

## INTEGRA 4.9 Release Notes

### TITLE

INTEGRA 4.9 Release Notes

### URL NAME

INTEGRA-4-9-Release-Notes

### DESCRIPTION

Issues fixed in INTEGRA 4.9 Release

### Release Notes not assigned a module

<b>HAREMB-1124</b>	Canceling "Change System Passphrase" action via syssh (Ctrl+C) leaves keyboard input hidden
In prior versions of INTEGRA, issuing a ctrl+c command during the Serial Shell "Change System Passphrase Utility" would result in the serial shell no longer echoing characters to the screen when typed. This has been corrected.	
<b>HAREMB-1249</b>	WiFi client mode system memory loss
When running wifi in client mode, the io-pkt networking stack would leak small allocations of memory in the bind loop. The io-pkt package has been updated to correct this memory leak.	
<b>NCCB-39171</b>	Station password allows non-ascii chars but impossible to login with it
Previously, setting user passwords through HTML5 views with non-ascii characters would cause the password to become corrupt, making login attempts with the password fail. This has been resolved.	
<b>NCCB-39628</b>	WebLauncher does not support 4K monitors like wb.exe
WebLauncher does not scale well when viewed in High DPI displays. This issue has been fixed, and there is now a batch script available as part of the Web Launcher install directory, which sets the necessary properties on the executable/s to support High DPI displays.	

<b>Description Continued: Release Notes not assigned a module</b>	
<b>NCCB-40623</b>	Add URL whitelist for WebStart/WebLauncher
<p>By default, WebStart and WebLauncher can no longer be used to directly navigate to arbitrary Web addresses. The only way to directly load external URLs in WebStart is by entering a whitelist in the station's system property for niagara.webbrowser.urlWhitelist system property. See the section "Configuring the Web Browser Whitelist" in the Getting Started with INTEGRA User Guide for details on syntax. If there are hyperlinks between stations and they are in each other's whitelists, then consider that you may still want to open a different WebLauncher or Webstart instance when you get to their login pages, as this ensures the modules that are loaded are specific to the station you are viewing.</p>	
<b>NCCB-40625</b>	Bajaux BacnetDate field editor does not display localized day of week
<p>In previous versions of INTEGRA, the BacnetDate bajaUX editor did not support localization. This issue has been fixed and users can now select or edit BacnetDate in their local language accordingly.</p>	
<b>NCCB-40909</b>	Data is not rendering correctly from algorithm with Sliding Window and COV History Extension
<p>EnumSchedule output is handled as part of this defect and appropriate Enum value can be used for the Algorithm Blocks (Sliding Window and other Functional Blocks).</p>	
<b>NCCB-42187</b>	Platform WiFi Configuration view: "Help -> On View" doesn't find the help.
<p>Platform view for Wifi Configuration now correctly resolves Help-&gt;About</p>	
<b>NCCB-47123</b>	INTEGRA WebLauncher Update
<p>Web Launcher 20.1.3 is a major upgrade from the prior version. It carries a number of bug fixes and internal library upgrades to bring it into parity with INTEGRA release version 4.9 and up.</p> <p><b>How to update Web Launcher?</b></p> <p>Web Launcher has a feature to check for updates over the internet and prompt the user when a new version is available in the cloud. However, existing version of Web Launcher has a bug that prevents a smooth update.</p> <p>Users will be required to perform a fresh install by downloading the latest version from the cloud via the station web Login page. Click on the INTEGRA Web Launcher Installer link on the station's Web Launcher Web Page, which can be reached via the link on the Login page itself.</p> <p>Once the download is successful, click on the msi file and follow the installation wizard. You do not have to uninstall the older version. The new installation will automatically update to the latest version.</p>	

<b>Description Continued: Release Notes not assigned a module</b>	
<b>NEM-42861</b>	Document change for MySQL authentication in version 8.0
Documentation reflects changes made for MySQL authentication in version 8.0	
<b>NEM-45327</b>	Click defragAndSaveStation from a controller and you get a dialog error message that isn't translated "INTEGRA IT-8000Maintenance.defragAndSaveStationQuestion"
Added the required lexicons.	
<b>NEM-45333</b>	The AccessHxProfile logs you out immediately. The Html5HxProfile should ask to confirm
New window will appear asking for the user to log out in StandardAccessProfile.	

### Release Notes assigned to one or more modules

<b>NCCB-41597</b>	Linux Installer	Linux Installer: NCCB-16541 changes install path inconsistent with install.properties
Previous versions of the INTEGRA installer for Linux Supervisors would not use the installDirectory.defaultFolder install.properties value if brand.id was defined in brand.properties. The installDirectory.defaultFolder will now be used above all other default folder values when it is available.		
<b>NCCB-45883</b>	Linux Installer	Linux INTEGRA 4 installer failed to set the host ID
Previous versions of the Linux installer may have failed to create the INTEGRA Host ID if the installer_helper.sh was not created as executable. This has been corrected.		
<b>NCCB-30881</b>	alarm	Alarm Portal only attempts to connect to 4911 when TLS session is chosen
In previous versions of INTEGRA, the Alarm Portal only attempts to connect to 4911 when the TLS session is chosen. This issue has been fixed, as the alarm portal will now connect to an alarm console in a running station via any fox, or foxs port.		
<b>NCCB-36477</b>	alarm	Bajaux Alarm Console does not display special characters correctly
In previous versions of INTEGRA, the Bajaux Alarm Console did not display special characters correctly. This issue has been fixed, as escaped characters are no longer a problem in the Bajaux Alarm Console details dialog.		

**Description Continued: Release Notes assigned to one or more module**

<b>NCCB-40814</b>	alarm	StatusAlgorithm and StatusFaultAlgorithm display status value options {stale} and {disabled} that will not be evaluated
<p>In previous versions of INTEGRA, the status values "disabled" and "stale", were available as options on StatusAlgorithm and StatusFaultAlgorithm (part of the StatusAlarmExt in the alarm palette), but the corresponding alarm algorithms were never evaluated if a control point's status is "disabled" or "stale". Therefore, an alarm will never be raised for these status values. This issue has been fixed and these status options have been removed from these alarm algorithms using an Integer facet named "filter" (status bits not in the filter are not displayed).</p>		
<b>NCCB-41074</b>	alarm, baja	BFormat result for normalTime/lastUpdate on Alarm Record is missing seconds
<p>In previous versions of INTEGRA, a BFormat result for normalTime/lastUpdate on an Alarm Record is missing seconds. When using BFormat to display time values of an Alarm Record, only the timestamp field was displayed with seconds. This issue has been fixed, as the normalTime, ackTime, and lastUpdate are now displayed with seconds.</p>		
<b>NCCB-41222</b>	alarm	Workbench Alarm Portal Tool Running Out of Memory
<p>In previous versions of INTEGRA, Workbench could run out of memory and crash when connecting to multiple recipients in the Alarm Portal Tool. This issue has been fixed, as Workbench no longer runs out of memory and crashes when connecting to multiple alarm recipients.</p>		
<b>NCCB-41378</b>	alarm	AlarmData.timezone is not preserved in supervisor database
<p>In previous versions of INTEGRA, the AlarmData.timezone was not preserved in supervisor database in certain instances. This issue has been fixed, as the timezone in an alarm record's alarm data is no longer overwritten during remote alarm routing.</p>		
<b>NCCB-42678</b>	alarm	Cannot view alarm notes under bajaux Database Maintenance View
<p>In previous versions of INTEGRA, users were unable to view alarm notes under both the Bajaux Alarm Database Management and Database views. This issue has been fixed, as there is now have a command in the alarm details dialog which shows the notes in each view.</p>		
<b>NCCB-42787</b>	alarm	Alarm Database Maintenance commands visible to users without proper permissions
<p>In previous versions of INTEGRA, the Alarm Database Maintenance commands were visible to users without proper permissions. This issue has been fixed, as the commands on the Alarm DB Maintenance view are now hidden when the user does not have admin invoke permissions.</p>		

**Description Continued: Release Notes assigned to one or more module**

<b>NCCB-448</b>	alarm	Unacked Alarm Count is sometimes incorrect in Alarm Class
<p>In previous versions of INTEGRA, during certain conditions, it was possible for the Unacked Alarm Count to be incorrect in the Alarm Class. This issue has been fixed, and the Unacked Alarm Count property is now accurately reflected in an Alarm Class. For stations on previous versions that will be upgrading to 4.9 and are experiencing similar alarm count problems while using the OrionAlarmService, the errors can be corrected by running the maintenance command in the Database Maintenance view.</p>		
<b>NCCB-39263</b>	backup, platform, platWifi	Station based backup requires access to platform net, DHCPD, WiFi directories
<p>Previous versions of INTEGRA may fail to restore the WiFi, 802.1X and DHCPD configurations of the platform when a backup distribution was restored through the Backup Service of a running station. Backups installed through the platform Distribution File Install were not affected.</p>		
<b>NCCB-43052</b>	bacnet, bajai, history, workbench	PxViewToPdf does not output up-to-date data in HistoryTables
<p>In INTEGRA 4.8, the PxViewToPdf export did not include current data in History Tables. This has been fixed, and the data should now be up-to-date when exporting HistoryTables into a PxViewToPdf.</p>		
<b>NCCB-44295</b>	bacnet	Value of cov-resubscription-interval should not be allowed to exceed 28800 seconds.
<p>Trend Log Object in the BACnet driver cannot have cov-resubscription-interval property a value greater than 28800 seconds.</p>		
<b>NCCB-45069</b>	bacnet	Unclear error for Bacnet enum facet range non-contiguous
<p>The fault now shows the proper cause "State Range supports only contiguous ordinal.", in place of "Range must be 1-N for export to BACnet."</p>		
<b>NCCB-40663</b>	baja, control	Control Point output rarely fails to update with most recent input priority slot change
<p>In previous versions of INTEGRA, it was possible that control point executions could be skipped if one was already in progress while another was requested. Additionally, under rare conditions, this could cause the output to be stuck at an old value/status. This was not typically seen when a control point was executed due to a link but could occur when using the property sheet view to manually change an input slot's value. This issue has been fixed and control point executions now function as expected during such conditions.</p>		

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-44127</b>	baja, naxisVideo, workbench	Manually copying/saving components with reversible passwords to a BOG file will fail if the default value is not Bpassword.DEFAULT
<p>In previous versions of INTEGRA, manually copying and saving components containing passwords from a station to a BOG file would fail, under the following circumstances: * The password contained in the component is reversible * The password has a default value other than Bpassword.DEFAULT This defect has been fixed so that the copy/save to BOG will now succeed and such reversible password values will be reverted to Bpassword.DEFAULT.</p>		
<b>NCCB-44582</b>	baja	Moduledev provides insufficient logging info to diagnose problems
<p>ModuleDev info logging has been improved to assist developers in diagnosing problems with their moduledev.properties configuration.</p>		
<b>NCCB-44706</b>	baja, platDataRecovery	DataRecoveryService deadlock between Nre:Engine and JobService
<p>Previous versions of the INTEGRA Data Recovery Service could report a “deadlock” in the Application Director when encountering a INTEGRA History event for the first time. This has been corrected. An effected device will require a INTEGRA Station restart in order to correct the problem.</p>		
<b>NCCB-44726</b>	baja	Add permission “enableContextClassLoaderOverride” to MANAGE_EXECUTION group
<p>The INTEGRA Permission Group MANAGE_EXECUTION has been updated to allow modules to request enableContextClassLoaderOverride permissions which are checked in code by the security manager. For more details, refer to the ‘Requesting Permissions’ developer documentation.</p>		
<b>NCCB-46565</b>	baja	nCloudDriver prevents Workbench connections when maintenance has expired
<p>If an authentication scheme fails to load it can prevent fox connections to remote stations. This is been resolved in INTEGRA 4.9.</p>		
<b>NCCB-23460</b>	bajaScript	baja.NameList fails to decode a BNameList with trailing semicolon
<p>The baja.NameList fails to decode a BNameList with a trailing semicolon. This issue has been fixed and the trailing semicolon for the NameList no longer causes problems when entered. Additionally, the NameList now also ignores leading and trailing whitespaces.</p>		

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-38165</b>	bajaScript	BajaScript can fail to start in IE on an intranet site
<p>When WebSockets were enabled, BajaScript would sometimes fail to start in Internet Explorer when loaded from an intranet site due to Internet Explorer switching to Compatibility Mode, where WebSockets are not supported. This has been resolved so that it will fall back to HTTP polling when in Compatibility Mode. Note that this will adversely impact performance, so it is advised to configure Internet Options to disable Compatibility Mode for BajaScript sites.</p>		
<b>NCCB-42923</b>	bajaScript	Missing NSpaceScheme in BajaScript
<p>In prior versions of INTEGRA, resolving a nspace Ord via a browser client (bajaScript) would result in the server side to an unmounted station component that cannot be used in Bajaux views. Resolving a nspace Ord via bajaScript that resolves to the local, or remote component space, is now supported in INTEGRA.</p>		
<b>NCCB-35131</b>	bajaux, hx, webEditors	When field editor doSave fails, duplicate errors are shown
<p>In the previous versions of INTEGRA, saving an HTML5 property sheet that exhibits a save failure could result in multiple, duplicate error dialogs. This issue has now been fixed and will only display one error dialog for a save failure.</p>		
<b>NCCB-42010</b>	bajaux, webEditors	Update to Complex values does not show without refreshing Manager
<p>When adding a child component with its own child component using an HTML5 Manager view, any changes to that "grandchild" component would fail to update the database table until that view was reloaded. This has been corrected, so newly added grandchild components will cause the database table to update when they are changed.</p>		
<b>NCCB-45305</b>	bajaux, hx, webEditors	Html5HxProfile Save command is missing in mobile mode
<p>When the flags argument was undefined, the flatten function in the bajaux module bajaux/commands/CommandGroup would incorrectly only include Commands whose flags were set to Command.flags.ALL. This has been corrected, so commandGroup.flatten() without a flags argument will include all Commands regardless of flags.</p>		
<b>NCCB-37908</b>	bql, smartTableHx	StringFilter "Must Include" option is confusingly worded
<p>When using a StringFilter (for example, when filtering the results of the Audit History table), the wording has changed from "Must Include" to "Must Match." This more closely matches the real behavior or represents a pattern match rather than a simple substring search.</p>		

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-38910</b>	bql, webChart	Stacked bar chart does not display using Last24Hours and rollup function
In past releases, when rollup was turned on, certain graphs such as Stacked Bar Chart had issues displaying data in the last 24 hours and last 7 days. This issue has been fixed, as start times now round up to the top of the hour / day for the last 24 hours and 7 days respectively.		
<b>NCCB-41722</b>	cloudSentienceConnector	Cloud Connector Last Fail Cause is insufficient and unhelpful in some cases
The CloudConnector's Last Fail Cause now contains a more understandable error message when the connector fails to connect in certain conditions.		
<b>NCCB-34658</b>	control	Deadlock while moving points with DiscreteTotalizerExts in a station
In previous versions of INTEGRA, a deadlock can occur while moving points with DiscreteTotalizerExts in a station. This issue has been fixed, as the deadlock will no longer occur when moving a point that contains a DiscreteTotalizerExt.		
<b>NCCB-39230</b>	control	DiscreteTotalizerExt can rarely deadlock when being added to a station
In previous versions of INTEGRA, a deadlock can occur when adding a DiscreteTotalizerExt to a point in a running station. This issue has been fixed, as deadlocks no longer occur when adding extensions to a point in a running station.		
<b>NCCB-35850</b>	cryptoCore, web	Google Chrome will not trust self-signed certificates with IP Address for CN and SAN
A defect has been addressed that resulted in an incorrect subject alternative name entry being created when submitting an IP address instead of a DNS name. Newly created certificates will now create the proper subject alternative name entry with the appropriate general name type.		
<b>NCCB-40871</b>	cryptoCore	Only one TLS client connection can be opened at a time
In previous versions of INTEGRA, TLS client connections with long timeouts could prevent other TLS client connections from being established. This issue has been fixed, as the timeouts no longer prevent the establishment of other TLS client connections.		
<b>NCCB-44438</b>	cryptoCore, platDaemon	Module signature verification in commissioning doesn't account for trust store of new jre
In affected versions, the Commissioning Wizard may indicate signature warnings or errors for selected modules due to the outdated system trust store on the INTEGRA IT-8000. In fixed versions, modules will be validated using the system trust store that will take affect when commissioning is complete.		



## Description Continued: Release Notes assigned to one or more modules

<b>NCCB-44919</b>	cryptoCore, jetty, niagarad	INTEGRA daemon logs cipher warnings w/ Jetty 9.4
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Due to updates with industry best practices, the ciphers suite support by INTEGRA TLS connections (niagarad, fox, web) have been updated:

- removed SHA suites from the recommended list
- added DHE suites to both recommended and supported lists
- with the addition of the DHE suites, removed DSS suites
- NOTE: Clients always use the "supported" list for backwards compatibility.
- NOTE: Servers continue to default to the "recommended" list.

### Recommended Cipher Suites (13 values)

Name	Encryption Bits	Message Auth Cipher	Key Exchange Cipher	Encryption Cipher
TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384	256	SHA384	ECDHE_ECDSA	AES_256_GCM
TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256	128	SHA256	ECDHE_ECDSA	AES_128_GCM
TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384	256	SHA384	ECDHE_ECDSA	AES_256_CBC
TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256	128	SHA256	ECDHE_ECDSA	AES_128_CBC
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	256	SHA384	ECDHE_RSA	AES_256_GCM
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	128	SHA256	ECDHE_RSA	AES_128_GCM
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	256	SHA384	ECDHE_RSA	AES_256_CBC
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	128	SHA256	ECDHE_RSA	AES_128_CBC
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	256	SHA384	DHE_RSA	AES_256_GCM
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	128	SHA256	DHE_RSA	AES_128_GCM
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	256	SHA256	DHE_RSA	AES_256_CBC
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	128	SHA256	DHE_RSA	AES_128_CBC
TLS_EMPTY_RENEGOTIATION_INFO_SCSV				

### Supported Cipher Suites (25 values)

Name	Encryption Bits	Message Auth Cipher	Key Exchange Cipher	Encryption Cipher
TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384	256	SHA384	ECDHE_ECDSA	AES_256_GCM
TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256	128	SHA256	ECDHE_ECDSA	AES_128_GCM
TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384	256	SHA384	ECDHE_ECDSA	AES_256_CBC
TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256	128	SHA256	ECDHE_ECDSA	AES_128_CBC
TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA	256	SHA1	ECDHE_ECDSA	AES_256_CBC
TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA	128	SHA1	ECDHE_ECDSA	AES_128_CBC
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	256	SHA384	ECDHE_RSA	AES_256_GCM
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	128	SHA256	ECDHE_RSA	AES_128_GCM
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	256	SHA384	ECDHE_RSA	AES_256_CBC

**Supported Cipher Suites (25 values)**

Name	Encryption Bits	Message Auth Cipher	Key Exchange Cipher	Encryption Cipher
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	128	SHA1	ECDHE_RSA	AES_128_CBC
TLS_RSA_WITH_AES_256_GCM_SHA384	256	SHA384	RSA	AES_256_GCM
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	256	SHA384	DHE_RSA	AES_256_GCM
TLS_RSA_WITH_AES_128_GCM_SHA256	128	SHA256	RSA	AES_128_GCM
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	128	SHA256	DHE_RSA	AES_128_GCM
TLS_RSA_WITH_AES_256_CBC_SHA256	256	SHA256	RSA	AES_256_CBC
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	256	SHA256	DHE_RSA	AES_256_CBC
TLS_RSA_WITH_AES_128_CBC_SHA256	128	SHA256	RSA	AES_128_CBC
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	128	SHA256	DHE_RSA	AES_128_CBC
TLS_RSA_WITH_AES_256_CBC_SHA	256	SHA1	RSA	AES_256_CBC
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	256	SHA1	DHE_RSA	AES_256_CBC
TLS_RSA_WITH_AES_128_CBC_SHA	128	SHA1	RSA	AES_128_CBC
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	128	SHA1	DHE_RSA	AES_128_CBC
TLS_EMPTY_RENEGOTIATION_INFO_SCSV				

- removed SHA suites from the recommended list
- added DHE suites to both recommended and supported lists
- with the addition of the DHE suites, removed DSS suites
- NOTE: Clients always use the "supported" list for backwards compatibility.
- NOTE: Servers continue to default to the "recommended" list.

<b>NCCB-46584</b>	cryptoCore, nre	CryptoCoreClientSocketFactory error handling does not properly escape IPv6 device specification
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Previous versions of INTEGRA may have failed to properly escape the IPv6 device specification character (%) when creating TLS client error messages for failed IPv6 connections. This would lead to the client failing to create the relevant error message such as: "SEVERE [12:31:32 28-Mar-20 EDT][crypto] Could not create socket fe80:0:0:0:bce6:3bb3:6bd9:ed06%10:5011]. Cause is: ". This has now been corrected.

<b>NCCB-19587</b>	docDeveloper	docDeveloper Modules section contains errors
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In previous versions of INTEGRA, the docDeveloper Modules section contains errors. This issue has been fixed, as a small correction was made to the modules section of decDeveloper correcting a module part name in the dependencies section of the manifest.xml example.

<b>NCCB-39325</b>	email	Email StartTLS has no support for TLSv1.1 or greater
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In previous versions of INTEGRA, email startTLS has no support for TLSv1.1 or greater. This issue has been fixed and the Email Service now supports TLS 1.1 and 1.2 when using startTLS.

<del>DESCRIPTION: Cylons release notes assigned to this release module</del>		
<b>NCCB-40726</b>	export, webEditors	Px view exports from browser do not work with non-slot ord schemes like hierarchy
When operating in a browser, exporting a PxView to PDF on a non-slot ord such as a hierarchy, handle, or virtual ords was causing an error which prohibited its export. This issue has been fixed, as PxViews exports are now working correctly.		
<b>NCCB-42917</b>	export, file, smartTableHx	CSV exports vulnerable to formula injection
When exporting a table to CSV, a cell that began with an equal sign or other mathematical character could have been interpreted as a formula by a spreadsheet program and executed accordingly. Now, any cell in a table export that looks like a formula will be prepended by a space, which will prevent it from being executed. To revert to the previous behavior, set the following system property: niagara.export.preventCSVInjection=false		
<b>NCCB-41949</b>	exportTags	BMultiStationNamePickerFE does not coalesce duplicate selections as intended
Previous versions of the INTEGRA exportTag MultiStationNamePicker Field Editor would not properly coalesce duplicate Station name entries selected during save. This could result in a BList of a values that could contain duplicate Station names. This has now been corrected to remove duplicate selections.		
<b>NCCB-37568</b>	history	History Db Maintenance has incorrect selector labels
In previous versions of INTEGRA, the History Db Maintenance contained incorrect selector labels. This issue has been fixed and there is now consistency between the lexicon text in the browser and workbench history modules.		

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-44339</b>	history	Min &Max Facets of Point propagate to Tolerance of History CoV Ext
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In INTEGRA 4.8, the changeTolerance property of the NumericCovHistoryExt was adversely affected by the min and max facets of the parent point, so that it would disregard any user entry outside of the maximum or minimum ranges. This issue has been fixed, as the changeTolerance property of the NumericCovHistoryExt will now inherit the following formats from the parent numeric point: precision, showUnits, showSeparators, and the differential form of unit. Additionally, a Min Facet of 0 was added to the changeTolerance property because entering a negative value would cause an unexpected adverse result.

<b>NCCB-44341</b>	history	Deadlock while deleting histories
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In INTEGRA 4.8, a JVM deadlock can occur when deleting histories. This issue has been fixed and the deadlock will not occur when deleting histories.

<b>NCCB-18843</b>	hx, web	Hx javascript files and other web resources require browser clear cache to take effect
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HxProfiles no longer require clearing your browser cache to get new js and css files from module resources. Module image files are less likely to require a clear cache, but sometimes you may need to clear your browser cache to pick up a module image if it does change.

<b>NCCB-27899</b>	hx	Polygon with value binding and hyperlink has incorrect "hitbox" in html profile
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HxPx Shapes and Paths now render in svg instead of canvas. This was done so that mouse overs should behave more similar to workbench. In some cases, svg will be a more precise rendering technology than canvas, but if you prefer the older canvas rendering technology (or you just want to compare), you can set this system property: "hx.graphics.canvas=true". You can also add a View Parameter of "|view?svg=false" to your URL to any HxPx View to view the older canvas rendering.

<b>NCCB-30925</b>	hx, themeZebra	Use of Source Sans Pro font in N4 px pages fails in browser
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In previous versions of INTEGRA, the use of Source Sans Pro font in N4 px pages would fail when viewed in a browser. This issue has been fixed and N4 px pages that contain Sans Source Pro font now render correctly in web browsers.

<b>NCCB-32700</b>	hx	HxPxBorderPanes render content incorrectly when label property is non-null
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In INTEGRA 4.8, when a Label was added to a BorderPane, the border would not paint correctly when viewed in a browser. This has issue been corrected and the HxPxBorderPanes render content correctly when the label property is non-null.

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-41974</b>	hx	HxCollectionTable does not respect Column facets like showing seconds for Series Transform time precision
In prior versions of INTEGRA, the HxCollectionTable did not respect Column facets showing seconds for Series Transform time precision. This issue has been fixed, as the HxCollectionTable now respects Column facets like showing seconds for histories and series transform columns.		
<b>NCCB-46554</b>	hx	Modal PopupBinding should focus on previous popup windows on second click
kitPx:Popups in HxPx Media will now attempt to focus an existing popup if you open that modal=true popup while remaining on the same browser tab. Chrome 81 is currently capable of providing this functionality, but browsers like Firefox may only focus on an existing Popup if it links to the same host as the current station, as this functionality is limited by the browser's rules on interacting with "cross-origin objects".		
<b>NCCB-46806</b>	hx, uxBuilder	Clicking on invisible Polygon no longer works
HxPx Shapes and Paths that have "Null" set on the Fill and Stroke properties now render in svg instead of canvas. This was done so that mouse overs behave more similar to workbench. In some cases, svg will be a more precise rendering technology than canvas, but if you prefer the older canvas rendering technology (or you just want to compare), you can set this system property: "hx.graphics.canvas=true". You can also add a View Parameter of " view?svg=false" to your URL to any HxPx View to view the older canvas rendering.		
<b>NCCB-43082</b>	jetty, jettyWrapper	Improve INTEGRA Resilience to Network Scans
Improved web service configuration to handle stresses of different types of network scanning tools. For more information on how INTEGRA will behave under these conditions please review the KB article INTEGRA 4.9+ and IT Network Scanners		
<b>NCCB-45210</b>	jetty, web	Jetty Web Server on INTEGRA IT-8000-8000 locking up
Updated Jetty version and tuned appropriately for all known web server lockup issues.		
<b>NCCB-41132</b>	jxBrowser	JxBrowser remote debugging port clashes with Karma
The port used by JxBrowser's remote debugging capability in Workbench can now be configured with the niagara.jxbrowser.remoteDebuggingPort system property. It will default to port 9222 if not specified.		

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-21386</b>	kitPxN4svg, svg, svgBatik	svg animation issues in workbench with kitPxN4Svg
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In previous versions of INTEGRA, SVG files exhibited multiple animation issue where animated looping SVG's would stutter and not animate smoothly. This issue has been fixed, and SVG files now render correctly.

The Upgrade Out-Of-Date provisioning step now removes existing license files that have the same brand but a lower-case file name. It had been possible to end up with multiple license files on a device with the same brand, which would prevent the station from starting.

<b>NCCB-18137</b>	lonworks	Lon Proxy Ext "Link Type" doesn't persist after Adding Proxy Point
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In Lonworks LonPointManager linkType was force to unknown when user added new proxy points. This would override any setting user made when creating a new point.

<b>NCCB-38281</b>	lonworks	Cannot create more than 4096 Local Lon NVs in Lon Network
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The maximum number of local nvs that can be supported is 4096. Added mechanisms to block adding more that this maximum and to provide an error popup when this is attempted.

<b>NCCB-39092</b>	Lonworks	Lon Utilities Manager Identify Service pin never times out
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If user initiated a service pin action in Lonworks Utilities Manager and no service pin message was received the UI would never time out. Issue has been fixed such that appropriate timeout is observed and the execute button becomes available again.

<b>NCCB-14942</b>	migration	N4 Migration Tool does not migrate obsolete widget in px page
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In previous versions of INTEGRA, the N4 Migration Tool does not migrate obsolete widgets in px page. This issue has been fixed, as a BacnetWsDeviceManager view embedded in an AX Px page can now be converted to its N4 counterpart, BacnetAwsDeviceManager, using n4mig.

<b>NCCB-42748</b>	nCloudDriver	4.8.0.106.1: Content error when trying to access CloudNetwork
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If you use the 2018.5 or 2018.6 versions of the INTEGRA Cloud Honeywell Sentience Driver with INTEGRA 4.8, you will find that the INTEGRA Cloud Network's "N Cloud Driver Device Ux Manager" view will generate a content error upon attempting to load. This is corrected in the 2019.1 version of the driver, which is the preferred version to use with INTEGRA 4.8 installations. For an affected system, you can use the regular Cloud Device Manager view.

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-40893</b>	niagaraDriver	Inconsistent behavior of direct tag flags/INTEGRA IT-8000s/removals for INTEGRA proxy point fetched tags
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Prior to this fix, if a INTEGRA proxy point was duplicated and modified with a different Point Id (to reference a different remote point) using the INTEGRA Point Manager view, then any previously fetched direct tags (such as the "n:history" tag) that were persisted on the original point would be duplicated to the new point, but those tags would never be updated (or removed if they didn't apply to the new referenced remote point). Even invoking the 'Force Update INTEGRA Proxy Points' would not remedy these persisted, fetched tags. This problem has now been fixed, so that persisted, fetched tags will be updated on such duplicated points, and edits using the INTEGRA Point Manager view itself will no longer incorrectly modify any slot flags or INTEGRA IT-8000s that were applied to the direct tag properties.

<b>NCCB-45390</b>	niagaraDriver, niagaraVirtual, webChart	Nuisance errors when viewing INTEGRA Virtual Px views that include web charts
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Prior to this fix, when viewing INTEGRA Virtual Px views that included web charts, the following error messages was issued in the supervisor station:

```
SEVERE [07:49:18 16-Jan-20 EST][niagara.file] Unable to copy remote
file:^charts/defaultOptions.chart to local
file:^nstations/INTEGRA IT-8000/charts/defaultOptions.chart
java.io.IOException: Could not find Remote File: file:^charts/defaultOptions.chart
at com.tridium.nd.file.BNiagaraFileDescriptor.createAllFiles(BNiagaraFileDescriptor.java:268)
at com.tridium.nd.file.BNiagaraFileImport.copyFilesFromRemoteToLocalSpINTEGRA IT-
8000(BNiagaraFileImport.java:89)
at com.tridium.nd.file.BNiagaraFileImport.doFileExecute(BNiagaraFileImport.java:61)
at com.tridium.nd.file.BNiagaraFileDescriptor.doExecute(BNiagaraFileDescriptor.java:198)
at auto.com_tridium_nd_file_BNiagaraFileImport.invoke(AutoGenerated)
at com.tridium.sys.schema.ComponentSlotMap.invoke(ComponentSlotMap.java:1891)
at com.tridium.sys.engine.EngineUtil.doInvoke(EngineUtil.java:62)
at javax.baja.sys.BComponent.doInvoke(BComponent.java:1258)
at javax.baja.util.Invocation.run(Invocation.java:47)
at javax.baja.util.ThreadPoolWorker$WorkerThread.run(ThreadPoolWorker.java:290)
```

This happened because an optional file (file:^charts/defaultOptions.chart) did not exist on the remote (subordinate) station. Since the file is optional and (often) not expected to exist, this error message was a nuisance. This problem has now been fixed so that the optional file will not cause unnecessary file import errors.

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-46219</b>	INTEGRA Driver	Px Ord bindings containing history IDs in shorthand form don't resolve when loaded in INTEGRA virtual Px views
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Prior to this fix, when viewing INTEGRA Virtual Px views that contained embedded (saved) history web chart files or web charts with history ORD bindings in shorthand form (e.g. "^" history ID form), they would not resolve correctly. This has now been fixed so that such Px views will load correctly on both the remote station and the local station. If you had previously viewed/imported a remote (saved) web chart file, after upgrading, you may need to invoke the 'Reload Virtual Px Views' action on the INTEGRA Virtual component and clear the browser cache (or JxBrowser cache if running in Workbench) in order to see the corrected chart in the INTEGRA Virtual Px view.

<b>NCCB-41563</b>	INTEGRA Virtual	Virtual Px on Demand ignores view designation for absolute Ord
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Prior to this fix, on-demand INTEGRA virtual Px files would not respect a view designation in the source Px file when using an absolute ORD. For example, the below absolute ORD would work for a hyperlink in a Px view in a source station, but when it was loaded into a supervisor via an on-demand INTEGRA virtual Px file, the view selection would be stripped off (the "view:CustomPxView" part) and it would instead hyperlink you to the default view:  
station:|slot:/Drivers/BacnetNetwork/Floor1|view:CustomPxView

This defect has now been fixed so that it will preserve the view selection. Furthermore, if the view selection is a hard-coded view (non-Px) that is not supported against a INTEGRA virtual representation of the component in the supervisor, it will continue to route to the default view selection from the on-demand INTEGRA virtual Px.

<b>NCCB-42891</b>	INTEGRA Virtual	Some ORDs in INTEGRA Virtual Px views not converted correctly
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In previous versions of INTEGRA, some ORD bindings in INTEGRA Virtual Px views were not converted correctly from their source ORDs in the Px view on the remote station. In particular, the following weren't being converted properly:

- Source ORDs to other virtuals on the remote station (e.g. BACnet virtuals)
- Some relative ORDs used as a hyperlink or popup binding
- Non-slot ORDs (e.g. file ORDs) used as a hyperlink

These incorrect ORD bindings have now been fixed when loading INTEGRA Virtual Px views.



<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-44213</b>	INTEGRA Virtual, webChart	Resolving local history for INTEGRA virtual point broken when 4.7+ supervisor connected to 4.6 (or earlier) station
<p>Starting in INTEGRA 4.7, if a INTEGRA virtual point was sourced from a remote station at INTEGRA version 4.6 (or earlier back to INTEGRA 4.2) and the history for that virtual point was already imported to the local station, then upon opening the web Chart view on that virtual point it would not locate the local history to display. Instead, it would revert to an empty chart. This regression defect has now been fixed, so that it will find the local history to view when the Chart view is opened for an INTEGRA virtual point. As a potential workaround, if all stations are at INTEGRA 4.7 or later, this defect does not manifest itself.</p>		
<b>NCCB-39043</b>	niagarad, platDaemon	UpdateSshdMessage uses default daemonsession.timeout value, fails on short custom values
<p>Previous versions of INTEGRA Workbench might report a session timeout error when enabling SSH on a remote embedded platform if they were using daemonsession.timeout values of &lt; 10 seconds. This has been corrected.</p>		
<b>NCCB-40004</b>	niagarad, platform	Engine Watchdog Timeout policy of “Reboot” should not be allowed, invoked on platforms that do not support reboot
<p>Previous versions of INTEGRA would allow a “Reboot” Engine Watchdog Policy on platforms that did not support reboot actions (Supervisors). The System Platform Service Plugin will now only show the policy values permitted for that platform.</p>		
<b>NCCB-40977</b>	integrad	Windows Service for INTEGRA Daemon fails on ServicesPipeTimeout
<p>Previous versions of the INTEGRA Daemon on Windows Supervisor environments may have failed to shut down in a timely fashion when stopped through the Windows Service manager, this has been corrected. You can manually stop the service (INTEGRA Service) through the Task Manager to ensure a timely exit. Previous versions of the INTEGRA Daemon would generate messages in the Windows Event View without a valid event code, resulting in messages with the warning “The description for Event ID 1 from source INTEGRA ....”. This has been corrected to only display the relevant log information. Previous versions of the INTEGRA Daemon on Windows Supervisor environments may have failed to start as a service after a reboot. This has been corrected.</p>		
<b>NCCB-38305</b>	nre	Client TLS handshake can get stuck in an infinite loop
<p>Previously, making a TLS connection to a server whose certificate has changed from Workbench or Station could cause the connection to hang indefinitely. This has been resolved. Workaround for affected versions is to kill the hung Workbench or Station and restart.</p>		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-39340</b>	nre	NullFirewallProcessor consumes thread on platforms that don't use Pf based Firewall rules
Previous versions of the INTEGRA Station would create an unnecessary "tFirewallProcessor" thread in Supervisor environments. This thread will no longer be created in environments where it is not required.		
<b>NCCB-41106</b>	nre, web, workbench	Cannot download files with extended Unicode characters in content
In previous versions of INTEGRA, 18nicode characters such as smileys, in files were not supported by workbench or browser views. This has been fixed and you can now view or download files with content that contains extended 18nicode characters.		
<b>NCCB-46905</b>	nre	nre.properties 256M value is not enough for default Supervisor INTEGRA Station
The default Java Heap size for INTEGRA Supervisor Stations has been increased from 256 MB to 512 MB. Please use the nre.properties file to modify this value as your installation requires.		
<b>NCCB-43067</b>	nss	Security Dashboard fails to load if INTEGRA station client address is null
In INTEGRA 4.8, the Security Dashboard would fail to load if INTEGRA station client address is null. This issue has been fixed, as the Security Dashboard has been updated to correctly handle stations that have a null address.		
<b>NCCB-46344</b>	nss	Missing documentation for nss:StationSecurity
In previous versions of INTEGRA, the documentation for nss:StationSecurity was missing. This issue has been fixed, as the correct help guide base for the nss module has been added accordingly. Additionally, using 'Guide on Target' on nss components should now link to the correct documentation location.		
<b>NCCB-36421</b>	platCrypto	Importing a certificate with no extendedKeyUsage extensions fails with NPE
A NullPointerException was being thrown when importing a keypair/certificate combination in to the INTEGRA Key Store when no ExtendedKeyUsage was present. INTEGRA will now successfully execute the import.		
<b>NCCB-45294</b>	platCrypto	Closing the Certificate Wizard while generating a new certificate result in infinite NPEs
Corrected an issue that would cause repeated error messages if the Certificate Wizard was canceled while certificates were being generated.		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-37341</b>	platDataRecovery	dataRecoveryManager spy page clears its event history when it goes into fault
Previous versions of the Data Recovery Service might fail to include block contents in the spy pages when the service is in fault. This has been corrected.		
<b>NCCB-38307</b>	platDataRecovery	Data Recovery Service in "Ready" state but blocks are "Reserved, Idle, Idle"
Previous versions of the Data Recovery Service could enter a fault state under heavy stress during the Station save process characterized by the blocks being Reserved, Idle, Idle even though the service is in "ready" state. This behavior is now audited and corrected if it occurs.		
<b>NCCB-23835</b>	platform	Cannot read groups defined in Windows Admin group
Previous versions of INTEGRA could fail to properly authenticate INTEGRA Daemon users on Windows platforms that used nested (indirect) local or domain group membership as the INTEGRA administrative group. Nested groups should now be supported for both local and domain groups.		
<b>NCCB-33155</b>	platform	Application Director and INTEGRA console do not handle UTF-8 characters
Previous versions of INTEGRA did not properly handle non-ascii text in the console.exe application by default. The default code page of the console.exe application has been updated to UTF-8 (65001). Further code page support can be obtained by using the Windows 'chcp' command. The Application Director and INTEGRA Daemon Output views have been updated to properly handle non-ascii output.		
<b>NCCB-3493</b>	provisioningNiagara	Message text field shows blank in Alarm console view when Jobs get cancelled from Provisioning INTEGRA
In INTEGRA AX versions of provisioning, alerts raised by cancelled batch jobs provided no message text in the alarm console. In INTEGRA 4 versions, the message text correctly appears.		
<b>NCCB-42908</b>	provisioningNiagara	Provisioning step 'Set Property' gives an error for Property name containing 'SpINTEGRA'
The Set Property provisioning step can now accept a string with a spINTEGRA as a valid property name.		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-45002</b>	provisioningNiagara	Application template installation job fails for Windows Server 2019 Supervisors provisioning remote stations
<p>When using an Excel spreadsheet for template bulk deployment or provisioning, the Excel workbook must be exported from the template being installed, and the names must match. Re-using an Excel workbook for a re-named copy of a template led to an exception during deployment. The name mismatch that generated the exception is now checked, and a deployment failure message will be issued instead.</p>		
<b>NCCB-45884</b>	provisioningNiagara	set property job step fails for BWebProfileConfig with javax.baja.sys.NoSuchSlotException selectedHxTheme
<p>The provisioning 'Set Property' step would fail if the property type was a BTypeConfig. Properties with this type can now be set through the 'Set Property' provisioning step.</p>		
<b>NCCB-19508</b>	pxEditor	PxEditor's BDouble editor can read but not write in the user's specified number format
<p>In previous versions of INTEGRA, DoubleCE and FloatCE (used for editing numeric properties in the Px Editor) could only read numbers using a dot for a decimal separator. This issue has been fixed and both editors can now successfully read numbers using the decimal separator appropriate to the current locale.</p>		
<b>NCCB-42638</b>	rdb, rdbSqlServer	rdbms history export fails with truncation errors
<p>In previous versions of INTEGRA, the rdbms history export would frequently fail with truncation errors. This issue has been fixed and users will have an option to use Bigint data type for the index column of the history tables by setting the system property (niagara.rdb.useBigintDataTypeForIdColumn). The changes would reflect in new history export tables. For existing tables, if the ID index value is out of the range of the int data type (max 2,147,483,647), the DBA needs to manually alter the table to modify the column type to BIGINT. For SQL Server database (might have to disable the Primary key before the ALTER. Enable the Primary key after):</p> <pre>ALTER TABLE ALTER COLUMN id BIGINT;</pre> <p>For MySQL database:</p> <pre>ALTER TABLE MODIFY COLUMN id BIGINT NOT NULL AUTO_INCREMENT; {quote}</pre>		
<b>NCCB-42043</b>	report	html grid table ignores BCompGridColumn ord property for BSingleQueryRow
<p>In previous versions of INTEGRA, the HTML Component grid displayed incorrect values for query templates with columns that contain slot references. This issue has been fixed, and the HTML Component grid now displays the correct values, while respecting the slot ords in each column.</p>		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-44061</b>	report	Labels layout incorrectly when added to ReportPane
In INTEGRA 4.8, when a ReportPane contained labels showing multi-line texts with word wrap, the text would not wrap correctly on the first layout, but rather only after the ReportPane had been resized. This has been corrected, so the text wraps correctly on first layout.		
<b>NCCB-44132</b>	report	html grid table right click Go To links to individual components
In INTEGRA 4.8, the "Go To" hyperlink on a Component Grid context menu was redirecting to the subject of the cell, instead of the subject associated with row. This issue has been fixed, and the user will now be correctly redirected to the row's subject while behaving like the row double click function.		
<b>NCCB-45115</b>	report, webEditors	Html5 Grid Table sorts incorrectly so its sorting should be disabled
In INTEGRA 4.8, HTML-5 grid tables were sorting incorrectly, as values in the 100s would appear above those in the range of 20-to-99. This sorting has now been disabled on the HTML 5 Grid Tables to match the existing Workbench behavior.		
<b>NCCB-40843</b>	saml	SAML authentication cannot handle encrypted attributes
In previous versions of INTEGRA, SAML authentication cannot handle encrypted attributes. This issue has been fixed and a user with the SAMLAuthenticationScheme can now be configured to handle encrypted attributes. This allows users to be configured where attributes are passed to the station, from the IdP, encrypted.		
<b>NCCB-44753</b>	saml, webEditors	PopOutCommand does not maintain complex/slot settings when building the popped-out editor
When building an editor, fe and feDialogs now allow value to be passed in along with complex and slot. The specified value will be loaded into the editor and they will reject if the given value is not the correct Type for the slot. When using the "pop-out" on a row in a Property Sheet for a custom editor, getComplex() and getSlot() will now return the correct values.		
<b>NCCB-40100</b>	schedule	WebScheduler summary tab does not work on virtual schedules
In previous versions of INTEGRA, the WebScheduler Summary tab failed to load correctly, as the schedule getSummary RPC was missing a parameter that was causing this behavior. This has been fixed, and the WebScheduler summary tab should now render and function accordingly.		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-41538</b>	search	Suppress nuisance warning when systemDb-rt not installed: "Could not update missing default search scope properties"
<p>Prior to this fix, during station startup when the systemDb-rt module was not installed on the platform (atypical for supervisors, but typical on INTEGRA IT-8000s), the following nuisance warning would be displayed in the station console:            {code} WARNING [16:31:04 03-Jun-19 EDT][search] Could not update missing default search scope properties. Users will need to manually update them under the SearchService {code}</p> <p>This warning was purely a nuisance in this scenario but has now been suppressed under such conditions to avoid further disruption.</p>		
<b>NCCB-41088</b>	seriesTransform	Series Transform chart on Px view cannot be refreshed after changing parameters of transform graph nodes
<p>Prior to this fix, if a Series Transform chart was embedded on a Px view and that Px view was loaded in a browser, a subsequent change made to any of the parameters of the transform graph nodes sourcing it would not be immediately reflected in the Px view's Series Transform chart, even with a refresh of the browser. It required a logout/login (new session) to update the Series Transform chart data on the Px view in the browser. This defect has now been fixed, such that any changes to the underlying transform graph nodes are immediately picked up by a simple refresh of the browser on the Px view.</p>		
<b>NCCB-41477</b>	smartTableHx	Security Appliance: Page over button not working for Consolidated Histories
<p>Fixed issue in pagination of reports when the report type is selected as "Optimized" for Consolidated queries on the supervisor like the Audit and Attendance History. As a workaround in previous versions, go to the column chooser command switch the report type from "Optimized" to "Full report". Make sure to switch back to optimized after the station is upgraded to the fix version as this is more efficient for a station's limited resources.</p>		
<b>NCCB-35133</b>	template	device template deployment creates BFolder parent
<p>When a bulk deploy operation needs to create a folder to contain the deployed template, it will now create the correct type of folder rather than a generic folder. This corrects problems with manager views for device driver networks and other INTEGRA IT-8000s.</p>		
<b>NCCB-36695</b>	template	Cannot have multiple Px images with the same name in device or application template
<p>Corrected improper handling of template files in subdirectories when file names were identical.</p>		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-39122</b>	template	Not able to do Export Configs on template in module
In previous versions of INTEGRA, when a template is in the templates folder, the Export Configs action is not an option when right-clicking on a template that is in a module, This issue has been fixed and the "Export Configs" menu option is available for module templates.		
<b>NCCB-39576</b>	template, workbench	Creating a Device Template generates a duplicate in Device Template Mode view
Corrected an issue causing duplicate listings for device templates in device manager views.		
<b>NCCB-39826</b>	template	DevTemplateMode shows duplicates
When using the DevTemplateMode to deploy Device templates, it was possible that a template name appeared more than once in the list of available templates. Now, the template will only appear once in the list.		
<b>NCCB-40589</b>	template	Bulk Deploy Relation link fails when used with lexicon
Inbound and Outbound relations now use the localized label to find matching components during bulk deployments.		
<b>NCCB-40820</b>	template	Duplicate graphics files in application and station templates; edits are non-effective
Corrected an issue that sometimes-prevented changes to graphics within the template editor to be deployed.		
<b>NCCB-40821</b>	template	Images don't show in template editor when reopened
Corrected an issue that blocked loading of some image files when editing graphics in a template.		
<b>NCCB-40826</b>	template	Configuration slots fail to set value when Application Templates are deployed via provisioning
Bulk Deployment of templates that contained configurations for custom Types that extended from concrete BStatusValue Types (BStatusNumeric, BStatusString, etc.) could generate a ClassCastException and fail to deploy correctly. This has been fixed to allow this type of deployment.		
<b>NCCB-41419</b>	template, workbench	Rightclick menu on Config INTEGRA IT-8000 sometimes takes a long time to appear
Corrected an issue that sometimes caused a significant delay when invoking the context menu for the root Config component of a large station.		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-42556</b>	template	Unable to set platform credentials via template configuration
Device platform credentials can now be selected as configurations when creating a template. Device station (Fox) credentials were already supported as configurations.		
<b>NCCB-42826</b>	template	Ordering of services changed after application template installation
Corrected the ordering of services after application template installation to match the order of the template source.		
<b>NCCB-42883</b>	template	Template Service "Bulk Deploy from Excel" does not release handle on excel spread sheet until Workbench closed / GC
When using an Excel workbook to bulk deploy a template from workbench, it was not possible to open the workbook once the deployment ran due to workbench keeping a lock on the Excel file. The file lock is now released immediately after deployment.		
<b>NCCB-43030</b>	template	Template Editor Component Tab: Menu presented in Nav Tree is different
The Template Editor Component tab has been changed to present the full Edit menu when right-clicking on a component in the navigation tree on the left side panel.		
<b>NCCB-43414</b>	template	Template load exception when creating application template on some stations
Corrected an issue that could prevent creating a new application template from a station installed through an application template where components linked to the template configuration were removed after installation.		
<b>NCCB-43418</b>	template	Template load exception - error in opening zip file when configuring passwords in Component tab of template editor
Corrected possible template file corruption caused by passwords entered in the Component tab of the template editor. Note: passwords entered this way will not be saved in the template file.		
<b>NCCB-44186</b>	template	Can't deploy template twice
Corrected an issue that sometimes produced a cryptic error message and prevented deployments of a template after one successful deployment of that same template.		
<b>NCCB-44364</b>	template	Sub-Template causing Null pointer exception
Corrected an issue that could result in failure to open a template for editing when that template contains a sub-template that is out-of-date.		



<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-44366</b>	template	Template drop failure will corrupt the template
Corrected an issue that could cause cryptic error messages and file corruption to a template if a sub-template was added while editing the template.		
<b>NCCB-45467</b>	template	Application Template component tab menu differs between a saved template & one being created
Fixed an issue that caused some context menu items for components in the navigation tree of the component tab of the template editor to be incorrectly disabled when editing a template file.		
<b>NCCB-46638</b>	template	Cannot deploy template if it is open
There are specific conditions where a template installation initiated from the Template Sidebar drag-and-drop is not completed successfully if the template is open in the Template Editor. This situation will now result in an error dialog indicating that the Template Editor must be closed before installing the template.		
<b>NCCB-41508</b>	wbapplet, web	Web Launcher fails when WebService Applet Module Caching set to User
In previous versions of INTEGRA, setting the applet cache type in the WebService to "User" caused Web Launcher to fail. This has been fixed and Web Launcher should load the station successfully.		
<b>NCCB-35061</b>	web	HTML5 in web browsers can fail to load due to Web File cache corruption on first load
In previous versions of INTEGRA, while operating in a browser and loading the first page since a station restart, if you had pressed the "stop" button in your browser then the "web file cache" can frequently get corrupted (especially if loading from INTEGRA IT-8000s). This error results in missing javascript and css code, which can prevent future page loading attempts. This issue has been now been corrected in INTEGRA 4.9. To work around this issue in older builds, however. go to this spy "spy:/webFileCache/vFileWebCache", click clear therein and then clear your browser cache accordingly. This should regenerate the proper javascript and css without an additional station restart.		

**Description Continued: Release Notes assigned to one or more modules**

<b>NCCB-37275</b>	web	Obix client authentication floods audit history
<p>Previously, Obix connections to an INTEGRA Obix server would result in a new session being created for each request, resulting in excessive authentication audit events. In 4.9, the option to allow Obix clients to re-use sessions has been added with the Allow Session Reuse property on the Obix Server and is disabled by default. Enabling this property allows third party Obix clients that include the session cookie on subsequent requests to reuse their session, reducing the number of authentication audit events. In 4.10, the Allow Session Reuse property has been enabled by default, and the internal INTEGRA Obix client has been updated to include the session cookie on subsequent requests. The 4.10 changes introduce a breaking change to the public HttpConnection API. See "Breaking Change: HttpConnection getResponseHeaderFields method removed" for more information.</p>		
<b>NCCB-46700</b>	web	nCloudDriver prevents Ux Views when maintenance has expired
<p>In prior versions of INTEGRA, the UI fails to load if its associated module has as an internal error, expired license or if it's an incompatible version. UI views no longer fail to load during such conditions and all associated errors are now appropriately logged.</p>		
<b>NCCB-33228</b>	webChart, webEditors	WebChart fails to load when encountering invalid units
<p>In previous versions of INTEGRA, the WebChart failed to load when a point or history had a custom Unit which wasn't in the Unit.xml database. This issue has been corrected and custom unit.xml symbols now properly display on the bajaux PropertySheet of NumericWritables. As a workaround for previous version of INTEGRA, the unit.xml can be modified to include those missing units.</p>		
<b>NCCB-35863</b>	webChart	Exporting histories to a chart file does not relativize any points with histories
<p>In previous versions of INTEGRA, exporting chart files with relative ords contained therein would not correctly save the data. This issue has been fixed and exporting charts with relative ords now works correctly along with when saving chart files that contain n:history tags and points with history extensions.</p>		
<b>NCCB-39494</b>	webChart	Boolean history does not plot the data left and right of first and last values in time range
<p>In previous versions of INTEGRA, WebCharts did not load data before and after the range request, which left areas on the graph unfilled despite the presence of data beyond the specified range. This issue has been fixed and the WebChart will load in one record past and before the range to visualize the data trend when records are available.</p>		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-39555</b>	webChart	Predefined chart displays can show incorrect time periods
Multiple preexisting issues were resolved through this defect; When loading a predefined chart, if the Data Zoom or Time Zoom was active while switching time ranges, some of the data would not show up on the chart unless it was manually zoomed in. The ToolTip was not displaying when the sampling could not be turned off due to too many points being located therein. Axis that were previously locked would persist as unlocked regardless of user interaction.		
<b>NCCB-39692</b>	webChart	Webchart boolean History unable to change time period
In previous versions of INTEGRA, you could not add a query to the ord of a WebChart on a Px page. This issue has been fixed, and you can now successfully add a query to the ord such as time period.		
<b>NCCB-42900</b>	webChart	WebChart csv export includes pre and post records
When in data zoom view, the view will extend beyond the first or last data point when there is a record before or after the data on the graph. This provides a visual representation of the data trend, but when exporting the chart to csv, it would not include the data shown in that view. This issue has now been fixed, as csv chart exports now exclude pre and post records based on the targeted date range.		
<b>NCCB-27051</b>	webEditors, workbench	Numerics/NumericEditors in Workbench Bajaux views does not respect user locale Numeric Formatting
Workbench bajaux Number editors did not respect workbench locale changes. This issue has been fixed and Numerics, along with Number editors in Workbench bajaUX views will now display based on the locale set.		
<b>NCCB-27850</b>	webEditors	Intermittent error when changing INTEGRA IT-8000s slot of any point
While viewing an HTML5 Property Sheet, when the INTEGRA IT-8000s of a slot changed simultaneously with the value of that slot, an error message was sometimes displayed requiring the page to be refreshed. This often occurred when editing the INTEGRA IT-8000s of a point that was constantly changing such as a Ramp or SineWave. This issue has been fixed accordingly and the intermittent error is no longer issued when changing INTEGRA IT-8000s slot of any point.		
<b>NCCB-32983</b>	webEditors	HTML5 SlotChooser fails to load if either source or target has no linkable slots
In previous versions of INTEGRA, an exception was issued if no slots were available for linking when using "link-mark", "link-to" or "link-from". This issue has now been fixed and no longer throws an exception if no slots are available for linking.		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-38344</b>	webEditors	Views that check the current user do not work if username has special characters
When logged in via the HTML5 profile, as a user with spINTEGRA IT-8000s or other special characters in the username, certain editors would incorrectly display roles and permissions that were not actually editable by the user. (Attempting to edit these roles and permissions would still fail on the station, so this did not represent a privilege escalation.) This has been corrected, so any roles and permissions you do not have the ability to edit will be hidden or marked readonly.		
<b>NCCB-40849</b>	webEditors	HTML5 User Manager allows simultaneous editing of Authenticators of incompatible types
When using the HTML5 User Manager to edit multiple users at once, and those users do not all share the same Authenticator type, then editing of the Authenticator will be disabled for that group of users. Only individual users, or groups of users with the same Authenticator type, will allow you to edit their Authenticators. The HTML5 Abstract Manager Framework has been updated so that any MgrColumn instances that throw an error from coalesceRows() or getConfigFor() will show a generic "cannot edit" message, just the same as the AX version. The mgr.typeColumn.cannotEdit key in the webEditors lexicon is now mgr.cannotEdit and applies to all non-editable MgrColumn instances, not just those for Types.		
<b>NCCB-41530</b>	webEditors	CircularGauge does not honor unitConversion point INTEGRA IT-8000
In INTEGRA 4.8, the CircularGauge does not honor the unitConversion point INTEGRA IT-8000. This issue has been fixed and the Circular Gauge now presents the properly converted tick marks when the unitConversion point INTEGRA IT-8000 is used.		
<b>NCCB-43377</b>	webEditors	feDialogs incorrectly validates non-root widgets
If additional Widget validations are located inside the main Widget, the OK button continues to flash as enabled even though it has been disabled, as the webEditor's feDialogs.js was incorrectly validating more than just the main widget. This issue has been corrected and the webEditor's feDialogs.js is now correctly validating more than just the main widget.		
<b>NCCB-43462</b>	webEditors, workbench	UxManager Table does not use display names
HTML5 Manager Views now match the behavior of the existing bajaUI Manager views and show the display name of a component in the Name column. Both Managers continue to show the slot name when in edit mode.		
<b>NCCB-2483</b>	workbench	Chinese Language characters are not supported in Workbench Console
In previous versions of INTEGRA, Chinese Language characters were not supported in the Workbench Console. This issue has been fixed and the embedded workbench console now supports showing UTF_8 characters like Chinese Letters.		

<b>Description Continued: Release Notes assigned to one or more modules</b>		
<b>NCCB-44501</b>	entsec	Adding a badge is not triggering replication
Entsec builds 4.9.0.4 and earlier had issue in replicating the newly added badges to a person. This issue is fixed in the later builds.		
<b>NCCB-45317</b>	entsec	4.9 Entsec Profile can fail to load page when custom navigation node includes special character
Special characters will be escaped and unescaped in the cookies.		
<b>NCCB-45329</b>	entsec, entsecHx	Go to AlarmHistory then click Purge Config, you get an empty dialog.
The purge config dialog box on the Alarm History reports shows with the capacity in the alarm service		
<b>NCCB-45331</b>	entsecHx	On the dialog on Personnel Changes, the "Target" filter has bad lexicon keys
Target lexicons in the Additional personnel filter can be localized		
<b>NCCB-41217</b>	webEditors	HTML5 Property Sheet leaks memory during navigation
When navigating from one HTML5 Property Sheet to another, the instance of the previous Property Sheet could hang in memory, causing a memory leak over time. This has been resolved, so Property Sheet instances are cleared from memory after navigation.		