resolving station: slot:/stationName will pass the Station's name in the first argument of the function's callback instead of having to access it from the Component's sstationName Property.		
NCCB-10007	bajau, workbench	Java 7u_65+ applet restarts while refresing the PX view with an active Popup binding
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. 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.		
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, In 3.8.38.2 bajau to turn PxInclude caching on as a workaround: niagara.pxInclude.cache=widget In 3.8.38.3 bajau 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		

NCCB-2078	bajoui	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-9708	bajoui	PxInclude using Java 7u65 applet causes applet restart due to "java.lang.ThreadDeath"
<p>Oracle's Java 7 Update 65 plugin can cause problems with Niagara's Workbench Applet in all versions of Niagara. The problem can cause px pages with PxIncludes to reboot the applet when navigating to a different location.</p>		
NCCB-1556	batchJob	cannot dispose of job if bjl or bjsl files are missing
<p>In Niagara AX versions of provisioning, jobs for which related files (.bjl, .bjsl, .dist) were missing could not be disposed, and could accumulate on supervisors indefinitely. In Niagara AX 3.8 versions 3.8.101 and higher, AX 3.7 versions 3.7.202 and higher, AX 3.6 versions 3.6.503 and higher, and Niagara 4, disposal can succeed even when files are not present.</p>		
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 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> <p>AX 3.8.101 Niagara 4.0.1</p> <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
<p>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'.</p>		
NCCB-5946	ccnDriver	Override should send override command continuously
<p>Prior to AX Versions 3.5.501,3.6.501 & 3.7.201, in CCN Driver, even if the override action is called with "permanent" parameter on the Numeric Writable point, after some time out value of the point changes back to the "Auto" or actual value of the point due to the reset time out set in the CCN device. In AX versions 3.5.501, 3.6.501 and 3.7.201 and later, in case of "override" action, "Supervisor Override" command is sent continuously to the CCN device based on the "Minimum Write Interval" set on the CCN Device, until "Auto" is called on the Numeric Writable Point.</p>		

NCCB-18694	crypto (legacy only)	3.6U4 Stations with CryptoService will fail to run once upgraded to 3.8U1
If CryptoService is include in NiagaraAX-3.6 stations, then it must be removed from the station before migrating that station to NiagaraAX-3.8. If the Crypto Service is not removed that migrated station will not start in NiagaraAX-3.8.		
NCCB-3030	devkit, lexicon	Lexicon Editor reports false positives for duplicate keys
Prior to AX 3.8.101 and AX 4.0.1, the Lexicon Editor could report a false positive match when attempting to add new key/value pairs to a lexicon. This has been resolved.		
NCCB-6048	devkit	New Driver wizard throws null pointer in Linux dev environment
Prior to AX 3.7.201, 3.8.101 and 4.0.1, the New Driver Wizard could throw a NullPointerException. To workaround this, add USERNAME=[username] environment variable to Workbench's runtime environment. This has been corrected in later versions.		
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 the critical data recovery service unnecessarily.</p>		
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> <pre> ERROR [11:40:45 02-May-14 EDT][web] Internal Server Error java.lang.NullPointerException at com.tridium.web.WbServlet\$AppletWriter.appletStart(WbServlet.java:951) at com.tridium.web.WbServlet\$AppletWriter.appletStart(WbServlet.java:939) at com.tridium.eas.BEasReport.writeApplet(BEasReport.java:350) at com.tridium.eas.BEasReport.doGet(BEasReport.java:242) at com.tridium.eas.BEasService.doGet(BEasService.java:1329) at javax.baja.web.BWebServlet.service(BWebServlet.java:132) at com.tridium.web.WebProcess.serviceWebServlet(WebProcess.java:517) at com.tridium.web.WebProcess.service(WebProcess.java:110) at com.tridium.web.SysServlet.service(SysServlet.java:111) at javax.servlet.http.HttpServlet.service(HttpServlet.java:805) at com.tridium.httpd.ServiceThread.handleRequest(ServiceThread.java:356) at com.tridium.httpd.ServiceThread.run(ServiceThread.java:109) </pre>		

NCCB-19734	entsec, rdb	RdbSecuritySettings passkey requires Strong password enforcement
Enterprise Security builds 2.3.18 and earlier did not enforce strong password requirements for passkey. Enterprise Security builds 2.3.19 and later will enforce the strong password rules for passkeys.		
NCCB-6037	fox	Fox deadlocks can inhibit all fox connections
<p>With Java 1.7, a bug was found in the Oracle VM that allows for deadlocks to occur periodically when using SSL. This can cause unpredictable behavior if the number of deadlocked threads gets too high. By default, the deadlocks may slowly accumulate. However, an optional property can be added to the system.properties file:</p> <p>niagara.fox.maxDeadlockedThreads=-1</p> <p>If the value is set to a number greater than 0, when that number of deadlocks has been reached, the station will save, then shutdown. If the station has been configured for "restart on failure" then the station will start back up.</p> <p>The bug is scheduled to be fixed in Java 1.7.0_u60.</p>		
NCCB-13696	history, rdb, rdbSqlServer	Rdb History Exports get ArrayIndexOutOfBoundsException when using multiple worker threads
<p>In Niagara AX versions 3.8.38, when attempting to export the histories to the SqlServer, the export descriptors eventually went into fault and we get an ArrayIndexOutOfBoundsException.</p> <p>This behavior has been fixed for Niagara AX 3.8.39 and Niagara4.0.</p>		
NCCB-15752	history	Niagara History Imports get stuck pending and stop importing
<p>Prior to this fix, in rare race condition scenarios, Niagara history import descriptors could get stuck in a pending state and stop importing histories from one station to another. The importing station would require a restart to get the stuck history imports processing again. This defect has been fixed starting in Niagara 4.1, Niagara AX 3.8U1 and a 3.8.41.1 niagaraDriver.jar patch for Niagara AX 3.8R.</p>		
NCCB-6058	history, niagaraDriver, rdb	Resizing Niagara histories can lead to temporary delays while the operation is processing
<p>Resizing existing histories is known to be an expensive operation and can lead to temporary loss of navigating to certain sections of the history space for a station while the resize operation is processing. This can happen on the next execution of a history after you change the capacity of a history extension or imported/exported history. It is especially noticeable for very large histories. While there is no workaround for this issue, it should be a rare use case, and the solution is just to wait until the operation completes (then navigation should resume as normal).</p>		
NCCB-10130	hx	BHxGenericFE does not handle unbound bindings exception in process method
<p>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.</p>		

NCCB-15244	hx	AX backport: HxPx memory leaks memory when consistently viewing the same page for long periods
In any Niagara version before Niagara 2.0.22.16, AX 3.8.101, AX 3.6.503, AX 3.7.202, HxPx has been shown that it can leak memory for certain hpx widgets like the HxHistoryChart. HxPx has been shown it can leak around 1KB per widget per minute. To workaround the memory leak in any affect build, make sure to only open your hpx view when you are using it and do not leave it open for long periods of time. If you do need it open for long periods, log out and log back every few hours to clear the HxPx cache for those views.		
NCCB-19765	hx	The Label configure with 'Value Binding' and a null ord doesn't appear at browser using Default HX Profile
In Ax 3.8 build 3.8.111, Hx Labels that have a value binding will not show up on the browser. Ax 3.8 build 3.8.112 and later, correctly shows up the Label. Please note that Hx Widget now respect the HxDegradeBehavior flag and the in cases that a binding is incorrect and the degrade behavior is set to "hide", then the widget will be hidden in the browser.		
NCCB-8951	kitControl	Loop point becomes disabled
In kitControl releases prior to 3.8.41.1, there was a race condition that could cause loop's out property disable status flag to remain disabled when the loop's enable input transitioned to true.		
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-5058	kitPxGraphics	The background image of TerminalUnitFPBParallel graphic does not display the background box when Active
TerminalUnit_FPB_Parallel from KitPxGraphics was not displaying properly when in the "on" state. The source .gif was modified to properly display animation.		
NCCB-16182	ldap	Need Active Directory UserService to connect to multiple domain controllers
In Niagara AX 3.8 update 1, the LdapUserService now supports the use of multiple LDAP extensions. Multiple LDAP extensions can now be added to the LdapUserService and configured for different LDAP servers. New LDAP users will attempt to log in to each LDAP server. On subsequent logins, they will attempt only the last LDAP server they successfully logged in to. This feature does not work with Kerberos extensions.		
NCCB-17721	ldap	Protect LDAP keytab files for AX on Titan
In Niagara AX 3.8.41 and before, Kerberos keytab files were stored in plain text, allowing anyone who has access to the keytab file the ability to gain access to the Kerberos server. In 3.8U1, keytab files are encrypted on the file system and will only be decrypted when necessary for authentication. When migrating from 3.8U1 to N4, it is required to use 4.2 or later for encrypted keytabs to migrate properly.		
NCCB-13496	lonworks	nvi writes to lon device even if it is disabled in proxy extention
Disabled lonProxy points would still cause NV updates. This was fixed in lonworks 4.1.27.3, 3.8.42, 3.7.109, and 3.6.503 .		

NCCB-14629	lonworks	Learn Nv deletes proxy points (even with NCCB-9353 fix in place)
LearnNv action could delete some existing proxy points. This was fixed in Lonworks 4.1.27.3, 3.8.42, 3.7.109, 3.6.503		
NCCB-15744	lonworks	Lon XML Tool doesn't support tab characters in value file
LonXmlTool would not parse xif files that contained tabs in the VALUE file entries. This was fixed in lonworks 4.1.27.3, 3.8.42, 3.7.109, 3.6.503		
NCCB-16116	lonworks	ClassCast Exception on Facets for SNVT tempP NumericPoint
Attempting to modify facets on a LonFloatProxyExt would throw a class cast exception. This was fixed in lonworks 4.1.27.3, 3.8.42, 3.7.109, 3.6.503		
NCCB-18049	lonworks	3.8U1: LonNetwork device at nodeId 1 cannot be used
When added a new LonNetwork adding a device at subnet/node address 1/1 could sometimes fail. This was fixed in lonworks 3.8.110.		
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-13945	mbus	Mbus TCP/IP spinning CPU during socket loss
When connectivity issues occur with the TCP/IP variant of the Mbus network, the CPU usage can increase to 100% depending on how the fault is detected from the hosting system running the station. This has only been witnessed on Windows Server variants currently. The adjustments done will compensate for this, and where it's a temporary loss will first attempt a second re-connect in case the connection is recoverable immediately.		
NCCB-13219	mobile	Back/Forward/Logoff/Refresh buttons disabled in mobile Px
In 3.8U1, a bug causing Back, Forward, Refresh, and Logoff buttons in Mobile Px to be disabled has been fixed.		
NCCB-9093	mobile, schedule	The mobile schedule app's week view does not use the locale's first day of week
As of Niagara AX 3.8U1 and Niagara 4.2, the mobile schedule app will display the weekly schedule with the days ordered according to the first day of the week as defined for the user's locale. The first day of the week is specified by the 'baja:weekday.firstDayOfWeek' lexicon key.		
NCCB-10984	modbus	Resolution lost when writing signed 32 bit long value in ModbusTCP

<p>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 between -2147483648 to 2147483647. Correction included in the following patched jar files::</p> <p>modbusCore 3.8.38.3 modbusCore 3.7.106.3 modbusCore 3.6.406.3</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 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-6088	niagaraDriver	Station to Station Alarm Routing Race condition
<p>In certain circumstances, a failed sending of alarms from one station to another over the Niagara Network can result in the inability to send subsequent alarms. In AX 3.6U5, 3.7U2 and 3.8R this issue has been resolved.</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-10453	niagarad (Java)	Setting logging to 'fine' can break app director output
<p>Prior to Niagara 4.0, the Application Director could fail to function if the station generated large amounts of text in a short time period. This has been corrected.</p>		
NCCB-10568	niagarad (Java)	Unable to put none as station.limit - Niagarad will not run. SF Case # 010040210
<p>Prior to 3.8U1 and 4.0, a station limit specified as the literal string "none" would cause a NumberFormatException. This has been corrected and a limit of "none" will now refer to the maximum number of stations.</p>		
NCCB-10643	niagarad (Java)	Niagarad web server sockets stuck in CLOSE_WAIT state
<p>Prior to Niagara AX 3.8U1, 3.7U2, and Niagara 4, the Niagara Daemon webserver could enter a state where no additional incoming requests would be serviced as a result of all connections remaining in the CLOSE_WAIT state. This has been corrected.</p>		
NCCB-13617	niagarad (Java)	System memory leaks in 32K steps, Jace 6, Jace6E
<p>Prior to Niagara AX 3.6U5, 3.7U2 and 3.8U1, a memory leak in the JACE QNX operating system C runtime library could cause a</p>		

station to exit unexpectedly after an extended period of uptime. This has been corrected.		
NCCB-13960	niagarad (Java)	AX Niagara daemon FileServlet does not calculate file transfer transactions with deletions properly
Prior to Niagara 3.7U2 and 3.8U1, the Niagara Daemon File Servlet may incorrectly calculate the free space available for the installation of distribution files if those distribution files contain delete elements. This has been corrected.		
NCCB-19562	niagarad (Java)	platformInfo servlet usage regularly produces "tSrvc: socket error: Connection reset" error message
Prior to Niagara 3.8U1, error messages of the nature "tSrvc: socket error: Connection reset" could regularly occur in daemon output even when no erroneous behavior occurred. This has been corrected to prevent false positives and expected conditions from being counted as errors.		
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-8096	niagarad (Java), workbench	Station Copier hangs prior to reboot
Prior to Niagara 4.0, the station copier would not wait a sufficient amount of time for a pre-existing station to stop before proceeding with the station copy. This could prevent the station copier process from completing, preventing a reboot from occurring. To workaround, delete the existing station prior to copying.		
NCCB-8312	niagarad (Java)	Niagara Daemon OutputBuffer ignores File Length limitation
Prior to Niagara 4.0, the File Length limitation for console.txt (Station output) was not being properly respected. This could cause a station to shutdown improperly if inadequate space was available on the platform for the text file.		
NCCB-9150	niagarad (Java), platform - General	Linux platform does not save station on shutdown
Prior to Niagara AX 3.8U1 and 3.7U2, Linux installations could fail to save a station on Niagara Daemon clean termination. This has been corrected.		
NCCB-19327	nre	Do not decrease heap size to increase permanent generation if maxHeap is not licensed

<p>Prior to Niagara 3.8 Update 1 the Niagara Runtime Environment launcher would subtract any additional Java Permanent Generation (PermGen) requirements for a QNX Station from the Java Heap regardless of the presence of the "maxHeap" license feature. This has been corrected to only subtract the additional requirements from the Java Heap if the "maxHeap" feature is present.</p>		
NCCB-6904	nre	Wbapplet fails after JACE upgrade to 3.8 due to caching of ".km" file.
<p>After upgrading a station from NiagaraAX 3.5 update 4, 3.6 update 4 or 3.7 update 1 to NiagaraAX 3.8 release, a bug can prevent the applet from loading correctly when connecting to the station. This occurs only if the user connected both before and after the upgrade, using the same URL.</p> <p>In NiagaraAX 3.8 update 1, the bug has been fixed - a 3.5u4, 3.6u4 or 3.7u1 station upgraded to 3.8u1 will have an applet that loads correctly.</p> <p>Affected users can delete their Niagara wbapplet cache, located at C:\Users\<username>\niagara\wbapplet\.</username></p>		
NCCB-7308	nre	StationManager.createStation() results in corrupt config.bog
<p>Developer customers who use the javax.baja.platform.StationManager.createStation() 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.</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 like ObixHistoryImports will be stuck "In Progress" or "Pending", and proxy point subscriptions will no longer occur. Already subscribed points may 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-7413	obixDriver	Points lost from watch upon resubscription after network failure
<p>When using the Niagara AX OBIX driver in earlier versions, 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 now. 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 		

<p>Point watch is no longer created when device is disabled</p> <p>Refresh period is updated and point subscriptions are verified upon attaching point watch</p> <p>Thread pool max thread count is set to at least the number of devices to improve performance</p> <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 no matter what kind of authentication is being used.</p> <p>For affected versions of Niagara, patches are available on Niagara Central.</p> <p>web 3.8.38.3</p> <p>web 3.7.106.13</p> <p>web 3.6.406.6</p>		
NCCB-8837	opc	Duplicate values get written to the OPC Server
<p>In the opc module, prior to versions 4.0.1, 3.8.101, 3.6.503 & 3.7.202, opc driver used to write multiple write values to the OPC points with the "Write value" of the proxy extn. This is fixed in the later versions.</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-17127	pdf	Px page with BorderPane does not export to pdf correctly
<p>In Niagara AX 3.8.41 and 3.7.108 and earlier, exporting a PX view that contains a border pane to PDF will cause the PDF to be corrupt. This issue has been fixed in patched versions and future updated builds.</p>		
NCCB-3487	platCrypto	Certificate Manager doesn't always use lexicon
<p>Certain fields in Certificate manager were not lexiconized .Fixed to use the lexicons.</p> <p>This behavior has been fixed in AX 3.7.107, AX 3.8.38 and Niagara 4.0 as well</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-8187	platDaemon, platform - General	Upgrade from 3.7.106 to 3.8.38.3 stops niagarad on Jace (Key material not updated?)
No longer able to reproduce.		
NCCB-8852	platDaemon	Commissioning wizard does not delete existing station as directed
Prior to Niagara 4.0, the Commissioning Wizard and Station Copier would not completely delete the contents of the existing station if the "Delete existing station" option was selected. As a work around, uninstall the existing station before installing a new station. This has been corrected in Niagara 4.0.		
NCCB-10752	platDataRecovery	Exception thrown by dataRecoveryService when adding large bogs to station
Prior to Niagara 4, 3.8U1, 3.7U2 and 3.6U5, the Data Recovery Service may fail to function properly if a change occurred in the component space that was too large to store in SRAM. This has been corrected.		
NCCB-11493	platDataRecovery, platform - General	Could not obtain an idle block when attempting to flush, a serious error has occurred java.lang.Exception: Stack trace on JACE 603/645
Prior to Niagara 4, 3.8U1 and 3.7U2, the Data Recovery Service may incorrectly report that an idle block was not obtainable during the flush process. This has been corrected.		
NCCB-12367	platDataRecovery	SRAM: Data Recovery goes into Fault when subscribing to more than 400 proxy points
Prior to this fix, on battery-less JACEs, when subscribing the Niagara proxy points under a NiagaraStation in the NiagaraNetwork, a lot of unnecessary traffic would be performed that could cause the DataRecoveryService to go into fault. Starting in AX 3.6.503, 3.7.202, 3.8.101, and Niagara 4.0, this defect has been fixed so that the unnecessary traffic is no longer created.		
NCCB-12377	platDataRecovery	SRAM: sysManagers/dataRecoveryManager/baja\$3aComponentSpace is blank if DataRecoveryService is in Fault state
Prior to Niagara 4, 3.8U1 and 3.7U2, the Data Recovery Service spy page may fail to populate if the service is in the fault state. This has been corrected.		
NCCB-19579	platDataRecovery	AX: DatarecoveryService buffers overflowing causing multiple station saves
Prior to Niagara 3.8.110, the adding a large component to a Niagara Station could cause the Data Recovery Service to issue very quickly issue multiple save requests. This has been corrected.		
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.		

<p>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.</p>		
NCCB-9731	platDataRecovery	Data Recovery failure mode blocks station threads causing station to reach fox.maxServerSessions limit and prevent fox connections
<p>Prior to Niagara 4, 3.8U1, 3.7U2 and 3.6U5, the Data Recovery Service may fail to function properly if the service was in fault during a station save. This has been corrected.</p>		
NCCB-6040	platIEEE8021x	Lexicon in platIEEE8021X needs help.guide.base key to docPlatform
<p>Prior to 3.8.101, the platIEEE8021x module did not contain a link to the docPlatform guide. This has been corrected.</p>		
NCCB-7820	platMstp	platMstp for NPSDK contains System.out "Frame Received" message
<p>Prior to 3.8U1 and 4.0R, the NPSDK implementation of the MS/TP Platform Service contained a message intended for the trace filter in the standard output stream. This has been corrected.</p>		
NCCB-5897	platWifi	Can Not Save WPA-PSK Wifi Networks- Key and Confirmation Do Not Match
<p>Prior to AX 3.8.30, AX 3.7.107, AX 3.7.201, AX 3.6.407 and AX 3.6.501, the WPA-PSK wireless configuration settings could falsely indicate a password mismatch. This behavior was introduced in 3.7U1 and 3.6U4 update builds. This behavior has been corrected.</p>		
NCCB-10742	platform - General	Timezone database requires updating
<p>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.</p>		
NCCB-12304	platform - General	java.net NetworkInterface does not return correct IPv6 address for JACE
<p>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.</p>		
NCCB-13033	platform - General	PlatformService failureRebootUpdateThread fails to complete resulting in many thread to be created waiting to start updating
<p>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::failureRebootUpdateThread" threads in the station, eventually causing the station to fail. This has been corrected.</p>		
NCCB-16621	platform - General	Platform admin and platform services report wrong windows version in windows 10 (and probably 8.1) in 3.8
<p>In Niagara AX 3.8.41 and earlier, platform administration and platform services views show the incorrect Windows version on Windows 8.1 and Windows 10. This has been fixed in Niagara 3.8.109 and newer.</p>		

NCCB-18124	platform - General	PlatformServices view incorrectly displays ramdisk size on JACE-8000
Prior to Niagara 4.2, the RAM disk size in the System Platform Service Plugin and Hx views was displayed using megabyte (1000^2^ units, rather than the preferred mebibyte (1024^2^ units. This has been corrected.		
NCCB-18136	platform - General	3.8U1 Station "Stream to File" won't save upon Wb Exit.
Prior to Niagara 3.8.104, streaming the output of the daemon or an application to file would not save output on Workbench close. To workaround, close individual streams (dialogs) before closing workbench. This has been fixed.		
NCCB-18442	platform - General	SSH, Debug servlets do not specify content-length header in response
Prior to Niagara 3.8 Update 1, attempting to modify the Advanced Options (3.8.41) or Telnet / FTP (3.8.38 and prior) configuration for a JACE platform through a tunneled platform connection could result in a read time-out error. This has been corrected.		
NCCB-18519	platform - General	'Error setting daemon credentials' seen in station output after commissioning
Prior to Niagara 3.8 Update 1 an improper or failed communication attempt to a DNS server could result in an error message "Error setting daemon credentials" appearing in the Application Director at Station startup. The condition prompting the message was temporary and it has no permanent impact on Station. This has been corrected.		
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-5482	platform - General	Installing a backup.dist to a replacement JACE does not restore /security.
In NiagaraAX 3.7 and earlier, contents of the <niagara_home>/security directory are not restored when installing the backup on a replacement JACE.		
In NiagaraAX 3.8, contents of the <niagara_home>/security are always restored.		
NCCB-5500	platform - General	slotflags for some SystemPlatformService properties are incorrect
Prior to Niagara AX 3.8.101, some items under the System Platform Service were unnecessarily saved to platform.bog upon Station save. This has been resolved.		
NCCB-6893	platform - General	Spanish locale causes invalid native time zone exception
Prior to AX releases 3.8.101 and 4.0, running Windows 7 with a non-English display locale could cause problems when determining the native Time Zone. This behavior has been corrected.		
NCCB-7544	platform - General	-nan in etc/ntp.drift file causes clock to gain time.
Prior to Niagara 4.0, certain runtime conditions could result in the values -nan or nan being written to the NTP drift file found at /etc/ntp.drift. The presence of this value in /etc/drift prevented the NTP service from synchronizing its time with remote servers.		

To correct the problem, delete the /etc/ntp.drift file and reboot the platform. This has been corrected.		
NCCB-7724	platform - General	QNX TcpIpPlatformService does not apply IP address change
The initial release of 3.8 did not properly save TCP/IP changes for adapters when configuring them through the TCP/IP Platform Service. As a workaround, use the TCP/IP Configuration view under the daemon connection to apply changes. This has been corrected in Niagara 4.0.		
NCCB-17182	portalAPI	Licensing server hostname change causing problems with Provisioning license updates
A bug was found when verifying host names that caused Niagara 3.7 to not recognize subject alternative names. The host name verification has been fixed to properly check for alternative hostnames as SAN extension.		
NCCB-10068	provisioningNiagara	JIKES error compiling robot in provisioningRobot using BITable
In AX 3.8.38, Provisioning Robots would fail to compile if they contained a dependency on nre.jar. This has been resolved in AX 3.8 update 1.		
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. 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-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-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>		

schedule 3.7.106.2		
schedule 3.8.38.1		
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-10459	seriesTransform	Series Transform History Source resolves incorrectly if time range is defined
<p>* Affects Versions - 3.8.41, 4.0.22.16, 4.1.27. Fixed Versions, 3.8.102 and 4.2.28.2 * Module - Series Transform. If a time range is defined in history source and any history source ord with ?delta=true will resolve incorrectly</p>		
NCCB-12790	seriesTransform	Cannot edit y axis descriptors for transform chart binding collection
<p>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.</p>		
NCCB-12791	seriesTransform	Cannot configure Y axis scale for transform chart binding
<p>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.</p>		
NCCB-13764	seriesTransform	Backport NCCB-12923 to AX 3.8 and 3.7
<p>In Niagara AX 3.7.108 and earlier, and 3.8.41 and earlier, editing series transform nodes could occasionally cause workbench to become unresponsive. This has been fixed in seriesTransform 3.7.108.1 and 3.8.41.2.</p>		
NCCB-16888	seriesTransform	Series Transform Graph will not resolve if History Source contains DST "clocks back" records
<p>* Affects Versions - 3.7.108, 3.8.41, 4.0.22.16, 4.1.27. Fixed Versions, 3.8.102 and 4.2.28.2 * Module - Series Transform. This happens when the time switch happens from EDT to EST when the time is rolled back to 1.00 am EST when the clock is 2.00 am EDT.</p>		
NCCB-17293	seriesTransform	seriesTransform quantization cursor does not round correctly
<p>In Niagara AX 3.8.41 and earlier, and Niagara 4 4.1.20.0 and earlier, some seriesTransform records could be quantized incorrectly due to a rounding error. This would result in records that were off by one second in a resolved graph. This has been fixed in AX 3.8.106 and Niagara 4.2.31.6 and newer.</p>		

NCCB-19945	smartTableHx	AX: Exported Reports and Backup dist files are NOT getting downloaded to the local drive from webstart
<p>WebStart has issues downloading SmartTableHx based exports in Niagara 3.8.111.</p> <p>As a workaround you can use the SmartTableHx download from a regular browser.</p> <p>In Niagara 3.8.112+ Sec 2.3.19.4+ (fix requires smartTableHx 3.8.111.2) higher, this has been corrected.</p>		
NCCB-15465	snmp	SNMP export objects which export remote points do not update
<p>In Niagara AX (all versions) and Niagara 4 version 4.1.24.4 and earlier, SNMP export objects which exported remote points (such as those on a NiagaraNetwork station) would not update correctly when read from an SNMP manager. This has been fixed in Niagara 4.1.24.6 and newer.</p>		
NCCB-3598	snmp	Cannot add SNMP Export object if there is an export object in fault.
<p>Attempting to add an export object when there was an existing export object with no object id would fail. This was fixed in patch builds 3.8.38.4, 3.7.106.4, 3.6.502.1</p>		
NCCB-4411	snmp	SNMP string points do not support non-ASCII data
<p>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.</p>		
NCCB-8423	snmp	SNMP point discovery throws stack overflow exception while parsing large MIB file
<p>Snmp point discovery could throw a stack overflow exception when parsing a large MIB file. This was fixed in patch builds 3.8.38.4, 3.7.106.4, 3.6.502.1</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> <p>web 3.6.406.5 web 3.7.106.12 web 3.8.38.1</p>		

NCCB-9600	wbapplet	"java.lang.ThreadDeath" exceptions observed at JAVA console while navigating between the pages using WB default WEB profile
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.		
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-12011	web	Non-ASCII characters in password cause web login to fail
In AX 3.6.406 and earlier, 3.7.106 and earlier, and 3.8.38 and earlier, non-ASCII characters in passwords would cause web login to fail. In future update builds, non-ASCII characters will work properly in passwords. Important note: Any current passwords with non-ASCII passwords are stored improperly, although these passwords currently work with fox, installing a patch or update build with this fix, or migrating a station to N4, will make any existing password with non-ASCII characters break, locking out the user. It is recommended to ensure that any non-ASCII characters are removed from passwords prior to applying this fix or migrating to N4.		
NCCB-14917	web	As a developer, I need to understand how to write a client application that auto-authenticates and can talk to the Niagara AX web server.
A simple example is now available for demonstrating how to develop a java client that can authenticate with the Niagara AX Digest Scheme in 3.8. The example can be found in docDeveloper.		
NCCB-15645	web	Update Applet Caching to reduce impact on platform memory
In Niagara AX and Niagara 4.0, accessing many stations via the applet on the same machine could cause the user's home folder to use up a lot of space to cache modules. In Niagara AX 3.8 update 1 and Niagara 4.1, a station's WebService can be configured via the 'AppletModuleCachingType' property to enable a shared cache in the user's home folder. Rather than cache each module per host visited, the modules will be cached per user, unless a conflict is detected (e.g. two modules with the same name and version, but different timestamps). A patch to web.jar is available for Niagara AX 3.8.		
NCCB-4855	web	Web Tunneling thru stations mangles ord and fails 1st login
In NiagaraAX 3.7 update 1, 3.6 update 4, and 3.5 update 4, web tunneling can in some cases mangle the requested ord, transforming it from an ord on the target station to an ord on the proxy station. This happens when attempting to authenticate to the target station. This has been fixed in NiagaraAX 3.8, 3.7 update 2, and 3.6 update 5. For affected versions of NiagaraAX, patches are available on Niagara Central: web 3.7.106.9 web 3.6.406.4 web 3.5.406.4		

Alternatively, users can authenticate to the target station, and then re-request the ord.		
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. The dialog states very clearly at the top: "Please re-enter your current username and password, then enter your new password and confirm."		
NCCB-5501	workbench	Open Platform dialog should not clear IP address on type change
Starting in NiagaraAX 3.8, the "Open Platform" and "Open Station" dialogs' "Host" field is no longer cleared when the connection type is changed.		
NCCB-5888	workbench	Null Pointer: Sync causes Network User's name to be blank in the User Manager & when refreshed syncRequired set to true
<p>Prior to AX version 3.8.101, the User Manager View would fail to update properly if left open during network User Synchronization.</p> <p>Prior to this fix, some of the user's names would appear to become blank and when a user was clicked on, errors would appear in the Workbench console output.</p> <p>With this fix, the User Manager View can be left open during network User Synchronization with no adverse side effects.</p>		
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.		

Resolved Issues (v3.8.41)

Release Notes not assigned to a module

HAREMB-54	mstp communications slowed after upgrading from 3.7.106 to 3.8.38
<p>In AX release 3.8.38, the MSTP Receive Frame State Machine (RFSM) implements a new state in the RFSM called "skip data". To enter the skip data state, we must receive a packet addressed for another node (not us), and which contains data. A bug was found whereby if such a packet were received/processed by the RFSM, then the amount of data to be skipped(eaten and not used) was incorrectly calculated, causing one or more subsequent packets to be skipped. This resulted in the loss of a packet(s) immediately following the data containing packet. If one of the lost packets was token pass packet, then the Jace would drop out of token passing. The amount of time the Jace would drop from token passing depended on the number of bytes to skip and the network traffic load. The net result is that every time two "other" nodes on the trunk exchanged data with each other, the Jace would drop the token and have to re-sync. This has been fixed in patch jar version 3.8.38.4 and later versions of 3.8.</p>	
NCCB-12727	User with non-ASCII characters in their names are unable to login via browser

<p>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.</p> <p>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.</p>	
NCCB-14105	Applet should cache to Local Profile, not Roaming Profile
<p>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.</p>	
NCCB-1968	NPM6E 3.6.45.1 cleandist does not depend on a system revision
<p>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.</p>	
NCCB-2330	SystemErrorFactory::error() creates error message with "The operation completed successfully"
<p>Prior to 3.8.15, the native SystemErrorFactory 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-5287	Backup dist created in 3.8 contains daemon.properties without digest user/pass
<p>Beginning in Niagara AX 3.8.27, the Station's Backup Service and the Platform's Backup Command will handle platform credentials differently than in previous AX releases. For additional information, please refer to the docPlatform and docEngNotes38 documentation available in the AX 3.8 release.</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 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 / points, unlike all previous releases.</p>	
NCCB-8296	MBus network only supports single instance in station
<p>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.</p>	
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>	

Release Notes assigned to one or more modules

NCCB-1582	Linux Installer	New EULA Workflow in Linux Installer
<p>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.</p>		
NCCB-1293	Win32 Installer (setup)	Windows 8 Support for setup.exe
<p>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.</p>		
NCCB-1429	Win32 Installer (setup)	New EULA Workflow for Win32 Installer
<p>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.</p>		
NCCB-3934	Win32 Installer (setup)	Copy "certManagement" folder as part of "Copy Previous Settings"
<p>Starting in AX 3.8, the Windows Installer now copies the certManagement directory as part of the 'Copy Settings' feature.</p>		
NCCB-1047	alarm	AlarmTimestamps.normalTime gets set to null
<p>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 are acknowledged before the console updates the alarm status.</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.		
NCCB-10548	alarm	adding note to alarm record in supervisor causes multiple updates
In 3.8.38 , adding notes to alarm generated from discovered station in supervisor causes multiple updates of alarm count which has cascading effects on other linked components. Now checks has been introduced for updating the alarms.		
NCCB-12137	alarm, gx	Closing a PX hyperlink Alarm Console will cause a different PX Alarm Console to stop updating
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 Fix is made to correct it , now Closing a PX hyperlink Alarm Console will Not cause a different PX Alarm Console to stop updating		
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.newAlarms(BAlarmChannel.java) at com.tridium.nd.alarm.BAlarmChannel.process(BAlarmChannel.java) at com.tridium.fox.sys.BFoxConnection.process(BFoxConnection.java) at com.tridium.fox.session.SessionDispatcher.dispatch(SessionDispatcher.java) at com.tridium.fox.session.SessionDispatcher.run(SessionDispatcher.java) at java.lang.Thread.run(Unknown Source)</pre> <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
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.		
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>		

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
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. 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.		
NCCB-3929	alarm	NiagaraDriver AlarmsDeviceExt 'replace' does not handle AlarmClasses with spaces in the name
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 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. 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.		
NCCB-3992	alarm	BAlarmConsole can cause an exception when refreshing all tabs
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. This has been fixed in Niagara AX 3.8, 3.7.201 and later, and 3.6.501 and later.		
NCCB-4640	alarm	alarm instruction manager cannot support using proxyExt.device BFormat syntax for alarm extension source name
In Previous versions, certain format like proxyExt.device is not working on workbench side, but works perfectly for station side. This happens due to difference in master and proxy space, to overcome this a special case handling has been introduced in BFormat which will ensure consistent behavior of different formats across workbench and station. Currently the special case handling is done for device which can be extended for other format which faces similar issues.		
NCCB-4802	alarm	ClassCastException when resolving view on local: fox: alarm:
In Niagara AX versions 3.8, Alarm DB view works only for AlarmService but not on AlarmDB similar behavior is shown by AlarmDB Maintenance View.		
NCCB-5022	alarm, platCrypto, workbench	Open dialogs use secure connections by default
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. 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. In previous versions of NiagaraAX, the default connection type was always non-SSL.		

NCCB-5955	alarm	Performance failure: Niagara Alarm Console view fails with many unacked alarms
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.		
NCCB-5989	alarm	3.7 alarm text messages get truncated in the popup window
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. 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.		
NCCB-7741	alarm, bacnet, lexicon	Lexicon entries cause BACnet alarm acknowledgement to fail
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. In bacnet modules 3.8.38.3, 3.8.101 and later the alarm acknowledgment facets are encoded consistently regardless of the active lexicon.		
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
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. 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=<desired size>		
NCCB-5305	alarmOrion	BOrionAlarmConverterJobs can't load in proxy space and prevents JobService from loading
In any 3.7 update or release, when you run the conversion job from the regular AlarmService or the RdbAlarmServie to alarmOrion, the job progress and results will not be accessible via workbench. To view the job results in these versions, you can use the remote spy.		
NCCB-5525	alarmOrion	AlarmOrion needs to minimize connection pool usage
In AX 3.7 Update 1 build 3.7.106 and earlier, alarmOrion uses an unneeded amount of concurrent connections which causes performance problems and reaches the default max pool size sooner than it needs to. This is fixed in alarmOrion 3.7.106.1 or higher, AX 3.7 Update 2 and AX 3.8 Release. To workaround this problem in affected versions, consider changing the Rdbms's hidden ConnectionPool property to use a "max active" of 100+(2*N) where N is the number of NiagaraStation in your station.		

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 got 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: 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. 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. 3) More cleanly detects if the LCU exits reload mode before the driver is finished sending reload lines. 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. 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.		
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
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. 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. More information on this feature can be found here... https://niagara-central.com/ord?portal:/dev/wiki/Niagara_AX_Templating_Engine_Integration		
NCCB-3881	backup, platDaemon	Adjust Station Backup and Station Copier to be "Portable"
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. 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.		

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
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. 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.		
NCCB-10617	bacnet	Bacnet driver - virtual object property reference failed intermittently when accessed by multiple threads
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'. In bacnet modules 3.8.38.4 and later, simultaneous accesses to virtual slots will be serialized to prevent this condition from occurring.		
NCCB-11014	bacnet	BACnet devices reporting device status of non-operational
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. 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.		
NCCB-11103	bacnet	BACnet/IP Broadcast Worker leaks socket
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. 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.		
NCCB-1127	bacnet	Misplaced BACnet proxy point can prevent station save
In bacnet modules 3.8.15 and earlier a misplaced bacnet proxy point could prevent the station from being saved. 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 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 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.</p>		
NCCB-12459	bacnet	Deadlock subscribing to BACnet NetworkPorts
<p>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.</p>		
NCCB-14038	bacnet	Backport to 3.8: Bacnet writes to RELINQUISH_DEFAULT fail to clear null status flag on fallback values
<p>In bacnet modules 3.8.41 and earlier writes from BACnet to RELINQUISH_DEFAULT on exported control points fail to clear the null status flag. The Point then goes into a fault status as there is effectively no BACnet valid value present. In bacnet modules 3.8.41.2 and later the null status flag on the Niagara Fallback value is cleared when a write is received from bacnet. This problem can be worked around by manually specifying a fallback value on the Niagara point.</p>		
NCCB-1827	bacnet	Cannot remove BACnet TimeSynchronizationRecipients
<p>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.</p>		
NCCB-2223	bacnet, niagarad (Java), platform - General	LinkLayer fails when loading network adapters with foreign characters
<p>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.</p>		
NCCB-2312	bacnet	BACnet polls contain same object and property in same poll
<p>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 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-2494	bacnet	Spyder BBacnetDeviceManager and BBrokerChannel Deadlock
<p>In bacnet versions earlier than 3.6.47.12, 3.7.201, AX 3.8.23, there was potential for a deadlock when loading</p>		

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	ArrayIndexOutOfBoundsExpection when batch deleting BACnet ForeignDeviceEntries
In bacnet modules 3.8.18 and earlier, manually deleting multiple Foreign Device Table entries could result in an ArrayIndexOutOfBoundsExpection 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
In bacnet modules 3.6.47.12 and earlier the startup and verification of the BACnet network cannot be disabled. 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. 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).		
NCCB-3211	bacnet	Disabled BACnet network port can prevent other network ports from using the same network number
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.		
NCCB-3241	bacnet	Allow BACnet virtuals to use the point's status flags values
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.		
NCCB-3626	bacnet	BACnet polling can sometimes spin EmptyStackExceptions
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. 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 maxAdu 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. 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-5029	bacnet	First value in bacnet export table does not retain value after disconnect and reconnect
<p>In all bacnet modules 3.8.37 and earlier the first export descriptor on the ExportManager was not subscribed. In bacnet modules 3.8.38 and later the first export descriptor is subscribed when the ExportManager is loaded.</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-5491	bacnet	MAC address race condition when adding a BACnet device dynamically
<p>In bacnet versions 3.8.30 and later, devices added without a MAC address (pragmatically or manually) will be marked as 'stale' for the duration of the PingMonitor's 'alarmStartupDelay'. Marking the device as 'stale' prevents communication (polling, etc) with the device before the MAC address is resolved.</p> <p>Devices added through the device discovery process are created with the discovered MAC address and will not be marked stale.</p>		

NCCB-5648	bacnet	Pinging BACnet devices on startup can take a long time.
In bacnet modules 3.8.34 and later, if the BacnetNetwork's worker is using a worker pool, device pings will be dispatched to the worker pool to be handled asynchronously.		
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 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-5934	bacnet	Bacnet driver's PingMonitor thread can be blocked by one device
In bacnet modules 3.8.30 and later, if the BBacnetNetwork's worker is using a WorkerPool, then all ping requests will be routed to the BBacnetNetwork's worker. Using the NetworkWorker's thread pool will prevent one down device from slowing down pings to other devices.		
NCCB-5935	bacnet	Bacnet driver can take a long time to start when there are lots of devices
<p>In bacnet modules 3.8.30 and later, there is a new property on the BBacnetNetwork, 'uploadOnStart'. The default value is true, which preserves the existing behavior (reading all device information on station start).</p> <p>By changing 'uploadOnStart' to true, the upload process will be skipped for devices that have been previously uploaded.</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-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-6106	bacnet	BACnet virtuals do not receive status updates from the parent BBacnetDevice
<p>In bacnet modules 3.8.30 and earlier, virtual bacnet points did not receive status updates from the parent BBacnetDevice.</p> <p>In bacnet modules 3.8.30.1 and later status facets will properly trickle down to be merge with point facets.</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 DeviceRegistry are updated when an 'i-am' message is received from the device. Keeping the "DeviceRegistry" up to date will prevent unnecessary segmentation.</p>		
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.
<p>In bacnet modules 3.8.37 and earlier, newly added BBacnetDevices 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.</p>		
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.getMaxAPDULengthAccepted()
<p>In bacnet modules 3.8.37, BBacnetDevice.getMaxAPDULengthAccepted() 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.</p>		
NCCB-7389	bacnet	BACnetTrendRecord sequence numbers duplicated or missing
<p>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.</p> <p>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</p>		
NCCB-7466	bacnet	Allow configuration of the bacnet driver's segmentation window size
<p>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</p>		

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.size=1") 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
<p>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.</p>		
NCCB-756	bacnet	BACnet Ethernet on Windows 2008 R2 fails to function
<p>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.</p>		
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. 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. 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
<p>In bacnet modules 3.7.104 until 3.7.106.9, if a BBacnetDevice was alphabetically before BBacnetDevice (e.g. "BABacnetDevice"), the new device dropdown will contain BBacnetDevice twice. 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</p>		

<p>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-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 points with a 'disabled' status are ignored when evaluating a priority array and would prevent 'out-of-service' systems testing.</p>		
NCCB-11440	bacnetAws	Backup from AWS stops too soon, after 4096 bytes
<p>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.</p>		
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>		

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 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
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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.

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.

For affected versions of Niagara, patches are available on Niagara Central:

[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
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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.

In versions 3.7.105 and later, the ForceResetAtNextLogin property will remain set to whatever it was when the station was saved.

NCCB-1107	baja	Backup files are renamed with wrong timestamp
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In AX releases prior to 3.8, when javax.baja.file.FileUtil.renameToBackup() 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 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
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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):

file := path [fragment]

path := absolute | relative

fragment := "#" name

absolute := authorityAbs | localAbs | homeAbs

authorityAbs := "/" authority "/" [names]

localAbs := "/" [names]

sysHomeAbs := "!" [names]

```

stationHomeAbs := "^" [names]

relative := backup | dirRel
rel := dirRel
backup := ( "../" ) * path

names := names [ "/" path ]
name := nameChar (nameChar)*
nameChar := (a-z) | (A-Z) | (0-9) | specials
specials := space | . | : | - | _ | $ | + | ( | ) | & | ` | ' | @ | [ | ]

```

NCCB-2196

baja

Add a license check for the Guest account so that it can only be used on Demo stations

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.

Example excerpt from a license file to enable the guest user:

```

<feature name="station" expiration="never" guestEnabled="true" station.limit="500" resource.limit="none"
parts="PART_NAME"/>

```

NCCB-2336

baja

force password reset true prevents user login for station with synchronized user

Starting in the original 3.7 Niagara release, setting force password reset to true could prevent user logins on stations with synchronized users.

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 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.

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.

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.

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:

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.

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 in 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> <p>niagara.classLoader.ext=true</p> <p>2) This system property can be used to register the main baja ClassLoader (ModuleClassLoader) as parallel capable in 1.7+ jvms:</p> <p>niagara.classLoader.parallelCapable=true</p>		

NCCB-3314	baja	Check for Blank Password slows station startup
<p>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.</p>		
NCCB-3898	baja	add default key for maxOverrideDuration facet
<p>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.</p>		
NCCB-4491	baja	Password checks on startup changes
<p>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.</p>		
NCCB-4973	baja, bajau, lexicon	Country specific lexicons are not loaded
<p>In AX release 3.7 and earlier, the Lexicon class constructor had two arguments: a BModule and a String, where the String was the "language" identifier. In AX 3.8, the constructor will take two additional String arguments for "country" and "variant" identifier. For example, the locale for mainland china is zh_CN (language and country identifiers are used). Any class that inherits from Lexicon will need to include these two additional arguments.</p>		
NCCB-5310	baja	ThreadPoolWorker wait/notify pattern leads to severe premature worker thread death
<p>In AX 3.8.25 and earlier, threads in a thread pool worker may not idle the minimum idle time specified by the "niagara.threadPoolWorker.idleExpiration" system property.</p>		

The lack of idling workers can cause excessive thread creation and deletion.

In AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.26 and later ThreadPoolWorkers will wait the specified idle time for new work.

NCCB-5369

baja

BPassword no longer supports unicode for BPlainPasswordEncoder and BAes256PasswordEncoder

When then 2013 Security Updates were released for AX 3.5u4, 3.6u4 and 3.7u1, passwords could no longer accept unicode characters bigger than 8 bits. With the Niagara AX 3.8 Release, unicode characters can be used in passwords.

NCCB-5465

baja

Busy ThreadPoolWorker has too many locks which leads to poor performance

In AX 3.8.29 and earlier, ThreadPoolWorkers could experience performance problems due to mutual exclusion locks in the code that could lead to multiple threads competing for resources. ThreadPoolWorkers are used in numerous places, most notably by the NiagaraNetwork to handle asynchronous work.

In AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.31 and later, the ThreadPoolWorker has been reworked to reduce synchronized sections of code and eliminate some unnecessary locks that would cause threads to block and wait. This should improve performance, especially under stressful conditions (ie. lots of simultaneous asynchronous work). As part of this fix, a max queue size was added to the NiagaraNetwork's thread pool worker. The default max queue size is now 150000 (down from unlimited), but it can be changed with the System property "niagara.network.workerPool.queueSize". This max queue size can help prevent heap overuse on a Supervisor if the queue feeding the NiagaraNetwork thread pool worker gets backed up for some reason. On a JACE, if the queue starts backing up, you may hit heap limits prior to reaching the max queue size, so even this lower default max queue size is high for a JACE, so this max queue size is intended more for Supervisors. In all cases, under normal circumstances, the queue should not get backed up as long as the work posted to the queue is immediately being pulled off by an available worker thread. A "MaxWorkWaitingInQueue" spy diagnostic was also added to the NiagaraNetwork's thread pool worker to tell you the maximum amount of work that has waited simultaneously in the queue at any point in time since the station last started.

To change the NiagaraNetwork's thread pool worker max queue size, add the following to the system.properties file (150000 used here as an example):

```
niagara.network.workerPool.queueSize=150000
```

NCCB-5483

baja

Heavy use of BSimple interning can block engine thread

In AX 3.8.29 and earlier, the interning of BSimple instances was sometimes unnecessary and could lead to performance problems (ie. blocked threads, including the control engine). It was found that some BSimple values, such as specific instances of BFacets, BTime, and BRelTime, were being interned even though it wasn't necessary. Removing these unnecessary intern calls could significantly improve performance.

Starting in AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.30 and later, the following changes are in effect which improve interning performance:

1. BSimple instances can exclude themselves from interning. BFacets, BTime, and BRelTime now skip interning in the following cases:

a. BFacets will skip interning when the BFacets instance contains a key called "sourceName". This targets Niagara alarms that were being interned unnecessarily. Other facet keys that will cause interning to be skipped include: "historyId", "lastTimestamp", "firstTimestamp", "startTime", "endTime", "foxSessionId", "historyCursorPreRec", and "historyCursorPostRec". You can optionally add more keys that will exclude BFacets instances from interning by adding a "niagara.intern.excludedFacetKeys" System property (each key you declare in the list should be separated by a semicolon).

b. BTime will skip interning if the milliseconds part is not zero (indicates a more specific time which is not likely a good candidate for interning).

c. BRelTime will skip interning if the milliseconds part is not zero and there is a non-zero seconds, hours, minutes, etc. part. This

also attempts to detect more specific BRelTimes which are not good candidates for interning.

2. Added a 'maxInternTicks' to the spy to indicate the maximum time it has taken to perform interning.

3. Added an optional max intern cache size that can cap the size of a BSimple's intern cache. This can be set using a System property ("niagara.intern.maxCacheSize").

NCCB-5485	baja	BSimple intern debugging causes heap memory leak
<p>In AX 3.8.29 and earlier, if you had enabled debugging of Simple Type interning using the "niagara.intern.debug=true" System property, the debugging itself could lead to a heap memory leak. This debugging is not enabled by default, so the leak would only occur if you explicitly enabled debugging using the System property.</p> <p>In AX versions 3.5.407, 3.6.407, 3.7.107, and 3.8.30 and later, this memory leak has been fixed even when debugging is enabled.</p>		
NCCB-7274	baja	Optimize ValueByteBuffer encoding for use with DataRecoveryService
<p>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.</p>		
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> <p>baja 3.8.38.5</p> <p>baja 3.7.106.8</p> <p>baja 3.6.406.6</p>		
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-8095	baja	Port NCCB-4973 to default
<p>Provided backward compatibility for NCCB-4973 in AX 3.8.101</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 correct count</p>		

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 'displayNames' 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.
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.		
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.		
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.		
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
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.		
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.		
NCCB-4548	bajaScript	Transient slots are not encoded by Component#getActionParameterDefault
<p>From AX 3.7 Update 2, AX 3.8 and onwards, BOX Action 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-4661	bajaScript, box	BQL Queries from BajaScript don't display Control Point Facets
<p>From AX 3.7 version 3.7.201 and later, resolving BQL queries against Control Points in a Station will result in the correct facets being used. For instance, if a Control Point is using a unit of Degrees Celcius, the output text from a BQL query that references this point will use those facets in the result set.</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-12084	bajau, file	File Chooser fails to make new folder
<p>In AX versions 3.8.38, 3.7.201 and Niagara4 versions 4.0.8 and earlier versions, there were some cases in which FileChooser or DirectoryChooser would have the <i>current path</i> field empty when the dialog opened. In these cases, it was possible to encounter a NullPointerException while trying to create a new folder via this interface. In versions 3.8.39, 3.7.202, 4.0.9 and later versions, the <i>current path</i> is always correctly populated when the dialog is opened such that you should never encounter this problem.</p> <p>In affected versions, the workaround is to double-click on a folder. This will change the current path to "^folderName". Then to change the current path to "^" (if that's where you'd like to create a new folder), either click on the caret itself (^) in the current path, or click on the parent folder button (looks like a folder with an arrow on it). Once the current path is correctly populated, you will be able to use the <i>New Folder</i> button</p>		
NCCB-2078	bajau	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	bajau	Double space in a lexicon entry for a menu item causes blank File menu pulldown in Workbench.
<p>In AX 3.8, double spaces in lexicon entries for menu items no longer cause exceptions to be thrown.</p>		
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</p> <p>label .tab color</p> <p>label .selected-tab font</p> <p>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	bajai	WB Profile - Incorrect display while selecting the Bacnet points from Station DB
<p>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.</p>		
NCCB-3933	bajai	BFileChooser does not give a warning when trying to save in an invalid location
<p>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.</p>		
NCCB-407	bajai, svg	Can't choose .svg files from image file chooser
<p>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".</p>		
NCCB-4521	bajai	BWidget unparenting can permantly keep mouse cursor in busy state
<p>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.</p>		
NCCB-5269	bajai, gx, kitPx, pxEditor, report	Several modules need lexicon change to support new docGraphics module
<p>In Niagara 3.8, selecting Guide On Target or Help On View for components or views in the kitPx, pxEditor, bajai, gx, or report modules will redirect to the new docGraphics help module.</p>		
NCCB-641	bajai, hx	As a User, I want PxIncludes to work properly in hpx
<p>From AX 3.8 version 3.8.10 and later, PxIncludes will now render properly in Hx.</p>		
NCCB-646	bajai, mobile	Asian Language Character Support in Mobile Apps and Profiles
<p>The Niagara Mobile apps in 3.8 and above have better support for stations configured with Asian languages.</p>		
NCCB-907	bajai	bound label with blink property animated doesn't paint in px edit mode
<p>In AX 3.8, labels with their "blink" property set to true now paint their text even while in edit mode.</p>		
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-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 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> <p>AX 3.8.101 Niagara 4.0.1</p> <p>As a workaround in affected versions of Niagara, in case of excess jobs, dispose of failed jobs manually to save space.</p>		
NCCB-13177	box	Schedule changes made in Mobile views are not logged in AuditHistory
<p>From Niagara 4.0, Niagara AX 3.8.41, Niagara AX 3.7.109 onward, editing schedules via Niagara Mobile will result in an audit trail.</p>		
NCCB-8405	box	Box Error when loading multisheet view for offline Niagara proxy point that has proxy actions
<p>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'.</p>		
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 whose 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->Open->Open Query, then transfer your bql string to your Ord field editor.</p>		
NCCB-2364	ccnDriver	PIC Table data should be grayed out once it added to the station database
<p>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.</p>		
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
<p>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.</p>		
NCCB-2366	ccnDriver	Exception occurs while invoking the 'Fetch' option from Data tables
<p>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.</p>		
NCCB-2367	ccnDriver	Already added PIC tables into station data base are getting added multiple times
<p>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 dailog window if the PIC tables are already added to the station database.</p>		
NCCB-2371	ccnDriver	Unable to discover the points when the controller is getting discover & added under the Customize folder
<p>In earlier Niagara released versions of 3.5,3.6 and 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 expcetion is shown. This issue is fixed in the Niagara AX versions 3.6.501, 3.7.201 and later.</p>		
NCCB-8431	ccnDriver, workbench	Workbench deadlocks using CCN
<p>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</p>		
NCCB-1598	chart	History Chart does not display a gap in data consistently
<p>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.</p>		
NCCB-2298	chart	chart with multiple histories using last24Hours only displays first and last timestamp
<p>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.</p>		

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
<p>In Niagara 3.7 it was discovered that bars 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.
<p>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</p>		
NCCB-1560	control	EnumPoint - range facet not assigned to out slot until value changes
<p>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.</p>		
NCCB-375	control	set command fails on proxy point after setting min/max facets
<p>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.</p>		
NCCB-7714	control	Change BTimeTrigger nextTrigger to be non critical
<p>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.</p> <p>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.</p>		
NCCB-5362	crypto (legacy only), email, fox, niagarad (Java), platCrypto, portalAPI	Remove "crypto" feature license check
<p>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.</p>		
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 started with disabled Video network
<p>If the Video Network is disabled then the station is restarted and the Video Network re-enabled, PTZ operations do not work. This is fixed in the versions 3.6.404, 3.7.105 and later.</p>		
NCCB-3989	devDriver, driver	Some Infinity Controllers require an esc sequence for page up and page down in device/point discovery
<p>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 a four-byte escape sequence defined by the VT100 specification (page up = 0x1B 5B 35 7E, page down = 0x1B 5B 36 7E).</p>		
NCCB-3022	devkit	Lexicon Editor can overwrite contents of one lexicon with another
<p>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.</p>		
NCCB-4944	devkit	Declare 3.8 dependencies in basicDriver + devDriver
<p>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.</p>		
NCCB-1444	dmp	DMP does not utilize Fault Cause when network is in fault.
<p>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.</p>		
NCCB-9227	dras	dras palette will not open in 3.8.38
<p>Dras palette was not opened in 3.8.38 This behavior has been fixed for Niagara AX 3.8.38</p>		
NCCB-5980	driver	BPingMonitor calls doPing() faster than the ping interval if pingOk or pingFail are not called within 1 second
<p>In driver versions 3.8.29 and earlier, if a doPing() implementation failed to call pingOk or pingFail in less than a second, a</p>		

<p>duplicate doPing() call could be initiated before the ping interval passes.</p> <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 the critical data recovery service unnecessarily.</p>		
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> <pre> ERROR [11:40:45 02-May-14 EDT][web] Internal Server Error java.lang.NullPointerException at com.tridium.web.WbServlet\$AppletWriter.appletStart(WbServlet.java:951) at com.tridium.web.WbServlet\$AppletWriter.appletStart(WbServlet.java:939) at com.tridium.eas.BEasReport.writeApplet(BEasReport.java:350) at com.tridium.eas.BEasReport.doGet(BEasReport.java:242) at com.tridium.eas.BEasService.doGet(BEasService.java:1329) at javax.baja.web.BWebServlet.service(BWebServlet.java:132) at com.tridium.web.WebProcess.serviceWebServlet(WebProcess.java:517) at com.tridium.web.WebProcess.service(WebProcess.java:110) at com.tridium.web.SysServlet.service(SysServlet.java:111) at javax.servlet.http.HttpServlet.service(HttpServlet.java:805) at com.tridium.httpd.ServiceThread.handleRequest(ServiceThread.java:356) at com.tridium.httpd.ServiceThread.run(ServiceThread.java:109) </pre>		
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 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.</p>		
NCCB-10547	email	cannot delete file when using persistent email storage

<p>When using persistent email storage, For each a temporary .xml is generated, when email is sent file is deleted. sometimes files are used by some other processes like running station in that case users get the mail but deletion of that file is not happened. When user restarts the station he will get the duplicate mail corresponding to that temp file.</p> <p>This behavior has been fixed for Niagara AX 3.6.502,3.7.201,3.8.38 and Niagara4.0.</p>		
NCCB-456	email	Email Message-ID header not unique when one alarm generates multiple emails
<p>In NiagaraAX 3.7 release, NiagaraAX 3.6, and NiagaraAX 3.5, emails generated from the same alarm share the same Message-ID header.</p> <p>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.</p>		
NCCB-9508	email	BEmailAccount keeps polling after IncomingAccount is deleted from the station
<p>The email account keeps polling for incoming messages after you delete the IncomingAccount from the EmailService. This behavior has been fixed for Niagara AX 3.6.502, AX 3.7.201, AX 3.8.38</p>		
NCCB-3633	event	ComponentSource sends the events even if NONE of the events are checked.
<p>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.</p>		
NCCB-236	exportTags	substitutePxView fails to export to pdf
<p>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.</p>		
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.
<p>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.</p>		
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>		

This change was made due to some issues loading exported Supervisor Px Views in Hx. By changing the default directory to 'instations', the Station will load any associated files (i.e. images on an exported Px page) from the intended Station directory.

NCCB-1948	file	Sys.getRegistry().getFileForExtension() does not return BVideoFile for video files
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Starting in new versions 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.

The complete list of added extensions and MIME types is listed below:

Extension	MIME Type
aac	audio/aac
avi	video/avi
docx	application/vnd.openxmlformats-officedocument.wordprocessingml.document
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.presentationml.presentation
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.spreadsheetml.sheet

NCCB-1675	fox	Improve error message when foxs tunneling fails due to unapproved hosts in certificate management
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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.resolve(BFoxsScheme.java:116)
at javax.baja.naming.BOrd.resolve(BOrd.java:266)
at javax.baja.naming.BOrd.resolve(BOrd.java:220)
at com.tridium.workbench.shell.BNiagaraWbShell.resolve(BNiagaraWbShell.java:495)
at com.tridium.workbench.shell.NHyperlinkInfo.resolve(NHyperlinkInfo.java:279)
at com.tridium.workbench.shell.NHyperlinkInfo.hyperlink(NHyperlinkInfo.java:131)
at com.tridium.workbench.shell.BNiagaraWbShell.doHyperlink(BNiagaraWbShell.java:381)
at com.tridium.workbench.shell.BNiagaraWbShell.hyperlink(BNiagaraWbShell.java:339)
at com.tridium.workbench.auth.AuthUtil.connect(AuthUtil.java:311)
at com.tridium.workbench.auth.BCnxHandler$CnxCommand.doInvoke(BCnxHandler.java:412)
at javax.baja.ui.Command.doInvoke(Command.java:313)
at javax.baja.ui.Command.invoke(Command.java:283)
at javax.baja.ui.BActionMenuItem.doInvokeAction(BActionMenuItem.java:156)
at javax.baja.ui.BActionMenuItem.doClick(BActionMenuItem.java:169)
at javax.baja.ui.BMenuItem.mouseReleased(BMenuItem.java:445)
at javax.baja.ui.BWidget.fireMouseEvent(BWidget.java:1207)
at com.tridium.ui.awt.MouseManager.fire(MouseManager.java:305)
at com.tridium.ui.awt.MouseManager.fire(MouseManager.java:279)
at com.tridium.ui.awt.MouseManager.released(MouseManager.java:115)
java.io.EOFException: EOF
at com.tridium.fox.message.MessageReader.read(MessageReader.java:51)
at com.tridium.fox.message.MessageReader.consume(MessageReader.java:275)
at com.tridium.fox.message.MessageReader.consume(MessageReader.java:265)

```

```

at com.tridium.fox.session.FoxFrame.read(FoxFrame.java:80)
at com.tridium.fox.session.FoxSession.readFrame(FoxSession.java:804)
at com.tridium.fox.session.FoxSession.receiveHello(FoxSession.java:351)
at com.tridium.fox.session.Tuner.openClient(Tuner.java:84)
at com.tridium.fox.session.Fox.open(Fox.java:382)
at com.tridium.fox.sys.BFoxClientConnection.connect(BFoxClientConnection.java:678)
at com.tridium.fox.sys.BFoxSession.connect(BFoxSession.java:351)
at com.tridium.fox.sys.BFoxScheme.resolve(BFoxScheme.java:92)
at javax.baja.naming.BOrd.resolve(BOrd.java:266)
at javax.baja.naming.BOrd.resolve(BOrd.java:220)
at com.tridium.workbench.shell.BNiagaraWbShell.resolve(BNiagaraWbShell.java:495)
at com.tridium.workbench.shell.NHyperlinkInfo.resolve(NHyperlinkInfo.java:279)
at com.tridium.workbench.shell.NHyperlinkInfo.hyperlink(NHyperlinkInfo.java:131)
at com.tridium.workbench.shell.BNiagaraWbShell.doHyperlink(BNiagaraWbShell.java:381)
at com.tridium.workbench.shell.BNiagaraWbShell.hyperlink(BNiagaraWbShell.java:339)
at com.tridium.workbench.auth.AuthUtil.connect(AuthUtil.java:311)

```

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 -> then choose one of the Rejected links for the failed tunnel connection):

```

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.

NCCB-3440	fox	Add Action to FoxService to Reset ALL active connections
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.		
NCCB-4633	fox, web	Unable to connect using Browser when Foxs only set to true
<p>In NiagaraAX 3.7 and later, users can set up SSL for both HTTP and FOX connections. The intention is that, when using the applet, SSL settings for HTTP and FOX must match (i.e. HTTPS/FOX or HTTP/FOXs are not allowed).</p> <p>In NiagaraAX 3.7 update1 and earlier, users can connect to the applet using the invalid HTTPS/FOX combination. In addition, when loading the applet while using HTTP/FOXs, users are redirected back to the login screen with no error message.</p> <p>In NiagaraAX 3.7 update2 and later, users attempting to use the applet with an invalid HTTPS/FOX or HTTP/FOXs connection will be redirected to the login screen. An error message will appear indicating what went wrong.</p> <p>Users with NiagaraAX 3.7 update 1 can get patches to resolve this issue:</p> <p>fox 3.7.106.2 web 3.7.106.5 workbench 3.7.106.1</p>		

NCCB-6037	fox	Fox deadlocks can inhibit all fox connections
<p>With Java 1.7, a bug was found in the Oracle VM that allows for deadlocks to occur periodically when using SSL. This can cause unpredictable behavior if the number of deadlocked threads gets too high. By default, the deadlocks may slowly accumulate. However, an optional property can be added to the system.properties file:</p> <p>niagara.fox.maxDeadlockedThreads=-1</p> <p>If the value is set to a number greater than 0, when that number of deadlocks has been reached, the station will save, then shutdown. If the station has been configured for "restart on failure" then the station will start back up.</p> <p>The bug is scheduled to be fixed in Java 1.7.0_u60.</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 & 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 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.</p>		
NCCB-11051	history, hx	All nav tree nodes are expanded when viewing History Chart Builder with Hx User
<p>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.</p>		
NCCB-1524	history, pdf	pxInclude in px with chart fails to render on export to pdf
<p>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.		
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.		
NCCB-1656	history	Hx Profile:- History Chart Builder - switching to Navigation view & collection table, doesn't work when user logs in as Read Invoker
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.		
NCCB-3673	history	Metadata Browser does not remove metadata from histories whose source is local to the station where the change is made
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.		
NCCB-5367	history	Appends to a history during a station save can cause a deadlock
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 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
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.		
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.		
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 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: timeFormat=YYYY-MMM-D HH:mm:ss a z		

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> <p>HxUtil.addTouchScroll(String elemId, HxOp)</p>		
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 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>		

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-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 each save. This includes the hx property sheet and the hx scheduler.		
To workaround this issue, use the default "am/pm" TimeFormat for hx users.		
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
From AX 3.8, the 'Live Update' and 'Delta' buttons on an Hx History Chart View on a Px will appear correctly.		
Before this fix, the buttons could appear as being squashed when the Hx History Chart View was used on a Px page.		
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
From AX 3.8 onwards, error messages with Java Exception information will display properly.		
Prior to this fix, any new line characters in the Exception information would not render correctly.		
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-4916	hx	HxPropertySheet not showing any LocalizableException details in the Exception summary
<p>From AX 3.8 and later, any errors presented to the user from the Hx Property Sheet will now display properly.</p> <p>Before this fix, any errors that included text that was locale specific would not render as expected.</p>		
NCCB-4951	hx	Hx Error Dialog Details can fail because exception is too large for max cookie size
<p>Prior to AX 3.8, error messages in Hx wouldn't always display if the message was too big. This has been fixed from AX 3.8 onwards.</p>		
NCCB-5064	hx, kitPx	HxPx does not support disabled states for BWidget
<p>In Niagara 3.8 or higher, HxPx now accounts for the enabled property on widgets and bindings. Just like workbench, this includes disabling mouse activity when a parent widget is disabled and also correctly using BBinding's degradeBehavior property when its set to "disable".</p>		
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)
<p>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+.</p>		
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-12926	kitControl	kitControl RaiseLower object has problem with devices with long drive time
pacman 18423 - disable synchronization at upper/lower limits, long drive time, which causes problems when the value briefly reaches 0% or 100%, triggering a double-drive time reset_raise_state. Request a way of disabling this reset condition so reset occurs only at the scheduled time and not at the scheduled time, plus whenever the value touches the high/low limit.		
This behavior has been fixed for Niagara AX 3.8.38		
NCCB-1561	kitControl	kitControl-util - MinMaxAvg any input value NaN makes output NaN
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.		
In AX 3.8.11 and later, input NaN values will be ignored.		
NCCB-1689	kitControl	SequenceLinear Delay Time not working properly
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.		
In AX versions 3.8.11 and later, the time delay function is enforced for the first output's on to off transition.		
NCCB-9493	kitControl	BElectricalDemandLimit class contains hard-coded text -- not lexicon references
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.

There is no workaround for affected versions.

NCCB-96

kitPxGraphics

New graphics in kitPxGraphics for 3.8

In AX 3.8, a number of additional graphical widgets have been added to the kitPxGraphics module:

Dampers/Actuators

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.

Misc/ERV

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.

Misc/FCU

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.

Misc/JACE

Static images of JACEs in three different sizes.

Misc/UIElements/Alarms/Alarm1

Misc/UIElements/Alarms/Alarm2

Animated widgets to indicate alarm status.

Sensors/SensorElecmttr

Sensors/SensorWatermtr

Static widgets for electric meters and water meters.