Release Notes for 9.0.2 and 9.0.2A EICS

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IBM Tealeaf Customer Experience release notes

The IBM Tealeaf Customer Experience release notes list the feature enhancements added to the latest releases of IBM Tealeaf Customer Experience, IBM Tealeaf cxImpact, IBM Tealeaf CX Mobile, and BM Tealeaf cxOverstat.

Additionally, the IBM Tealeaf Customer Experience release notes include descriptions of known issues and product limitations.

9.0.2 Release notes

These are the general Release Notes for IBM® Tealeaf® Customer Experience 9.0.2 and 9.0.2A Enhanced International Character Support (EICS).

For more information about Release Notes for the IBM Tealeaf CX Passive Capture Application, see *IBM Tealeaf Release Notes - CX Passive Capture Application*.

For more information about Release Notes for IBM Tealeaf UI Capture, see *IBM Tealeaf UI Capture Release Notes* .

For more information about Release Notes for IBM Tealeaf Android SDK, see *IBM Tealeaf Android SDK Release Notes*.

For more information about Release Notes for IBM Tealeaf iOS SDK, see *IBM Tealeaf iOS SDK Release Notes*.

Differences between V9.0.2 and V9.0.2A - Enhanced International Character Support (EICS)

There are two versions of this release of IBM Tealeaf Customer Experience; V9.0.2 and V9.0.2A - Enhanced International Character Support (EICS).

In IBM Tealeaf Customer Experience V9.0.2A - Enhanced International Character Support (EICS), IBM Tealeaf provides the following enhancements, which are not available in IBM Tealeaf Customer Experience V9.0.2.

- Support for all common web page encodings, including those commonly used for Japanese, Chinese, and Korean.
- Improved encoding, searching, filtering, and collation operations on non-ASCII data (characters outside of A-Z, a-z, 0-9, and common punctuation).
- Support when the user data being processed is not the same as the native character encoding of the operating system. For example, IBM Tealeaf components can process Arabic data on a French Windows operating system.

Note: IBM Tealeaf CX RealiTea Viewer v9.0.2A does not have these additional features. It contains the same enhancements as V9.0.2.

Warning: IBM Tealeaf Customer Experience V9.0.2A - Enhanced International Character Support (EICS) should only be used if you require the additional features that are provided by this version. If you do not require these additional features, install IBM Tealeaf Customer Experience V9.0.2.

Note: The following IBM Tealeaf products and components do not have a separate installer that is specific to IBM Tealeaf Customer Experience V9.0.2A. You can use the V9.0.2 installation files to enable the following products in your IBM Tealeaf Customer Experience V9.0.2A environment:

- IBM Tealeaf CX Mobile
- IBM Tealeaf cxOverstat
- IBM Tealeaf cxImpact

- IBM Tealeaf cxView
- IBM Tealeaf cxConnect for Web Analytics
- IBM Tealeaf cxConnect for Voice of Customer

In V9.0.2, IBM Tealeaf provides the following enhancements. These features are also available in V9.0.2A - Enhanced International Character Support (EICS).

- Culturally correct user interface: Updated Portal user interface components to accept and present numbers, dates, times, and calendars to reflect the user's cultural preference.
- Additional user interface translations: Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.
- Additional localized product documentation: The product documentation set is translated into all supported languages (German, French, Spanish, Brazilian Portuguese, Japanese, Chinese (Simplified), Chinese (Traditional), and Korean).

Latest GA versions

Latest GA versions provides the build numbers for the latest GA (full release) versions of the IBM Tealeaf products on Passport Advantage.

The table does not list the build numbers for fix packs, which are released intermittently by IBM. When a fix pack for IBM Tealeaf is put on IBM Fix Central, it includes an updated release notes PDF, which provides the build numbers for the latest fix pack.

Table 1. Build numbers for latest versions of IBM Tealeaf products

Product	Build number	As of Date
IBM Tealeaf Customer Experience V9.0.2 and related products	9.0.2.1118	Refreshed on June 10, 2016
IBM Tealeaf Customer Experience V9.0.2A and related products	9.0.2A 5168	Refreshed on June 10, 2016
IBM Tealeaf CX Passive Capture Application	3680 **Note:** The following information applies to IBM Tealeaf with EICS enablement. 3730 (for IBM Tealeaf version 9.0.2A with EICS)	June 18, 2015
IBM Tealeaf UI Capture	4.1.0	June 18, 2015
IBM Tealeaf Android SDK	9.0.0.13	June 18, 2015
IBM Tealeaf iOS SDK	9.0.0.23	June 18, 2015

Note: You must have an active customer support account for the latest versions of IBM Tealeaf Customer Experience and IBM Tealeaf CX Passive Capture Application. For more information, go to support.ibmcloud.com.

About IBM Tealeaf Customer Experience build numbers

At the bottom of each Portal page, you can see the full build number for the installed Portal as a series of four numbers: `A.B.C DDDD`.

- A - Major release version number.
- B - Minor release version number. Minor releases are incremental improvements to a major release.

- C - Modification release number. Modification releases are incremental improvements to a minor release.
- DDDD - The unique build number. This number indicates the number of official builds that have been published for the release.

  Note: When contacting IBM Tealeaf Customer Support, have the unique build number available.

Required PCA Build
PCA requires a specific build as documented here.

A PCA Build 3680 is required for IBM Tealeaf Release 9.0.2.

A PCA Build 3730 is required for IBM Tealeaf Release 9.0.2A with EICS support.

For more information about the Passive Capture Application (PCA), see *IBM Tealeaf Passive Capture Application (PCA) Manual* and *IBM Tealeaf Passive Capture Application (PCA) Release Notes*.

Supported browsers

IBM Tealeaf supports multiple browsers.

Supported browsers are listed in the *IBM Tealeaf cxImpact User Manual*.

IBM ExperienceOne Knowledge Center

Starting with version 9.0.2, you can view product documentation in IBM ExperienceOne® Knowledge Center, which includes documentation for all of the products in the ExperienceOne family.

Use IBM ExperienceOne Knowledge Center to:

- search across all documentation for a particular product.
- search across all of the products in the suite.
- bookmark topics.
- share links to specific topics.
- access IBM support and educational resources.

You can view common task and concept topics in IBM Tealeaf production documentation, including troubleshooting, and support documentation the same way you have in prior releases, by using the **?** icon on the IBM Tealeaf portal and selecting **Product Documentation**.

To view help for a page, select **?** > **Help for This Page** from the Portal.

To get documentation on all other IBM products, use the IBM Knowledge Center at http://www.ibm.com/support/knowledgecenter/.

IBM Tealeaf CX

The following features are new to IBM Tealeaf CX.

Globalization improvements

IBM Tealeaf now supports time zones with offsets relative to Coordinated Universal Time (UTC) that are not full-hour offsets, such as India Standard Time (IST). Additionally, IBM Tealeaf administrative interfaces, which include the Tealeaf Portal, are translated to supported languages.

Administrative interfaces for the following components are now translatable for all supported languages:

- Event manager
- Portal management
- IBM Tealeaf cxConnect
- IBM Tealeaf cxVerify

New data preaggregator server

The data preaggregator is used in large-scale environments such as within an environment that includes multiple data centers. The data preaggregator can reduce the overall data flow from canisters to the data collector, which improves the performance of the data collector and reduces the amount of data that is sent over the network.

The data preaggregator operates as a service (`TL_DataPreaggregator`) on a dedicated server within the data center. When the preaggregator is enabled within a data center, the preaggregator server hosts an extra canister and an agent that collects data from all of the other canisters. The preaggregator agent downloads and aggregates the data, then stores the data to a single canister that is hosted on the data preaggregator server. The preaggregator enables the data collector to retrieve the data from the single preaggregator canister instead of retrieving the data from multiple canisters. Downloading the aggregated data from the preaggregator server reduces the amount of data that is sent over the network to the data collector and improves the performance of the data collector by reducing the amount of processing that must be done by the data collector.

Multiple data preaggregators can be deployed to improve performance in large-scale data centers. Depending on the amount of data that is collected, a typical data preaggregator can process the data of 10 to 15 canisters. A single data collector collects the data from each data preaggregator. Data preaggregators do not transfer data between themselves. If a data preaggregator goes offline, the canisters that are associated with that preaggregator continue to save the data until the data preaggregator comes online again. When a data preaggregator comes online, the preaggregator agent begins downloaded the data from each canister.

For more information about the data preaggregator server, see the *IBM Tealeaf cxImpact Administration Manual*.

Support for VMware

IBM Tealeaf can be deployed within a VMware vSphere 5.5 virtual environment. IBM Tealeaf requires that the virtual servers meet the same requirements as a physical server.

The following limitations apply to IBM Tealeaf deployed within a VMware vSphere 5.5 virtual environment:

- Limit throughput for up to 500 Mbps. The CX Passive Capture Application supports throughput for up to 500 Mbps. Environments with throughput rates greater than 500 Mbps can experience packet loss at the CX Passive Capture Application.
- You must disable multi-queue support in the VMware virtual network driver. Multi-queue support is automatically enabled by default when VMware is installed. If multi-queue support is not disabled, the packets that are sent to the CX Passive Capture Application might become out of order and result in the CX PCA dropping the packets.

User interface improvements

New improvements to the user interface help the usability and readability of the IBM Tealeaf portal and its components and also provide a common user experience with other IBM Experience One products.

Result Set Extract (RSE) is discontinued

The Result Set Extract (RSE) feature is discontinued in IBM Tealeaf V9.0.2. RSE is not available in any IBM Tealeaf V9.0.2 environment, including any environment that is upgraded to IBM Tealeaf V9.0.2. Support for RSE in V9.0.1 and earlier versions will be discontinued in September 2016.

Deprecated features

Some features and functionality are not available for use in IBM Tealeaf

Starting in Version 9.0.x, the TLI functionality is deprecated. If you are upgrading from an 8.8 release that used the TLI functionality, TLI is still enabled in Version 9.0.x. If you did not use the TLI functionality in Version 8.8 or you have a fresh installation of V9.0.x, you cannot enable TLI.

cxImpact

The following features are new to IBM Tealeaf cxImpact.

Modifications to version checking

IBM Tealeaf Version 9.0.2 and later implements version checking differently than earlier versions.

For mobile sessions rendered with SDK version 5.0.0.0 or later, and with the Tealeaf templates shipped with version 9.0.2 or later, IBM Tealeaf performs version checking on the `type10` message only.

For a list of the publications with information about how IBM Tealeaf Version 9.0.2 implements version checking, see Reference table for documentation about version checking.

Table 2. Reference table for the documentation about version checking

For information about. . .	See . . .
how version checking works in IBM Tealeaf Version 9.0.2	"Version checking and Tealeaf templates" in the *IBM Tealeaf CX Configuration Manual*.
upgrading the Replay Server to get the latest Tealeaf templates.	"Updating Tealeaf templates" in the *IBM Tealeaf CX Configuration Manual*.

Support for multiple web views

Prior to Version 9.0.2, a limitation prevented hybrid replay from supporting more than 1 web view.

In version 9.0.2 of IBM Tealeaf, hybrid replay in BBR supports multiple web views.

Added a 64-bit version of the Replay Sever

During the initial IBM Tealeaf CX installation, one Replay Server is installed. This server is initially designated as the master Replay Server. By default, the Replay Server installed is 32-bit.

IBM Tealeaf 9.0.2 provides a 64-bit version of Replay Server Replay Server. The 64-bit Replay Server supports loading a larger number of sessions on a single replay server. To employ the 64-bit replay sever, you need to run a command that points the Replay Service to the 64-bit executable.

For a description of how to run the command that points the Replay Service to the 64-bit executable, see "Switching to a 64-bit Replay server" in the *IBM Tealeaf CX Configuration Manual*.

Icon support for unresponsive gestures

IBM Tealeaf Version 9.0.2 provides icon support for unresponsive gestures at replay.

In version 9.0.2, unresponsive gestures are displayed graphically in Browser Based Replay as orange outlined icons accompanied by a circled "X" .

See "Unresponsive gesture events captured" in the *IBM Tealeaf cxImpact User Manual* for examples and descriptions of the icons that display in Browser Based Replay for unresponsive gestures.

For a description and list of supported gesture controls, see "Responsive and unresponsive gesture controls" in the *IBM Tealeaf cxImpact User Manual*.

Support for new RequestModify replay rule

IBM Tealeaf Version 9.0.2 supports `RequestModify` rule.

Replay rules are typically written by IBM Tealeaf Professional Services and internal teams. Contact IBM Tealeaf professional services or your account representative for assistance with writing and implementing the `RequestModify` rule.

Support for adding white list domain rules to the Replay Server profile

IBM Tealeaf Version 9.0.2 supports adding white list domain rules to the Replay Server profile.

For instructions on how to add white list domain rules to the Replay Server profile, see "Adding a white list domain rule to the Replay Server profile" in the *IBM Tealeaf cxImpact User Manual*.

Improvements to page load detail page

IBM Tealeaf Version 9.0.2 improves the user interface for the Page Load Details window by providing graphical indicators to the codes and state of the loaded page.

For a description of the enhancements see "Working with the Page Load details window" in the *IBM Tealeaf cxImpact User Manual*.

Additional CEP session agent documentation

IBM Tealeaf Version 9.0.2 includes additional documentation about the schema that is used by the CEP session agent to deliver messages to receiving systems.

See "CEP session agent schema" in the *IBM Tealeaf cxConnect Data Analysis Administration Manual* for detailed descriptions of the schema and for samples of the CEP output.

cxOverstat

The following features are new to . cxOverstat.

Tealeaf Redesign

In order to maintain a consistent look and feel across IBM Commerce products, IBM Tealeaf enhanced the OnPrem user interface. Product structure remains the same, while certain elements received a facelift. Areas that underwent changes include the login page, dashboard, search, session list and top navigation menu. This will improve the overall user experience and provide a generally enhanced aesthetic.

Overlays for Native Mobile

Using IBM Tealeaf cxOverstat, you can now gain insight into how customers are interacting with your native mobile application on their mobile devices. Tealeaf cxOverstat supports Heat Maps, Comparison Analytics, Link Analytics, Form Analytics, and Color Contrast Analytics overlays for native mobile applications. With these overlays you can view where customers have tapped the screen on their mobile devices, regardless of whether there is a responsive element in that location. You can then delve into each tap and analyze customer interactions within each overlay through BBR or the Snapshot Gallery.

CX Mobile

The following features are new to . CX Mobile.

- Geolocation data capture

  You can log geolocation information for the users of your applications.

  You can configure automatic geolocation logging when the application starts.
- Geolocation API

  You can use use APIs to log geolocation information at specific places in your application.
- Geolocation JSON messages

  A GeoLocation message logs a user's location information.

  The message consists of a control identifier and a GeoLocation value.
- Many new fields have been added to the JSON messages.
- CX Mobile now supports integration with the Swift programming language.

- In version 9.0.2 you can use custom events to trigger DOM capture.
- A feature that delays DOM capture until frames load XPATH instead of dynamic IDs for application controls that do not have IDs assigned to them by the programmer.

  This makes it possible to create events and reports for specific controls and the IDs will no longer change dynamically.

For information about these features, see the *IBM Tealeaf CX Mobile User Manual* and the *IBM Tealeaf Event Manager Manual*.

Build notes

Build notes list and describe the issues that are addressed in the individual builds for the release, and also provide descriptions of new features and dependencies.

IBM Tealeaf recommends upgrading to the latest available build for any release whenever possible.

Because fix packs are released intermittently, the Build notes section might not have the most up to date listing of fix packs. Check IBM Fix Central for the latest fix pack releases.

Release 9.0.2 general availability

The general availability for IBM Tealeaf Version 9.0.2 is June 10, 2016.

Installation notes

Use the installation notes to help you prepare for installing the software.

- Consult the *IBM Tealeaf CX Installation Guide* for information about installing Internet Information Services (IIS) and enabling .NET framework.

  Install IIS Manager to manage IIS.
- Verify that Microsoft IIS is installed and configured to use .NET 4.5 on your IBM Tealeaf servers.
- On Windows Server 2008 servers, when you install Microsoft IIS, the IIS Manager is not installed. You must install the IIS Manager and ensure that ASP pages are allowed.
- If you decide to enable your Windows firewall, you must configure firewall openings for bidirectional communication.

  See the *IBM Tealeaf CX Installation Guide* for information about what ports need to be opened if you decide to leave the firewall enabled. You can do disable or enable the firewall through the **Windows Control Panel**.
- Set the slide bar to **Never notify** to disable when you are notified about changes to your computer through User Access Control in the **Windows Control Panel**. Restart your computer after you change this setting.
- Ensure that Mixed Mode is set in Microsoft SQL Serv Management Studio in **properties** and **security**.
- Verify that SQL Server is configured for TCP/IP and listening on the port referred in the report server configuration through the **SQL Server Configuration Manager**.
- Run `SETUP.EXE`, not `IBMTealeafCX.msi`.

9.0.2A 5094 - Enhanced International Character Support (EICS) build issues

In addition to any IBM Tealeaf V9.02 build issues, use the information documented here to learn about known issues in IBM Tealeaf V9.0.2A 5094 - Enhanced International Character Support.

For information about V9.0.2 build issues, see "9.0.2 1046 build issues" on page 8.

- The long term canister trims data one day earlier or one day after the configured length of time. The long term canister does not support daylight savings time.
- Half-hour time zones such as the IST time zone are not supported.

9.0.2 1046 build issues

There are known issues with the 9.0.2 1046 build, as documented here.

The following are known issues of the 9.0.2 1046 build.

- When replaying sessions from mobile devices, Browser Based Replay expects a portrait display orientation where the height is greater than the width (`height > width`) .

  Browser Based replay does not replay sessions correctly if the portrait display orientation has a width that is greater than the height (`width > height`). For example, if the portrait mode orientation of the device is `W960 x H460`, Browser Based Replay will not replay the session correctly.
- Xamarin is no longer supported.
- The improvements made to the user interface for version 9.0.2 do not yet extend to the entire product - some areas of the UI remain unchanged.
- When upgrading to version 9.0.2, duplicate data under Search Templates is displayed for "Fields" and "Columns".

Release 9.0.2.1078 / 9.0.2 and 9.0.2.5127 / 9.0.2A Fix Pack 1

IBM Tealeaf 9.0.2.1078 / 9.0.2 and 9.0.2.5127 / 9.0.2A Fix Pack 1 is a full IBM Tealeaf upgrade that can be used to upgrade your existing IBM Tealeaf deployment.

For IBM Tealeaf 9.0.2.1078 / 9.0.2, Fix Pack 1 supports upgrading from IBM Tealeaf Version 8.7 and later.

For IBM Tealeaf 9.0.2.5127 / 9.0.2A, Fix Pack 1, supports upgrading from IBM Tealeaf Version 9.0.1A and later.

Note: IBM Tealeaf 9.0.2.5127 / 9.0.2A, Fix Pack 1, does not support upgrading from earlier non-global version to global version.

Note: When you are upgrading an IBM Tealeaf deployment, upgrade the IBM Tealeaf software on all of the servers in your IBM Tealeaf environment. Installing the 9.0.2 and 902A fix pack 1 is similar to installing a major upgrade. Run setup.exe to start the installation process. For more information on installing IBM Tealeaf, see the *IBM Tealeaf CX Installation Manual*.

This fix pack is compatible with browscap.csv version 6006 and WURFL version db.scientiamobile.com - 2015-08-30.

Known issues

The following known issues exist in fix pack 1:

- **PCA compatibility issue related to Rivest Cipher 4 (RC4)**

  Fix pack 1 *does not* support Rivest Cipher 4 (RC4).

  Running Tealeaf 902 fix pack 1 with a version of the PCA *that does* support RC4 can result in compatibility issues.

  To avoid these compatibility issues, it is recommended that you install the latest version of PCA, which can be found on IBM Fix Central.

  – 9.0.2_IBMTealeaf_PCA-3682-2_SecurityRollup_FixPack
  – 9.0.2A_IBMTealeaf_PCA-3732-2_SecurityRollup_FixPack
- **Issues with swipe and pinch gestures**

  Swipe and pinch gestures from hybrid applications do not animate during replay.
- **Issues with swipe and pinch gestures across multiple web views**

  When an app has two or more web views and the user swipes from web view 1 to web view 2, the interaction is not captured.
- **An issue with highlighting XPath with chrome renderer**

The <h4> html tag when queried from DOM using Javascript is displayed as <h>. Thus, the renderer is unable to find and highlight the element.

New Features

The following features are available with fix pack 1:

- DOM Diff

  The DOM Diff feature applies only the differences (diffs) for the captured DOM when replaying the session.

  By processing the DOM Diffs only, you can reduce the size of the captured session. Reducing the size of the captured session can improve replay performance.

  Note: DOM Diff functionality is not supported within hybrid mobile apps. ScreenViews and DOM snapshots are used to replay sessions from hybrid mobile apps.

  Table 3. Topics about DOM Diff

For information about. . .	**See . . .**	**Knowledge Center link**
what DOM Diff is and how it works.	"DOM Capture and Replay" in the *IBM Tealeaf CX UIC SDK 4.1 Guide* . **Note:** This topic is also in the *IBM Tealeaf cxImpact User Manual*.	DOM Capture and Replay
enabling the DOM Diff service	"Configuring settings and features with the Configuration wizard" in the *IBM Tealeaf CX UIC SDK 4.1 Guide* .	Configuring settings and features with the Configuration wizard

  The DOM Diff feature in this fix pack requires IBM Tealeaf CX UIC SDK Version 5.0.

- Sort by Timestamp

  The option **Sort** > **Use Timestamp** has been added to the Options menu of the Browser Based Replay user interface.

  Table 4. Topics about sorting UI events by Timestamp

For information about. . .	**See . . .**	**Knowledge Center link**
the **Sort** > **Use Timestamp** option	"Options menu" in the *IBM Tealeaf cxImpact User Manual*.	Options menu
sorting UI events by timestamp	"Sorting session events by timestamps" in the *IBM Tealeaf cxImpact User Manual*.	Sorting session events by timestamps

- Capture type identifier added to the Browser Based Replay user interface

  A new identifier named **Capture** has been added to Page statistics banner of the Browser Based Replay user interface.

  Per hit selected, the identifier specifies the "type" of capture for the page. Knowing the capture type of a page can expedite the process for changing the capture type if need be.

Table 5. Topics about the Capture type identifier		
For information about. . .	**See . . .**	**Knowledge Center link**
the **Capture** type field	"Page statistics" in the *IBM Tealeaf cxImpact User Manual*.	Page statistics

- Information about modifying the Canister Safety Limits [BB] event has been added to the documentation

  The documentation has been modified to include information about modifying the byte size of the Canister Safety Limits [BB] event for sessions that include captured DOM.

  A new step explaining why you might need to increase the byte size and how to do it has been added to the topic "Configuring IBM Tealeaf DOM capture and replay" in the *IBM Tealeaf CX UIC SDK 4.1 Guide* .

  Note: This topic is also in the *IBM Tealeaf cxImpact User Manual*.

  – Knowledge center link: Configuring IBM Tealeaf DOM capture and replay
- IBM Tealeaf Version 9.0.2 fix pack 1 includes a Replay server with Java™ components for replaying DOM Diff sessions.

  To support the Java implementation, the following two components have been added to the IBM Tealeaf installer:

  – IBM Java 8 runtime
  – IBM WebSphere® Liberty

  Note: These two components increase the size of the IBM Tealeaf installation by 200 MB.

  If you plan on utilizing the Java implementation, make sure port 38004 is available.
- To remedy a security issue with DHE key negotiation (Logjam) in Transport Layer Security (TLS), the use of DHE is disabled and ECDH is supported.
- To establish compliance with PCI-DSS, support for Transport Layer Security (TLS) Version 1.2 has been added to this fix pack.
- This fix pack includes a replay rule capability for remapping URLs.

  You can use the Remap URL feature to remap URL content (external to pages captured for a session) to a new destination.

  Remapping URLs is commonly used in situations where the external content is not available or accessible from the original site. A copy is made on another server to which you can remap the URL.
- This fix pack includes a feature that allows users to set values in an **Hour** selector list box for display in the calendar widget in the Top Mover report.
- IBM Tealeaf Version 9.0.2 fix pack 1 does not require the .NET Framework to be present in order to install CX RealiTea Viewer, as CX RealiTea Viewer does not require .NET (AT&T 11748021).
- This fix pack includes the following improvements to the user interface:

  – *Color contrast change to UI text*

    In the session search after selecting an Event, the Event name displayed in light gray, making it difficult to see.

  – *Additional hover help*

    Hover help has been added to the Event name.

    Event labels are displayed in the Event tooltip.

  – *Usability improvements to the Report builder*

    The following issues have been addressed:

    - There was no event detail hover popup on the Event name in the left pane.

    - On the chart, where the Event name is displayed in the legend as an image, it is OK to not have an event detail hover popup.
    - On the report grid table header there is no Event detail hover help on the Event name.
    - In report details, in metrics, there is no event detail hover popup on the Event name
  - *Stylistic consistency*

    Updates have been made to the style of the Event detail hover help to make it consistent with other hover help in the UI.

    An issue that kept the Event detail hover help in Event selector (for Chrome renderer) displayed until the screen was refreshed, has been fixed.
- This fix pack includes formatting improvements to the Calendar widget in Report Builder.
- This fix pack strengthens password requirements for Tealeaf Portal.

  The following password requirements for Tealeaf Portal have been implemented in this fix pack:
  - Password length:

    Passwords must be a minimum length of eight characters.
  - Password complexity:

    Passwords must include three of the following four types of characters:
    - Numeric
    - Special characters
    - Upper case letters
    - Lower case letters
  - Password expiration:

    Passwords expire every 60 days
  - Password history

    A password cannot be the same for 12 iterations.
  - Password reset limitations

    A password cannot be reset by user more than once in a 24 hour period.
  - Account lockout threshold

    After 5 failed login attempts, the user account is locked and the user will not be allowed to log in.
- This fix pack includes improved compression buffer memory management, optimizing Replay Server and Render performance for large data payloads access.

Bug fixes

- A defect that prevented Replay Server from *waiting* or *killing* the Internet Explorer (IE) renderer during a restart has been fixed.
- A defect that prevented cxOverstat snapshot processing from handling the **`srcset`** attribute in an image tag (`<img srcset="" />`) has been fixed.
- A defect that prevented users from *non-admin groups* from exporting TLA sessions from BBR has been fixed.
- A defect that caused the **Page load details** button to be displayed erroneously in the cxOverstat overlay has been fixed.
- A defect that caused Tealeaf to list the full path in `Snapshots/files.txt`, instead of the file name only, has been fixed.
- Improvements to the Event selector UI

In this fix pack, users can size the Event selector and they can also drag it to a different location on the screen.

- This fix pack includes enhancements to how gestures from Hybrid applications are processed in Browser Based Replay.
- This fix pack provides randomization of the selection of renderers, which minimizes the chances of hitting the same renderer instance each time.

  With randomization, the renderer load is distributed randomly, creating a more balanced pattern of usage and more balanced growth in memory across the renderers.

  Note: The random distribution of renderers does not guarantee an *even* distribution of renderers.
- A defect that caused pseudo translations to be missing from the CEP session agent in the Event Bus Configuration has been fixed.
- A PCA remediation for CVE-2015-2808 (Bar Mitzvah) has been fixed.
- A stack corruption defect that caused PCA crashes related to privacy has been fixed.
- A defect that caused Browser Based Replay to not display unresponsive gestures for hybrid sessions has been fixed.
- A defect that caused Browser Based Replay to not load the correct images that were stored inside the session has been fixed.
- 32324 - in progress A defect where a URLField - blocking rule masks white-listed value (when the preceding field has no value), has been fixed.
- Defects that resulted in BBR memory leak issues in the Mozilla renderer have been fixed.
- A defect that caused the replay server to crash due to initialized iterate has been fixed.
- Memory leak issues in `uriLoadSession` of Replay Server have been fixed in this release.
- A defect in BBR that caused all the static content to be accessed via HTTP, even when protocol is set to HTTPS, has been fixed.
- A defect that caused the Raw XML view to extend beyond visible area in the BBR rules editor has been fixed.
- A defect that prevented Admin changes to a user's settings from being saved has been fixed.
- A regression-related defect that caused a radio button in the Tealeaf Portal Search template to not be displayed has been fixed.
- A defect that caused Replay to fail after changing portal to an HTTPS connection has been fixed.
- A defect that prevents the ability to replay sessions in RTV by using the **Search** > **Active**, **Search** > **Completed**, or **Search** > **All** Sessions options from the Portal has been fixed.
- A defect that resulted in a `No data Available` message and which also prevented images added from the **Basic Components** tab of a dashboard from displaying, has been fixed.
- A defect that caused the Database Table Size report to always comes back empty for previous days has been fixed.
- A defect that caused a `No Data To Export` error in Mozilla Firefox and Internet Explorer and an `Object reference not set to an instance of an object` error in Google Chrome when trying to download a Tealeaf Archive file from BBR, has been fixed.
- A defect that caused a `"No Data to Export"` error when using the **View in RTV** option in Browser Based Replay has been fixed.
- A blocking shade defect that caused discrepancies in the Hit counts in Mozilla Firefox and Internet Explorer has been fixed.
- A defect that caused unexpected results when running the Privacy Tester utility through the Tealeaf Management Server has been fixed
- A defect that resulted in the Alert name to display incorrectly in the alert monitor has been fixed.
- A defect that caused Alerts to be generated during the blackout time has been fixed.

- A defect in the Internet Explorer renderer that caused Hit count values to change when selecting an area using the subselect tool and adding or removing metrics, has been fixed.
- A defect that caused a color contrast problem, where the color contrast in Replay did not match the color contrast on the actual web page, has been fixed.
- A defect that caused the `TLExtractSvc` to fail has been fixed.
- A defect that resulted in empty statistics report for canisters has been fixed.
- A defect that resulted in an incorrect time being displayed for sessions searched and in the report builder when the Windows OS and portal admin group's time zone are different, has been is fixed.
- A defect that caused an `"Unable to Update JobList configuration file"` error message to display when using the configuration task to create and save a job in cxConnect, has been fixed.
- A defect that caused the BBR Chrome renderer to crash due to corrupt internal buffer open source code has been fixed.
- A defect that caused an assertion failure on memory deallocation from the debug build of `BBRRenderer` has been fixed.
- A defect that caused Browser Based Replay to be unable to use a Mozilla renderer while replaying hybrid iOS sessions, has been fixed.
- A defect that prevented session replay in RTV from the event editor page when portal uses https has been fixed.
- A defect where the Admin login defaults to Portal Management, and always asks to select a server, has been fixed.
- A vulnerability defect that allowed Portal users to create events using the **Dashboard Import Template**, even though the users did not have authorization to access the Event Manager, has been fixed.
- A defect that prevents Tealeaf from parsing correctly the `UserAgentString` that contains the browser value **`Microsoft Edge`** has been fixed.
- A defect where Daily dimension extract files generate errors when loading to the database has been fixed.
- A defect where incorrect attribute labels were displayed for the **`PatchResponseWithPostValue`** rule has been fixed.
- A defect that caused the **Active Events** page to be embedded in the **Active Sessions** page has been fixed.
- Defects that resulted in BBR memory leak issues for the Chrome renderer have been fixed.
- A defect in the `GetCacheFile` file command that caused the Replay server to generate an incorrect URL has been fixed.
- A defect that enabled would-be attackers to traverse the directories on the Tealeaf server for purposes of reading and writing files using a man-in-the-middle (MITM) attack has been fixed.
- A defect that caused the **Next** button in Browser Based Replay to not function properly when the **Sort** > **User Timestamp** option is enabled has been fixed.
- A defect where that prevented some BBR toggle options from persisting across sessions has been fixed.
- A defect that caused a problem in adding a hit attribute as a condition to an event definition because of an issue handling the Turkish character `i`, has been fixed.
- A defect that caused the order of events in the Navigation list in Browser Based Replay to be incorrect has been fixed.
- A defect where the Event search does not populate the **Event** field with the Event name has been fixed.
- A defect that caused the following error to display when analyzing Event Activity has been fixed:

  `"An error has occurred. Please contact the system administrator"`
- A defect that caused the **Tap** gesture to display on the wrong area of the screen at replay time has been fixed.

- Issues with the tooltip text for the Top Mover have been fixed.

Release 9.0.2.1118 / 9.0.2 and 9.0.2.5168 / 9.0.2A Fix Pack 2

Fix Pack 2 applies to both IBM Tealeaf 9.0.2.1118 / 9.0.2 and 9.0.2.5168 / 9.0.2A , and is a full IBM Tealeaf upgrade that can be used to upgrade your existing IBM Tealeaf deployment.

For IBM Tealeaf 9.0.2.1118 / 9.0.2, Fix Pack 2 supports upgrading from IBM Tealeaf Version 8.7 and later.

For IBM Tealeaf 9.0.2.5168 / 9.0.2A, Fix Pack 2 supports upgrading from IBM Tealeaf Version 9.0.1A and later.

Note: IBM Tealeaf 9.0.2.5168 / 9.0.2A, Fix Pack 2, does not support upgrading from earlier non-global version to global version.

Note: When you are upgrading an IBM Tealeaf deployment, upgrade the IBM Tealeaf software on all of the servers in your IBM Tealeaf environment. Installing IBM Tealeaf 9.0.2.1118 / 9.0.2 and 9.0.2.5168 / 9.0.2A fix pack 2 is similar to installing a major upgrade. Run setup.exe to start the installation process. For more information on installing IBM Tealeaf, see the *IBM Tealeaf CX Installation Manual*.

This fix pack is compatible with browscap.csv version 6014 and WURFL version db.scientiamobile.com - 2016-05-08.

Known issues

The following known issues exist in fix pack 2:

- A known issue where a `"Could not connect to portal"` message is displayed when capturing a snapshot, (even when the user is logged in to the Portal).

  The problem occurs when using the Private Browsing feature of Mozilla Firefox with the privacy setting that prohibits the acceptance of cookies.

  To prevent this error message from displaying, set the **Accept cookies from sites** option to `Always`.
- The *Tealeaf Reporting Guide* includes an error message that is worded incorrectly and does not match the text of the message generated by the Report builder.

  The error message in the *Tealeaf Reporting Guide* is:

  ```
  Selecting a date range of one day is not an optimal report variable
  for an hourly dimension. Either select the "day" dimension or specify a date
  range of at least a week to pull hourly data.
  ```

  The message that displays in Report builder is:

  ```
  Selecting a date range of one day is not an optimal report variable
  for an hourly dimension. Either select the "day" dimension or specify a date
  range of at least a week to pull data.
  ```

  .
- **Report builder navigation issue in Firefox browser:**

  There is a known issue where Portal users are unable to navigate to other pages in the Portal when building a report and using the Firefox browser.

  The workaround for this issue is to close that Firefox browser window and open the session in new window.

  Note: This issue does not occur when using the IE or Chrome browser.

Enhancements

The following enhancements are available with fix pack 2:

- This fix pack provides the capability to configure a core dump directory in PCA.

Perform the following steps to configure a core dump directory in PCA:

1. Backup #`cat/proc/sys/kernel/core_pattern`

   Save the output of the back-up command to a `bkp.txt` file in case you need to revert back to the directory state.

2. Configure the new core dump location:

   ```
   #echo '/NewPath/core.%p'
   | sudo tee /proc/sys/kernel/core_pattern
   ```

   where the *NewPath* is the path on which to store the core.

3. Make sure the configuration change takes effect (even after a system reboot) by adding the following line in `/etc/rc.local`:

   ```
   #vim /etc/rc.local #echo '/NewPath/core.%p'
   | sudo tee /proc/sys/kernel/core_pattern
   ```

   where *NewPath* is the path on which to store the core

4. To revert back changes:

   ```
   #echo 'output of #1' | sudo tee /proc/sys/kernel/core_pattern
   ```

- This fix pack provides support for the Remap URL replay rule.
- For this fix pack, the .NET framework prerequisite for installing RTV has been removed.
- This fix pack introduces a configuration flag to disable UI SDK JSON Indexing to improve indexing performance.

  Note: It is recommended that you disable this flag when JSON is not in additional content types.
- In Report builder, the hourly data error message has been changed to a more meaningful and actionable message.
- This fix pack provides a **`ShowTealeafEvents`** flag in BBR to disable Event definition loading at the beginning so as to improve session load time performance.
- This fix pack improves the message "`Error getting server ID! (Not Found)`" from TMS by including the server ID in the message.
- This fix pack strengthens password requirements for Tealeaf Portal.
- This fix pack includes support for the following replay rules:
  - Request modification rule

    You can use the Request Modify rule for fixing anomalies in data or fixing custom content not handled by Replay.
  - Ignore UI element rule

    You can use the Ignore Element option to remove the UI Event from Navigation list in BBR.
- This fix pack provides an option named **Browser Based Replay** on the **Analyze** menu in the Tealeaf portal.

  You can select **Browser Based Replay** from the **Analyze** menu to go directly to the BBR user interface, where you can load TLA files and replay sessions for analysis.

  In addition to the bug fixes listed in the following sections, there are a number of other issues that were addressed in this build, but are not included in this list.

Bug fixes

- A defect where inflated Event counts are reported across all Events has been fixed.
- A defect that caused a "`Sequence contains no matching element`" message to display in the Portal when downloading a backup, has been fixed.

- A performance related defect that resulted in delayed session indexing has been fixed.
- A defect in cxOverstat that resulted in reporting fewer than the actual number of clicks on a heat map has been fixed.
- A defect in the calender date picker that made it difficult navigate and select a date range has been fixed.
- A defect where SACLR instructions were not deleting a section properly from the REQ buffer has been fixed.
- A defect in Portal reports where the `"Day and Hour"` Dimension does not allow any filtering on values, has been fixed.
- A defect in the HBR Transport Service that caused a crash and resulted in stalling the delivery of HITs, has been fixed.
- A defect that caused the Replay server to crash with the error message `"This session is not loaded."` has been fixed.
- A defect that caused the `URL Fields blocking rule` to block white listed fields when the field prior to a white-listed field has no value, has been fixed.
- A defect that caused Top-Mover Alerts to not fire has been fixed.
- A defect that caused the Canister to stall while processing hits has been fixed.
- Issues in this release where the Replay Service and Chrome render process fails due to high memory utilization has been addressed.
- An issue with replaying widgets in web pages with JSONP has been resolved.
- A defect that prevented Search Server configuration from allowing NT Authorization to be set up has been fixed.
- A defect that caused a cxConnect for Web Analytics segment import to fail has been fixed.
- A defect that caused the Windows NT authentication setup to fail with search server has been fixed.
- A defect that caused a database upgrade to fail after installing CX Mobile has been fixed.
- A defect that caused the Event conversion process to fail with a `"Could not locate Pattern"` error in the Event Manager log has been fixed.
- A defect that prevented overlays from displaying in both Replay and Snapshots when integrating Tealeaf with WebSphere Portal, has been fixed.
- A defect that caused the **`\Tealeaf\Tools\pcastatus`** command to generate an error when retrieving `stats.xml`, has been fixed.
- A defect that caused RTV and BBR to not display the modal window, thereby preventing session replay in a single page application framework, has been fixed.
- A defect where Replay rules were not synching because code in the Search server was set to always get rules from Reporting server instead of Master Replay server has been fixed.
- A defect that caused the Transport Service to crash due to some of the regular expressions in data has been fixed.
- A defect in cxOverstat that caused layers to be offset has been fixed.
- A defect where incomplete cxOverstat analytics were being displayed on some pages has been fixed.
- A defect that caused an error and prevented importing Events from other environments into a Tealeaf production environment, has been fixed.
- A defect in Browser Based Replay where images are not loaded in the rendered page and the navigation pane overlaps page content in the viewer area has been fixed.
- A defect where replay post matching did not always find the hit when a data hit occurs slightly before the response time of it's base page has been fixed.
- A defect that caused load failures for some BBR sessions after replay rules had been modified, has been fixed.
- A defect where only portal admin users were able to see sessions in BBR has been fixed.

- A defect where Tealeaf alerts were triggered with incorrect event names, causing the message `Event: Error - No Event Name Available` to display, has been fixed.
- A defect that caused the Event Tester to throw a `Waithandles must be less than or equal to` 64 error has been fixed.
- A defect in cxReveal that prevented changes to the Report filter on a standard Audit Report has been fixed.
- A defect that resulted in fact aggregation errors after upgrading to a Tealeaf Version 9.0.2 environment has been fixed.
- A defect in the Rule Profile editor in BBR that resulted in not being able to create `'IgnoreReqVar for matching URL'` rule has been fixed.
- A defect where incorrect attribute labels were displayed for the **`PatchResponseWithPostValue`** rule has been fixed.
- A defect that prevented snapshots from receiving data after upgrading to Tealeaf Version 9.0.2 has been fixed.
- A defect where generating imported Events failed after upgrading to a new version of Tealeaf, has been fixed.
- A defect that resulted in some images to go missing at replay time has been fixed.
- A defect where a user cannot select the current date in the calender due to a timezone difference, has been fixed.
- A defect that caused the `ExternalFileModify` rule to fail in BBR has been fixed.
- A defect that caused a `"There was an error saving the password"` message to display when a admin/non-admin portal user tried to change a password, has been fixed.
- A defect that caused the Tealeaf installer to update the databases, even when the user specified on the installer wizard that they did not want to update the databases, has been fixed.
- A defect where Iframe content is not being *proxied* through the Replay server for DOM Capture sessions has been fixed.
- A defect in DOM Capture that resulted in input values always showing first change when DOM Diff is enabled, has been fixed.
- A defect in BBR where SVG images did not display correctly has been fixed.
- A defect where white pop-up boxes displaying context sensitive information about Event groups, and which often caused the screen to hang, has been fixed.
- A defect in performance collection that resulted in an error in the Data Collection Service has been fixed.
- A defect where committing Alerts caused existing Alerts to disappear from the configuration menu and from Alert monitoring, has been fixed.
- A defect in Reports that caused the report numbers for Page Counts and Events to double, has been fixed.
- A defect that caused the URI fix-up to rewrite links incorrectly when the DOM capture `<base>` tag is used, has been fixed.
- A defect that prevented pages from a new application to display in BBR has been fixed by adding origin resource sharing headers that enable data to be read.
- A defect that caused broken fonts and images in BBR when DOM Capture is enabled for hybrid mobile apps, has been fixed.
- A defect that prevented the Render time from being displayed in Performance reports when the Application Dimension was added has been fixed.
- A defect in RTV that resulted in XML parsing errors when clicking **Replay** from the **Session List** > **Page list** view has been fixed.
- A defect where an Event list subset could not be edited in the Search Template editor has been fixed.

- A defect where Replay was not honoring adding a custom UI highlight rule with a return value of `"highlight-only"` for `"change"` UI Events, has been fixed.
- A defect that caused the JSON response string to truncate has been fixed.
- A typo of the word "milliseconds" (misspelled as "millseconds") in the description for CUI Hit Render Time (m/s), has been fixed.
- A defect in mobile app capture where Tealeaf was unable to find the `TealeafHybridGetDom` object has been fixed.
- A defect that caused the Replay Server to crash frequently has been fixed.
- A defect in CSS that caused incorrect and broken links in the Alerts GUI has been fixed.
- A defect that caused Replay to fail when the UI SDK is configured to use a data attribute ID instead of an element ID, has been fixed.
- A defect that caused inconsistent minimum, maximum, and average values in Reports has been fixed.

Security fixes

The following security issues have been addressed in this fix pack:

- The IBM Tealeaf Customer Experience search and replay servers could potentially allow an unauthenticated attacker to bypass security resulting in access to some product functionality and data.
- OpenSSL is vulnerable to a denial of service, caused by a NULL pointer dereference when verifying certificates via a malformed routine.

  An attacker could potentially exploit this vulnerability using signature verification routines with an absent PSS parameter to cause any certificate verification operation to crash.
- OpenSSL is vulnerable to a denial of service, caused by an error when a client receives a ServerKeyExchange for an anonymous DH ciphersuite with the value of p set to 0.

  An attacker could potentially exploit this vulnerability to trigger a segfault and cause a denial of service

  .
- OpenSSL could allow a local attacker to obtain sensitive information, caused by a side-channel attack against a system based on the Intel Sandy-Bridge microarchitecture.

  An attacker could potentially exploit this vulnerability to recover RSA keys.

For this fix pack, if you change the **Authentication Type** of your Search Server from None to `Portal Administrator` or from None to `NT Authentication`, you must update the configuration for all other Tealeaf servers by setting the `Tealeaf Data Service` parameter to match the server name on which the Tealeaf Data Service is running.

For details regarding security-related issues for IBM Tealeaf, see Security Bulletins for IBM Tealeaf Customer Experience offerings.

Release 9.0.2.1223 / 9.0.2 and 9.0.2.5224 / 9.0.2A Fix Pack 3

Fix Pack 3 applies to both IBM Tealeaf 9.0.2.1223 / 9.0.2 and 9.0.2.5224/ 9.0.2A, and is a full IBM Tealeaf upgrade that can be used to upgrade your existing IBM Tealeaf deployment.

For IBM Tealeaf 9.0.2.1223 / 9.0.2, Fix Pack 3 supports upgrading from IBM Tealeaf Version 8.7 and later.

For IBM Tealeaf 9.0.2.5224 / 9.0.2A, Fix Pack 3 supports upgrading from IBM Tealeaf Version 9.0.1A and later.

Note: IBM Tealeaf 9.0.2.5224 / 9.0.2A, Fix Pack 2, does not support upgrading from earlier non-global version to global version.

Note: When you are upgrading an IBM Tealeaf deployment, upgrade the IBM Tealeaf software on all of the servers in your IBM Tealeaf environment. Installing IBM Tealeaf 9.0.2.1223 / 9.0.2 and 9.0.2.5224 / 9.0.2A fix pack 3 is similar to installing a major upgrade. Run setup.exe to start the installation process. For more information on installing IBM Tealeaf, see the *IBM Tealeaf CX Installation Manual*.

This fix pack is compatible with browscap.csv version 6016 and WURFL version db.scientiamobile.com - `2016-07-31`.

Known issues

The following are known issues in this fix pack:

- IBM Tealeaf CX RealiTea Viewer shows blank page after failing to load static content.

  The fix for this known issue will be delivered in a hot fix.
- When Authentication is enabled, the portal makes an initial call to the Search server for authentication. This call causes the Search server to log an error indicating that the Authorization header is missing.

  This error does not cause an application failure and can be ignored.

Enhancements

The following enhancements are available with fix pack 3:

- The report axis in the "Technical Site Metrics" dashboard includes unit of scale information.
- The font size in Portal PDF reports has been reduced to accommodate more columns in the data table.

  In prior releases, if there were large columns in a PDF report, the last few columns of the report would get truncated.
- This fix pack includes additional BOT agent identification support to address an error message regarding unknown traffic.
- This fix pack improves HBREx session agent scalability to support a larger number of canisters.

Bug fixes

- A defect that caused both the Tracking Service and Page Load Details to display blank pages has been fixed.
- A defect that caused the Alert Monitor to freeze occasionally has been fixed.
- A defect in IBM Tealeaf cxConnect that caused Events to go missing has been fixed.
- A defect where the IBM Tealeaf cxConnect extract Job Configuration **Data Filters** tab did not have the **Client Side Events/CUI Events** present in the Navigation bar, has been fixed.
- A defect where the red flag icon did not display correctly in the BBR page column has been fixed.
- A defect that results in OnDemand privacy not blocking data in the `RequestBody` of a request block when the `RequestBody` contains a large amount of data, has been fixed.
- A defect in the IE Renderer of BBR that caused a “`Replay Splice Scripts not loaded`” error has been fixed.
- A defect that caused a raised pop-up when hovering over the question mark (?) icon next to **Focus Day Offset** to not disappear has been fixed.
- A defect where after switching to portal on https, a `'Only secure content is displayed'` message was displayed has been fixed.
- A defect where DOM Diff Replay was not preserving the input element value for an unload ScreenView replay, has been fixed.
- A defect in Alerts that resulted in a Dimension Alert failure for a trigger value on the Dimension has been fixed.
- A defect in Browser-based Replay (BBR) that results in replay hanging during the display of the "Processing" page, has been fixed.
- A defect in the Portal dashboard where a large number of open tabs caused some tabs to go out of view has been fixed.
- A defect that caused malformed report layouts in the Portal dashboard has been fixed.

- A defect where column data was being truncated in Portal PDF reports has been fixed. The font size is now reduced to accommodate data tables with many columns.
- A defect in cxReveal that caused problems with the user account update functionality and which prevented cxReveal users from logging on to the system after an upgrade, has been fixed.
- A defect that caused a failure with the error message `"There was an error completing the request"` when trying to create and save an Event in **Advanced Mode**, has been fixed.
- A defect where the System Statistics report always displayed data for the day before, regardless of selected date range, has been fixed.
- A defect where changing the color of a dashboard header did not take effect has been fixed.
- A defect where a `No data available` error message is displayed until a dummy report is created in Report Builder has been fixed.
- A defect that resulted in large amount of time for HBREx to shut down has been fixed.

Security fixes

The following security issues have been addressed in this fix pack:

- Encrypted communication across Tealeaf components:

  In this fix pack, all network traffic between the Tealeaf server machines is encrypted for better security.

  If you apply the fix pack as a fresh installation, encrypted communication across components is enabled by default.

  If you are applying the fix pack as an upgrade to an existing installation, encrypted communication across components is NOT enabled by default.

  To enable encrypted communication across components, perform the following steps on each Tealeaf node:

  Note: If you are applying the fix pack as an upgrade to multiple nodes, first apply the fix pack on each node and then set the **`Enable TLS`** flag for all the nodes simultaneously.

  1. From the Portal, select **Tealeaf** > **TMS**
  2. Expand the server node and go to **Tealeaf** > **Tealeaf Global configuration**
  3. Click **View/Edit** and set value for **`Enable TLS`** to 1.
  4. Save and submit the changes.
  5. Repeat steps 1 thru 4 for all server nodes

     Note: If the **`Enable TLS`** flag is not set on all the nodes, it will cause a communication failure across Tealeaf components.
  6. Restart all Tealeaf Services on the node.

  Perform the following steps in TMS to stop secure communication between Tealeaf components.

  1. From the Portal, select **Tealeaf** > **TMS**
  2. Expand the server node and go to **Tealeaf** > **Tealeaf Global configuration**
  3. Click **View/Edit** and set value for **`Enable TLS`** to `0`
  4. Save and submit the changes.
  5. Repeat steps 1 thru 4 for all server nodes
  6. Restart all Tealeaf Services on the node.
- A security-related defect where server passwords were sent to the browser has been fixed.
- An XSS vulnerability in Tealeaf portal, where user strings were not sanitized before being displayed as HTML, has been fixed.
- A defect where Portal redirect validation failed has been fixed.
- A cross-site scripting (XSS) vulnerability in Tealeaf portal has been fixed.

For this fix pack, if you change the **`Authentication Type`** of your Search Server from None to `Portal Administrator` or from `None` to `NT Authentication`, you must update the configuration for all other Tealeaf servers by setting the **`Tealeaf Data Service`** parameter to match the server name on which the Tealeaf Data Service is running.

For details regarding security-related issues for IBM Tealeaf, see Security Bulletins for IBM Tealeaf Customer Experience offerings.

Release 9.0.2.1254 / 9.0.2 and 9.0.2.5249 / 9.0.2A Fix Pack 4

Fix Pack 4 applies to both IBM Tealeaf 9.0.2.1254 / 9.0.2 and 9.0.2.5249 / 9.0.2A, and is a full IBM Tealeaf upgrade that can be used to upgrade your existing IBM Tealeaf deployment.

For IBM Tealeaf 9.0.2.1254 / 9.0.2, Fix Pack 4 supports upgrading from IBM Tealeaf Version 8.7 and later.

For IBM Tealeaf 9.0.2.5249 / 9.0.2A, Fix Pack 4 supports upgrading from IBM Tealeaf Version 9.0.1A and later.

Note: IBM Tealeaf 9.0.2.5249 / 9.0.2A, Fix Pack 4, does not support upgrading from earlier non-global version to global version.

Note: When you are upgrading an IBM Tealeaf deployment, upgrade the IBM Tealeaf software on all of the servers in your IBM Tealeaf environment. Installing IBM Tealeaf 9.0.2.1254 / 9.0.2 and 9.0.2.5249 / 9.0.2A fix pack 4 is similar to installing a major upgrade. Run `TLSetup.exe` to start the installation process. For more information on installing IBM Tealeaf, see the *IBM Tealeaf CX Installation Manual*.

This fix pack is compatible with browscap.csv version 6018 and WURFL version db.scientiamobile.com - `2016-11-27 00:30:30`.

Known issues

The following are known issues in this fix pack:

- After upgrading the system with fix pack 4, you must restart all services.

  Failure to restart services after the upgrade results in alert errors when trying to add Events on the report builder. The extra step of restarting all the services needs to be done only once.

  This issue applies to both 9.0.2 and 9.0.2A.
- In IBM Tealeaf 9.0.2A (Global version), there is a known issue where the Tealeaf CX System (search server and portal) is set to NT Authentication.

  The user cannot by-pass the credential login window (even with correct credentials) for the Replay and Search Server port sites.
- For IBM Tealeaf customers who are using Native Replay, the upgrader preserves the existing DOJO files and puts the new Font Awesome files.

  IBM Tealeaf customers who are migrating their environments to a new Replay Server (fresh install FP4), should manually copy the TLT folder as well as DOJO folders.

Enhancements

The following enhancements are available with fix pack 4:

Note: Some of the enhancements are supported in the 902 build only. For information on which enhancements are supported in 902 and 902A, see Table 6 on page 23.

- This fix pack includes an enhancement to improve the scalability of HBREx session agent to support a large number of canisters.
- This fix pack provides a new option (the **Admin only** check box) in Portal to create announcements for admin groups only.
- This fix pack provides the capability to select and export all reports by selecting the **Select All** button.

- This fix pack includes an enhancement that enables Tealeaf customers to generate a page level report that assists in identifying which pages are licensed.
- Support for Long Term Storage (LTS) and DOM capture

  You can use IBM Tealeaf cxVerify to save DOM Capture sessions as a Long Term Storage (LTS) in a PDF file for meta data and electronic signature.

  The long term storage (LTS) feature can archive and retrieve IBM Tealeaf DOM sessions for replay analysis. The long term storage (LTS) feature also works for Network capture sessions, with some limitations, as described in the "LTS limitations" in the *IBM Tealeaf cxVerify User Guide*.

  For information about how to configure and use LTS, see the *IBM Tealeaf cxVerify User Guide.*
- Additional Blackout support.

  With fix pack 4, you can impose a Blackout for Proactive alerts.

  For information on how to configure a Blackout for a Proactive alert, see "Suppressing Proactive alerts from triggering" in the *IBM Tealeaf cxImpact Administrators Guide*.
- Support for copying proactive expressions from one server to another.

  With fix pack 4, you can use the Tealeaf Management System to copy proactive expressions from one server to another.

  For instructions on how to copy proactive expressions, see "Copying proactive expressions from one server to another" in the *IBM Tealeaf cxImpact Administrators Guide.*
- Enhancements to Data Collector Service serviceability

  Fix pack 4 includes a new component named *Data Collector Service Monitor*.

  The Data Collector Service Monitor readily provides Data Collector Service processing, alert, and system information in an easily accessible and consolidated format.

  For information about Data Collector Service Monitor processing and logging, see "Data Collector Service Monitor" in the *IBM Tealeaf cxImpact Administrators Guide*.

  For information on how to configure the Data Collector Service Monitor, see "Configuring the Data Collector Service Monitor" in the *IBM Tealeaf cxImpact Administrators Guide*.
- Support for the 64-bit Replay server as the installed default.

  A change was made to the IBM Tealeaf CX installer to make the 64-bit Replay server the installed default. Prior to fix pack 4, the default version of the Replay server installed with IBM Tealeaf CX, was the 32-bit replay server.

  For information about the Replay server installed with IBM Tealeaf CX, see the *IBM Tealeaf CX Installation Manual*.
- Multiple enhancements to Tealeaf CX Overstat, including:
  - Support for a Data pre-aggregator report.

    Use the Data pre-aggregator report to check the status of the data collectors and pre-aggregator servers. For information about the Data pre-aggregator report, see the *IBM Tealeaf cxOverstat User Guide*.
  - Support for viewing click-rate metrics

    With fix pack 4, when you hover the mouse over the pushpin, the object for that pushpin is highlighted. If you click the pushpin, the analytics for the object are displayed.

    For information about click-rate metrics, see "Viewing click-rate metrics" in the *IBM Tealeaf cxOverstat User Guide*.
  - Enhancements to Attention map color definitions.

Table 6. Build support for enhancements delivered with fix fack 4		
Enhancement	**Supported in 902?**	**Supported in 902A?**
Long Term Storage (LTS)	Yes	No
Support for the 64-bit Replay server as the installed default.	Yes	No
Enhancements to Proactive alerts, including blackout support and support for copying proactive expressions.	Yes	No
Packet Forwarder auto-config and fail-over	Yes	Yes
Enhancements to Tealeaf CX Overstat	Yes	No
Enhancements to Data Collector Service serviceability	Yes	No
Enhancement to improve the scalability of HBREx session agent	Yes	Yes
A new **Admin only** option on Portal for announcements.	Yes	Yes
A page level report for identifying which pages are licensed.	Yes	Yes
A new **Select All** option for exporting reports	Yes	No

Bug fixes

The following bug fixes and customer support ticket issues are applied to fix pack 4.

Note: In addition to the bug fixes listed below, there are a number of other issues that were addressed in this build, but are not included in this list.

- An issue in Browser based replay (BBR) where a wide response buffer causes the text to run off the right hand side of the page, has been fixed.
- An issue that caused OpinionLab integration with replay to fail, has been fixed.
- An issue where the Attributes window for the **Audit Reports - User Activity** in Portal does not close, has been fixed.
- A security issue related to running JavaScript files while replaying sessions in Tealeaf, has been fixed.
- An issue in cxConnect where scheduled tasks fail with a "`Session indexes are not available for searching`" message and where the login ID value was not present in the exported session, has been fixed.
- An issue where `TealeafCaptureSocket.exe` crashes after setting **`ReferrerParsing`** to `True`, has been fixed.
- An issue where metrics that were renamed on the dashboard revert back to their original name after refreshing the View report definition page, has been fixed.
- An issue where a completed Mobile session could not be replayed in BBR with the error message `"Search Server not available"`, has been fixed.
- A defect that caused the 64-bit Replay server to crash with the error message `"This session is not loaded"`, has been fixed.
- An issue where the date for the Top Mover report always reverts to today's date when opening the report by clicking the **View Report Data** icon, has been fixed.
- A defect that caused **Options** > **Advanced** > **Merge Session Fragments** to not work, has been fixed.

- A defect where a typographical error in `CEPCustomFields.cfg` caused an empty attribute in the Event Bus output, has been fixed.
- A defect that caused the Quick Select (Calendar) to swap the month and day and not work correctly, has been fixed.
- A defect that prevented a DOM Capture page from replaying in BBR, has been fixed.
- An issue where ScreenViews of DOM capture pages displayed out of sequence in BBR, has been fixed.
- An issue that resulted in an RTV error when searching for sessions on cxVerify servers to replay, has been fixed.
- A defect that caused RTV to display a blank page after failing to pull out static content caused by read timeout for `TLHTTPLib`, has been fixed.
- A defect where an EventTester call to validate JavaScript fails with TLS enabled, has been fixed.
- A defect where incorrectly formatted XML in the request message caused a `"INFO BADJASON"` message in IBM Tealeaf CX RealiTea Viewer, has been fixed.
- A defect where Health Based Routing (HBR) servers could not send hits to canisters when the Search server was crashing, has been fixed.
- A defect where enabling TLS security broke the communication between IBM Tealeaf CX RealiTea Viewer and Tealeaf, has been fixed.
- A problem where replaying sessions in BBR requires users to enable the `Mixed Mode` setting in their browser has been fixed.
- A defect that caused problems in the upgrade environment of customers who had a custom database and username, has been fixed.
- A defect that caused would-be customized Report legends to revert back to their default value after refreshing the report from a dashboard, has been fixed.
- A security flaw that surfaced when performing a **Save As TLA** operation in Browser Based Replay, has been fixed.
- An issue with cxConnect for Web Analytics where importing session segments by searching with `ClientIP` did not work, has been fixed.
- An issue where negative alerts that are based on a numeric group list dimension are not recognized, has been fixed.
- An issue where changes that were applied in Portal via the **Search** > **Completed Search Search Options Select only one canister** were not saved, has been fixed.
- An issue where the **Event Sent to Event Bus** display filter in the Event Manager displayed no Events, has been fixed.
- A defect in Browser Based Replay that caused replay to hang during page loading, has been fixed.
- A defect in Browser Based Replay that resulted in static content not remapping because of a parent window and Iframe conflict, has been resolved.

Security fixes

The following security issues have been addressed in this fix pack:

- Vulnerabilities in OpenSSL and PHP affect IBM Tealeaf Customer Experience (CVE-2016-2107, CVE-2016-6290, CVE-2016-7125).

  OpenSSL vulnerabilities were disclosed on May 3, 2016 by the OpenSSL Project. OpenSSL is used by IBM Tealeaf Customer Experience.

  IBM Tealeaf Customer Experience has addressed the applicable CVEs.
- Vulnerabilities in IBM Websphere Application Server and IBM Java Runtime affect IBM Tealeaf Customer Experience (CVE-2016-0378, CVE-2016-3485, CVE-2016-5986).

  There are multiple vulnerabilities in IBM WebSphere Application Server that is used by IBM Tealeaf Customer Experience.

There are multiple vulnerabilities in IBM® Runtime Environment Java™ that is used by IBM Tealeaf Customer Experience. These issues were disclosed as part of the IBM Java SDK updates in July 2016.

- OpenSSL vulnerabilities were disclosed on September 22 and 26, 2016 by the OpenSSL Project. OpenSSL is used by IBM Tealeaf Customer Experience. IBM Tealeaf Customer Experience has addressed the applicable CVEs.
- IBM Tealeaf Customer Experience uses a version of ICU4C with a reported security issue.

For details about security issues affecting IBM Tealeaf, go to the IBM Security Bulletin page.

You can also search the IBM Product Incident Response (IPSIRT) blog for information regarding security vulnerabilities.

Release 9.0.2.1283 / 9.0.2 and 9.0.2.5269 / 9.0.2A Fix Pack 5

Fix Pack 5 applies to both IBM Tealeaf 9.0.2.1283 / 9.0.2 and 9.0.2.5269 / 9.0.2A, and is a full IBM Tealeaf upgrade that can be used to upgrade your existing IBM Tealeaf deployment.

For IBM Tealeaf 9.0.2.1283 / 9.0.2, Fix Pack 5 supports upgrading from IBM Tealeaf Version 8.7 and later.

For IBM Tealeaf 9.0.2.5269 / 9.0.2A, Fix Pack 5 supports upgrading from IBM Tealeaf Version 9.0.1A and later.

Note: IBM Tealeaf 9.0.2.5269 / 9.0.2A, Fix Pack 5, does not support upgrading from earlier non-global version to global version.

Note: When you are upgrading an IBM Tealeaf deployment, upgrade the IBM Tealeaf software on all of the servers in your IBM Tealeaf environment. Installing IBM Tealeaf 9.0.2.1283 / 9.0.2 and 9.0.2.5269 / 9.0.2A fix pack 5 is similar to installing a major upgrade. Run `TLSetup.exe` to start the installation process. For more information on installing IBM Tealeaf, see the *IBM Tealeaf CX Installation Manual*.

This fix pack is compatible with browscap.csv version 6021 and WURFL version db.scientiamobile.com - `2017-02-12 00:30:29`.

Known issues

The following are known issues in this fix pack:

- **There is a known issue with cxConnect and cxVerify jobs**

  cxConnect and cxVerify jobs fail to run for the **Current day**. The jobs do run correctly for **Run now**, **Previous day**, and **Hourly**.

- **There is a known issue with using TMS to edit the 64-bit pipeline configuration for the HBR server**

  To edit 64 bit pipeline configuration perform the following steps:

  1. Stop the pipeline through TMS.
  2. Make the configuration changes to the pipeline.
  3. Copy `browscap.csv` and `usercap.csv` files from `$Tealeaf_Home$\System` folder to `$Tealeaf_Home$\x64\System` folder before starting 64 bit transport service.
  4. Restart the pipeline

  Note: This limitation will be addressed in a future fix pack.

  The 32 bit pipeline configuration can be edited when 32 bit transport service is running .

- **There is a known issue where upgrades to the Tracking Service overwrite the configuration settings in the registry to default settings**

  To fix this issue, after the upgrade, go to TMS and manually update each **Tracking Service URL** setting, so that it points to the correct URL.

- **There is a known issue with loading large TLA files to Browser Based Replay**

Due to configuration setting in the IIS server, large .TLA files cannot be uploaded to Browser Based Replay (BBR) through the portal. If you want to upload large `.TLA` files to BBR using the Portal, you need to perform the following steps:

1. Prior to the upgrade, make a backup of the `web.config` file in `<Install Directory>\IBM Tealeaf CX\Portal\WebApp\`.
2. After the upgrade, merge the `web.config` file located in `<Install Directory>\IBM Tealeaf CX\Portal\WebApp` with the `web.config` located in `<Install Directory>\IBM Tealeaf CX \Portal\WebApp\CFG`
3. Make sure the merged `web.config` is located in `<Install Directory>\IBM Tealeaf CX \Portal\WebApp`
4. In the IIS server, go to the **Request Filtering** section and find the **Edit Request Filtering Setting** screen
5. On that screen, in the **Request Limits** section, set **Maximum allowed content Length(Bytes)** to 2147483647.

Enhancements

The following enhancements are available with fix pack 5:

- The processing that occurs when shutting down the Transport Service in a HBREx environment has been improved, addressing an issue where the shutdown took a long time because it stopped each child process one after another.
- This fix pack enhances how the Data Collector Service Monitor processes `No data available from canister` warnings.
- This fix pack supports a 64-bit pipeline component for the HBR server.

  Note: If you use the 64-bit pipeline component for the HRB server, copy `browscap.csv` and `usercap.csv` files from `$Tealeaf_Home$\System` folder to `$Tealeaf_Home$\x64\System` folder before starting 64 bit transport service.

  See Known issues for information about a known issue that relates to editing the 64-bit pipeline configuration for the HBR server.

  For information about this enhancement and instructions on how to configure 64-bit and 32-bit transport service, see "HBR server 64-bit pipeline support" in the *IBM Tealeaf CX Configuration Manual* in the IBM Tealeaf Customer Experience V9.0.2 documentation Knowledge Center.

  The 64-bit pipeline component for the HBR server has the following characteristics:

  1. This enhancement is available only in 902 only. It is not available in 902A.
  2. This enhancement is supported only on Windows Server 2008 R2
  3. For this release only HBR Session agent is supported. Support for HBREx is not available in this release.
  4. 64-bit pipeline is available for HBR only.

     64-bit pipeline is not supported on the Canister or any other component server.
  5. In this release, the 64-bit pipeline on the HBR Transport supports the following sessions agents only.

     Note: Support for additional session agents can be added as needed.

     – DataDrop
     – DecoupleEx
     – Inflate
     – PrivacyEx
     – TLTRef

  - SessionRouter
  - HBR
  - Null
  - Socket
- This fix pack provides additional collection status information for Data collector and Data preaggregator reports.
- This fix pack provides support for SQL Server 2016 (64-bit).
- This fix pack includes an enhancement that allows users to save the reports or dashboards of a user that is being deleted from the system, to another user.
- Instructions have been added to the *IBM Tealeaf CX Database Guide* that describe how to upgrade Tealeaf databases on SQL Server when your account is restricted to Windows-only authentication.

Bug fixes

The following bug fixes and customer support ticket issues are applied to fix pack 5.

Note: In addition to the bug fixes listed below, there are a number of other issues that were addressed in this build, but are not included in this list.

- A clarification was added to the Alert Monitor documentation., specifying that Top Mover alerts are not displayed in the Alert Monitor.
- A defect where unevaluated hits remained static and caused the canister to stall, has been fixed
- A defect where enabling Proactive Alerts caused a "`No statistics hits have been received for PCA <pca server> from pipeline for last 10 minutes`" message, has been fixed.
- A defect where Data collector reports failed to log in to the Canister, with a ctree logon error has been fixed.
- A defect that prevented Browser Based Replay from replaying a UI change event with an empty value has been fixed.
- A defect that caused cxConnect installation errors when Report and Portal servers were separate, has been fixed.
- A defect where a date range of extraction set in cxVerify had no effect in cxVerify has been fixed.
- A defect where an upper case tag name caused highlighting problems in IE Browser Capture sessions, has been fixed.
- An issue that caused OpinionLab integration with replay to fail, has been fixed.
- A defect where changing the `TLAdmin` or `TLUser` password caused **`reportconfig.exe`** to crash has been fixed.
- A defect where enabling and then disabling the `Top Movers - Auto-calculate Daily Top Movers` property permanently disabled Top Movers, has been fixed.
- A defect where Alert monitor was not showing data has been fixed.
- A defect where Report Builder date selection for graph generation caused graphs to be shown in the wrong order has been fixed.
- A defect where the **`Service Monitor - Alert`** fired, even though it was disabled has been fixed.
- A defect where **`ReqSet`** actions, which were set in Privacy Response Body did not work, has been fixed.
- A defect where enabling and disabling the **`24-hour Time Format`** option was not reflected in the dashboards and reports, has been fixed.
- A defect where scheduled jobs on cxConnect could not run because the Search Server command TLLIST did not return, has been fixed.
- A defect where the **View Report Definition** button added a dimension to the x-axis of the report and renamed the event back to the event name, has been fixed.

- A defect where email reports were missing headers after upgrading from Tealeaf Version 8.8 to Tealeaf Version 9.0.2, has been fixed.
- A defect where **`Nav List sorting based on TimeStamp`** in Browser Based Replay did not sort some UI events correctly, has been fixed.
- A defect that caused an HTTP `Status 404 Error` in session replay for a specific Mobile page has been fixed.
- A defect where loading sessions in Browser Based Replay took a long time and where sessions remained stalled in the Replay server's cache, has been fixed.
- A defect where the Replay server crashes randomly during session replay has been fixed.
- A defect where privacy rules failed to block `BlockingMask` within `StartPatternRE` if multiple occurrences appeared, has been fixed.
- A defect that caused the Alert message `"There was an error completing the request."` to display in BBR when trying to export a session as a TLA, has been fixed.
- A defect that caused the canister to crash and resulted in recovery issues has been fixed.
- A defect where session segments could not be imported when integrating **SiteCatalyst** with an all-in-one server configuration, has been fixed.

Security fixes

The following security issues have been addressed in this fix pack:

- IBM Tealeaf Customer Experience does not properly secure session cookies, which could allow an authenticated user to obtain sensitive information. (CVE-2016-6041).
- The IBM Tealeaf Consumer Experience portal exposes some of its operational state that could be accidentally captured and exposed by network infrastructure components. (CVE-2016-0382).
- Vulnerability in IBM Tealeaf Customer Experience can cause host header injection attack that could lead to HTTP cache poisoning or firewall bypass. (CVE-2016-5933).
- A vulnerability in the TLS protocol can cause denial of service in IBM Tealeaf Customer Experience. (CVE-2016-8610).
- There is a vulnerability in IBM® Runtime Environment Java™ Version 8 Service Refresh 3 Fix Pack 11 used by IBM Tealeaf Customer Experience. This issue was disclosed as part of the IBM Java SDK updates in October 2016. (CVE-2016-5597).
- A vulnerability in the zlib library can cause denial of service in IBM Tealeaf Customer Experience. (CVE-2016-9840, CVE-2016-9841, CVE-2016-9842) .
- A Vulnerability in the OpenSSL library used by the IBM Tealeaf Customer Experience PCA could permit a denial of service attack. (CVE-2017-3730).
- As security issue where the code responsible for checking the password history when changing a password, looks for previous passwords by any user, not the one indicated, has been fixed.

  Left unresolved, this issue would have allowed reusing passwords sooner than they should be.
- A security fix has been applied to enable Tealeaf to quote the executable path in the service command line when calling `CreateService()` (and potentially other functions such as `CreateProcess()`) so as to avoid a security vulnerability (`https://exchange.xforce.ibmcloud.com/vulnerabilities/23094`).

Release 9.0.2.1351 / 9.0.2 and 9.0.2.5321 / 9.0.2A Fix Pack 6

Fix Pack 6 applies to both IBM Tealeaf 9.0.2.1351 / 9.0.2 and 9.0.2.5321 / 9.0.2A and is a full IBM Tealeaf upgrade that can be used to upgrade your existing IBM Tealeaf deployment.

Note: The build notes for fix pack 6 published in the *IBM Tealeaf Customer Experience V9.0.2 Knowledge Center*, might not include the latest information about bug fixes, known issues, and enhancements. Information related to fix pack 6 that came to light after the publication of the IBM Knowledge Center, can be found in the *IBM Tealeaf Release Notes for 9.0.2 and 9.0.2A EICS* PDF on IBM Fix Central.

Note: Rely on the version numbers published in the release notes PDF as the latest version numbers for fix packs.

For IBM Tealeaf 9.0.2.1351 / 9.0.2, Fix Pack 6 supports upgrading from IBM Tealeaf Version 8.7 and later.

Note: When you are upgrading an IBM Tealeaf deployment, upgrade the IBM Tealeaf software on all of the servers in your IBM Tealeaf environment. Installing IBM Tealeaf 9.0.2.1351 / 9.0.2 and 9.0.2.5321 / 9.0.2A fix pack 6 is similar to installing a major upgrade. Run `TLSetup.exe` to start the installation process. For more information on installing IBM Tealeaf, see the *IBM Tealeaf CX Installation Manual*.

This fix pack is compatible with browscap.csv version 6024 and WURFL version db.scientiamobile.com - `2017-08-13 00:30:24`.

Prerequisites for applying fix pack 6

- Before applying fix pack 6, ensure that following registry settings are in place on all the Tealeaf servers.

  Note: If the registry settings are not present, add them manually and reboot the servers.

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL]
"SendTrustedIssuerList"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.2\Server]
"DisabledByDefault"=dword:00000000
"Enabled"=dword:00000001
```

  Note: These settings are applicable to Windows Server 2008 (non-R2 and R2) only.

- If you upgrade to fix pack 6, you need to upgrade IBM Tealeaf CX RealiTea Viewer as well.

  Previous versions of RTV will not work with fix pack 6.

Known issues

If your PCA/HBR/Canister connections use SSL from a version prior to fix pack 6, the method for securing these connections has changed. Refer to the Knowledge Base article titled "TLS : Securing Inter-process Communication" for information on how to secure inter-process communications after upgrading to fix pack 6.

The following known issues apply to 9.0.2 and 9.0.2A:

- **Delays when login and navigating to some menus**
- **Upgrade restrictions related to TLS**

  If your site is running an older installation of IBM Tealeaf Customer Experience and TLS is enabled, you need to perform several steps manually before upgrading.

  To determine whether TLS is enabled, look for the **`EnableTLS`** parameter in the windows registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Tealeaf Technology
```

  If the **`EnableTLS`** is present and set to non-zero, TLS is enabled.

  If TLS is enabled, you must disable it on all Windows systems running Tealeaf CX servers. Individual servers with TLS configured cannot communicate with servers not using TLS, so it is imperative that you disable TLS on all servers as quickly as possible, preferably simultaneously.

  To disable TLS, perform the following steps on all Windows Tealeaf CX servers:

  1. Stop all Tealeaf services (including TMS and the transport service).
  2. Remove the **`EnableTLS`** parameter from the Windows registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Tealeaf Technology
```

Note: You can run the upgrader at this point, or you can wait until TLS is disabled on all servers to start upgrading. If the Tealeaf environment has a large number of servers, consult with Tealeaf support to determine the appropriate upgrade strategy.

3. Start Tealeaf services.

- **TLS security and Windows Server 2008**

  TLS security is not supported in Tealeaf CX 8.7, or on any Tealeaf version running on Windows Server 2008. (Windows Server 2008R2 is supported.)

  If any Tealeaf CX servers run version 8.7 or run on Windows Server 2008, do not attempt to enable TLS security.

- **Replay Server patch compatibility issue**

  The Replay server patch on fix pack 6 is not compatible with previous fix packs.

  To get the enhancements from the Replay server patch, you must upgrade to fix pack 6. The Replay server patch cannot be applied directly to previous fix packs.

- **After upgrading to fix pack 6, component names appear blank in TMS**

  If component names appear blank in TMS after you have upgraded to fix pack 6, perform the follwing procedure to address the problem:

  1. Stop TMS service on all servers.
  2. Go to **Tealeaf_Home** > **System** > **TMSStore** and delete all the files located in **TMSStore** folder.
  3. Start TMS service first on the master server, then start the TMS service on slave servers.

- **Transport service default is 32-bit**

  The fix pack installer registers the 32-bit transport service as the default. So, if you had a 64-bit transport service configured on the HBR server before upgrading to fix pack 6, see "HBR server 64-bit pipeline support" in the *IBM Tealeaf Customer Experience V9.0.2 documentation* for instructions on how to restore the 64-bit pipeline service after applying the fix pack.

- **Hits spooling on HBR server**

  After upgrading to fix pack 6, for authentication type set to **`Portal Authentication`** in Search server config, and for **`EnableTLS`** (in registry), hits spooling might occur on the HBR server. To address this issue:

  – Ensure that **`AuthMasterServer`** is set in the Search server config of the HBR server.
  – Ensure that **`AuthMasterServer`** is set similarly in the canister servers.
  – Restart the Search Server service thereafter.

The following known issues apply to 9.0.2A only:

- The Replay server crashes and restarts while associating UI events to the base page for a DOM Capture Session.
- A `"Cannot read property 'event' of undefined"` console error occurs when replaying native sessions.
- Session replay does not highlight visitor interactions when the replay server is running in 64-bit mode.
- A delay in reporting for newly created events (but not existing events).
- cxConnect is unable to extract cookies that contain punctuation in the name.
- There are errors in the Data Collector and warning messages in the log files.
- Browser Based Replay and RTV display multiple UI strings incorrectly in the left pane.
- Inconsistent results are displayed in session search.
- Static resources display incorrectly in sessions that were captured using the native SDK.
- Browser Based Replay (BBR) occasionally replays sessions in a very small viewport.

Enhancements

The following enhancements apply to 9.0.2 and 9.0.2A:

- Use only TLS 1.2

  Previous releases of Tealeaf negotiated one of TLS 1.0-1.2 for internal use. TLS 1.0 and 1.1 have serious security vulnerabilities and are no longer used internally

  We continue to support capture for all SSL/TLS versions.

  This change does not affect the Portal. To disable TLS 1.0-1.1 for the Portal, see the Microsoft documentation for IIS.
- Fix pack 6 includes support for replacing hardcoded passwords with X.509 certificates.

  By enabling support for the X.509 public key infrastructure (PKI) standard, you can secure communications between services running on the PCA and Tealeaf CX servers and help protect the Tealeaf environment and data from potential attackers.

  Supporting the X.509 public key infrastructure (PKI) standard on PCA and Tealeaf CX servers requires performing a series of tasks in specific order. See the following information in the IBM Tealeaf Customer Experience Knowledge Center:

  – For instructions on how to configure Tealeaf CX servers to use X.509 certificates, see "Securing communications between services running on Tealeaf servers" in the *IBM Tealeaf CX Configuration Manual*.
  – For instructions on how to configure PCA servers to use X.509 certificates, see "Securing communications between services running on the PCA server" in the *IBM Tealeaf CX Passive Capture Application Guide*.
- Fix pack 6 upgrades the PHP release from 5.6.25 to 5.6.26.
- Fix pack 6 upgrades the WebSphere Application Server (WAS) Liberty to v17.0.0.1, for enhanced security.
- Fix pack 6 introduces a 64-bit Search server.

  When you apply fix pack 6, the 64-bit Search server is the default Search server installed.

  The 64-bit Search server enables access to a larger memory space, which can improve stability in scenarios requiring a lot of memory. Also, with the 64-bit Search server you can run more search requests simultaneously.
- Instructions on how to enable Native replay were added to the *IBM Tealeaf Customer Experience Configuration Guide*.
- Enhancements to the replay server code to improve how it handles memory crashes.
- An enhancement that allows users to scroll the request section so that they can view all the content has been added.

The following enhancements that apply to 9.0.2 only:

- An enhancement to the highlighting capability in replay enables customers to get around problems caused when standard highlighting conflicts with the customers .css.

  Note: The enhancement to highlighting is beta for fix pack 6. The following restrictions apply:

  – Do not implement the highlighting enhancement for hybrid replay.
  – The enhancement to highlighting is not supported in sessions with iFrames.

  Prior to fix pack 6, highlighting for Replay was achieved by inserting an element into the re-playable DOM. Unfortunately, this approach sometimes resulted in conflicts with customer's cascading style sheet (.css).

  The new approach to highlighting included in the fix pack utilizes a less obtrusive overlay mechanism, where the highlighting is implemented on a different plane.

During session replay, visitor interactions with your web application are highlighted with a pulsating blue circle that overlays the area of the interaction.

To implement the improved highlighting feature, perform the following steps:

1. Navigate to `ReplaySpliceStart_<number>.js` in the IBM Tealeaf CX installation directory.

   `<installation directory>\System\ReplaySpliceStart_<number>.js`, where *<number>* is the version number of the file.

   If there are multiple versions of this file in the `System` folder, be sure to select the latest version.
2. Open `ReplaySpliceStart_<number>.js`, where *<number>* with a text editor of your choice and search for the string `useOverlay`
3. Set `useOverlay` to true.

   For example: **`useOverlay: true`**
4. Save the changes to the file.

For DOM captured sessions, perform the following modifications as well:

1. Go to `<installation directory>\Portal\WebApp\js\replaySpliceEnd.js`
2. Open `ReplaySpliceEnd.js` with a text editor of your choice and search for the string `useOverlay`.
3. Set `useOverlay` to true.

   For example: **`useOverlay: true`**
4. Save the changes to the file.

Sessions that you replay will highlight the visitor interactions using the new highlighting feature.

- In this fix pack, the format for the **Change Day and hour dimension** is `mm/dd hh:mm`.
- An enhancement has been added that allows you to adjust replay screen dimension values so that you can replay sessions that were either captured incorrectly or that were captured from devices with dimensions smaller than the defined threshold.

Bug fixes

The following bug fixes and customer support ticket issues are applied to fix pack 6.

Note: In addition to the bug fixes listed below, there are a number of other issues that were addressed in this build, but are not included in this list.

The following bug fixes apply to 9.0.2 and 9.0.2A:

- A defect that causes Alert Monitor to hang when the Alert service doesn't connect to the data service, has been fixed.
- A defect where the Event Tester showed the "<Span>" tag in the URL and in event names, has been fixed.
- A defect where the Privacy Filter configuration showed "`Disabled`" even though the privacy rule was run and the definition had no "`Enabled=`" tag entry, has been fixed.
- A defect where HBR times out intermittently when getting `GovernorStatusEx` from the canister, has been fixed.
- A defect where a deprecated function of the HTTP library caused the Search server to get stuck in the *starting* state has been fixed.
- A file path traversal issue, where the **`'name'`** parameter in `TLSearchServer` was vulnerable to path traversal attacks, has been fixed.
- A defect that made Portal vulnerable to *Cross-Site Request Forgery* has been fixed.
- A defect where memcached times out if the SASL auth is enabled has been addressed.

See "Protecting memcached data from unauthorized access" in the *IBM Tealeaf CX Passive Capture Application Guide* in the IBM Tealeaf Customer Experience Knowledge Center.

- Event activity report for previous days is available now.
- A defect that caused cxConnect jobs scheduled daily to fail due to a certificate issue has been fixed.
- A defect in replay server that prevented replaying Mobile hybrid sessions (iOS and Android) has been fixed.
- A defect that caused Sub-search failures in Browser Based Replay, has been fixed.
- A defect that caused an auto scheduled report failure when portal and report server are deployed on different physical servers has been fixed.
- A defect that caused multiple canister crashes on a daily basis has been fixed.
- A defect where alert configuration is removed when a dimension value is purged, has been fixed.
- A defect that caused a TMS connection error when TL 1.0 was disabled has been fixed.
- A defect that caused canister event processors to crash repeatedly has been fixed.
- A defect that caused the Drill-down report show no records has been fixed..
- A Browser Based Replay (BBR) session merge fragment issue has been fixed.
- A defect where the warning message time stamp of the spooling machine was incorrect has been fixed.
- A defect that prevented the dimension value from displaying in the hover help of an in-line graph report has been fixed.
- A defect that caused Browse Based Replay (BBR) and search to crash repeatedly, has been fixed.

The following bug fixes apply to 9.0.2 only:

- A defect where the Replay server crashes and restarts while associating UI events to the base page for a DOM Capture Session has been fixed.
- A defect where a `"Cannot read property 'event' of undefined"` console error occurred when replaying native sessions, has been fixed.
- A defect that resulted in session replay not highlighting visitor interactions when the replay server was running in 64-bit mode, has been fixed.
- A defect that caused a delay in reporting for newly created events (but not existing events), has been fixed.
- A defect that caused Browser Based Replay and RTV to display multiple UI strings incorrectly in the left pane has been fixed.
- A defect that prevented cxConnect from extracting cookies that contained punctuation in the name has been fixed.
- A defect that caused errors in the Data Collector and warning messages in the log files has been fixed.
- A defect that resulted in inconsistent results in session search has been fixed.
- A defect that caused static resources to display incorrectly in sessions that were captured using the native SDK, has been fixed.
- A defect in Browser Based Replay (BBR) that occasionally resulted in replaying sessions in a very small viewport has been fixed.

Release 9.0.2 and 9.0.2A Fix Pack 7

The Release Notes for Fix Pack 7, which includes the build version numbers, list of bug fixes, list of enhancements, compatibility information, and known issues are delivered with the Fix Pack and can be found on IBM Fix Central.

Preparing to install the fix pack

The system on which you run the upgrader must be a healthy Tealeaf system that meets the all the requirements for the version of Tealeaf currently installed.

Before applying the upgrade:

Consult the installation requirements documented in the *IBM Tealeaf CX Installation Guide*. You can find the installation guide on the IBM Knowledge Center for Tealeaf Customer Experience 9.0.2.

If the .Net, IIS, MS SQL or Operating system requirements have changed since the installed version of Tealeaf was installed, those upgrades should be performed before the Tealeaf servers are upgraded.

Installing the Fix Pack

When you upgrade your IBM Tealeaf deployment with a new fix pack, upgrade the IBM Tealeaf software on all the servers in your IBM Tealeaf environment.

If you are running Tealeaf on a multi-server installation, see "Upgrade for Multi-Server Deployment" in the *IBM Tealeaf CX Release Upgrade Manual*.

Run the upgrader on servers sequentially as follows:

1. Portal/Reporting Server
2. Data Service, Data Collector (if not on the Portal/Reporting Server)
3. Canisters
4. HBR(s) if present
5. PCA(s)

Applying the upgrade in this sequence minimizes risk to capture processing. If there is any trouble in upgrading the Report Server, capture remains intact and there is time to address the problem while spool or canister data collection space remains.

IBM Tealeaf Professional Services is available to help with upgrades and installations.

To install the fix pack:

1. Download the fix pack executable file from IBM Fix Central.
2. Right-click setup.exe and select "Run as Administrator".

Securing the pipeline

If you are upgrading from Fix pack 6, any secured (SSL) pipeline delivery is compatible with Fix Pack 7.

If your PCA/HBR/Canister connections use SSL from a version prior to Fix Pack 6, the method for securing these connections has changed.

Refer to the knowledge base article TLS : Securing Inter-process Communication for an information and examples about how to secure interprocess communications.

IBM Tealeaf documentation and help

IBM Tealeaf provides documentation and help for users, developers, and administrators.

Viewing product documentation

All IBM Tealeaf product documentation is available at the following website:

Tealeaf Customer Experience Support

Use the information in the following table to view the product documentation for IBM Tealeaf:

Table 7. Getting help

To view...	Do this...
Product documentation	On the IBM Tealeaf portal, go to **?** > **Product Documentation**.

Table 7. Getting help (continued)	
To view...	**Do this...**
IBM Tealeaf Knowledge Center	On the IBM Tealeaf portal, go to **?** > **Product Documentation** and select *IBM Tealeaf Customer Experience in the ExperienceOne Knowledge Center*.
Help for a page on the IBM Tealeaf Portal	On the IBM Tealeaf portal, go to **?** > **Help for This Page**.
Help for IBM Tealeaf CX PCA	On the IBM Tealeaf CX PCA web interface, select **Guide** to access the *IBM Tealeaf CX PCA Manual*.

Available documents for IBM Tealeaf products

The following table is a list of available documents for all IBM Tealeaf products:

Table 8. Available documentation for IBM Tealeaf products	
IBM Tealeaf products	**Available documents**
IBM Tealeaf CX	• *IBM Tealeaf Customer Experience Overview Guide* • *IBM Tealeaf CX Client Framework Data Integration Guide* • *IBM Tealeaf CX Configuration Manual* • *IBM Tealeaf CX Cookie Injector Manual* • *IBM Tealeaf CX Databases Guide* • *IBM Tealeaf CX Event Manager Manual* • *IBM Tealeaf CX Glossary* • *IBM Tealeaf CX Installation Manual* • *IBM Tealeaf CX PCA Manual* • *IBM Tealeaf CX PCA Release Notes*
IBM Tealeaf CX	• *IBM Tealeaf CX RealiTea Viewer Client Side Capture Manual* • *IBM Tealeaf CX RealiTea Viewer User Manual* • *IBM Tealeaf CX Release Notes* • *IBM Tealeaf CX Release Upgrade Manual* • *IBM Tealeaf CX Support Troubleshooting FAQ* • *IBM Tealeaf CX Troubleshooting Guide* • *IBM Tealeaf CX UI Capture j2 Guide* • *IBM Tealeaf CX UI Capture j2 Release Notes*
IBM Tealeaf cxImpact	• *IBM Tealeaf cxImpact Administration Manual* • *IBM Tealeaf cxImpact User Manual* • *IBM Tealeaf cxImpact Reporting Guide*

Table 8. Available documentation for IBM Tealeaf products (continued)	
IBM Tealeaf products	**Available documents**
IBM Tealeaf cxConnect	• *IBM Tealeaf cxConnect for Data Analysis Administration Manual* • *IBM Tealeaf cxConnect for Voice of Customer Administration Manual* • *IBM Tealeaf cxConnect for Web Analytics Administration Manual*
IBM Tealeaf cxOverstat	*IBM Tealeaf cxOverstat User Manual*
IBM Tealeaf cxReveal	• *IBM Tealeaf cxReveal Administration Manual* • *IBM Tealeaf cxReveal API Guide* • *IBM Tealeaf cxReveal User Manual*
IBM Tealeaf cxVerify	• *IBM Tealeaf cxVerify Installation Guide* • *IBM Tealeaf cxVerify User's Guide*
IBM Tealeaf cxView	*IBM Tealeaf cxView User's Guide*
IBM Tealeaf CX Mobile	• *IBM Tealeaf CX Mobile Android Logging Framework Guide* • *IBM Tealeaf Android Logging Framework Release Notes* • *IBM Tealeaf CX Mobile Administration Manual* • *IBM Tealeaf CX Mobile User Manual* • *IBM Tealeaf CX Mobile iOS Logging Framework Guide* • *IBM Tealeaf iOS Logging Framework Release Notes*

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