Data sharing through Universal Behavior Exchange (UBX)

How to do more with your Experience Analytics installation

Sharing Experience Analytics event data with the diverse UBX business ecosystem multiplies your options to improve the customer experience through targeted responses and by augmenting your customer profiles with timely and relevant data.

To begin, you must have an active UBX account. In your UBX account, you manage the connections with the applications that provide and consume the data that you want to share. Sharing Experience Analytics event data with another business application through UBX is based on creating an event subscription in UBX.

In an event subscription, Experience Analytics provides event data as an event publisher. The application that receives the event data is the event subscriber. UBX and the subscribing applications in the UBX business ecosystem support a broad range of event attributes and identifiers that you can share through UBX.

To integrate Experience Analytics with UBX, you must make specific changes in your Experience Analytics installation and in your UBX account. The changes establish a secure data connection between Experience Analytics and UBX and specify the data that your Experience Analytics installation will publish.

Integrating Experience Analytics and UBX requires that you complete the following steps.

1. **Plan the integration**. Know the business case you want to address. Understand how the various elements involved in the integration fit together.

2. **Prepare Experience Analytics**. In Experience Analytics, identify the events, attributes and personal identifiers that you will share. Configure events and the event bus for sharing with UBX.

3. **Configure the connection**. To create a secure data connection, Experience Analytics and UBX share a unique authentication key. You create the key in UBX and then copy it to Experience Analytics

4. **Register the Experience Analytics endpoint with UBX**. Establish the connection with UBX by running a script in Experience Analytics to register and activate Experience Analytics as an endpoint in your UBX account.

5. **Configure the data relationships**. Map UBX event types to Experience Analytics events, attributes, and identifiers.

6. **Define event subscriptions in UBX**. Define the subscriptions between Experience Analytics as provider and other apps as consumer endpoints.

UBX integration planning

Although integrating Experience Analytics with UBX is fairly simple, careful planning and preparation helps eliminate any guesswork. Your planning should identify the elements and interactions involved, highlight all necessary preparations, and schedule the tasks to be completed.

Review the integration requirements. The integration requires some changes to your network environment.

Determine which server you will use to communicate with UBX. This is the machine on which you will modify the configuration and mapping files and where you will run the endpoint registration script.

As part of your planning, review and understand the contributing elements of the integration, and how you must interact with them.

- **Experience Analytics endpoint in UBX**. The Experience Analytics endpoint provides a way to define event subscriptions and indicates to marketers the event types, attributes, and identifiers that Experience Analytics can provide.
- **Endpoint registration in UBX**. Registering the Experience Analytics endpoint in your UBX account is required to create secure communication between your Experience Analytics installation and UBX.
- **UBXTools folder**. This folder is located in your Experience Analytics CX installation. It contains a configuration file and the endpoint registration script.
- **Authentication key** UBX generates this alphanumeric string when you register Experience Analytics as an endpoint in your UBX account. The authentication key identifies your Experience Analytics installation to UBX and is part of every communication between Experience Analytics and UBX.
- **UBX configuration file**. (`config.properties`) Use the configuration file to provide the authentication key to UBX. Find it in the UBXTools folder.
- **Registration script** (`RegisterEndpoint.ps1`) This is a Powershell script that makes the API calls that are required to register the Experience Analytics endpoint as a recognized event publisher in your UBX account. You need to run this only once during the initial endpoint setup. Find it in the UBXTools folder.
- **UBX mapping file**. (`TealeafUBXMapping.cfg`) Use the mapping file to correlate Experience Analytics event types, attributes, to corresponding event types, attributes, and identifiers in UBX. Find it in the top level of your Experience Analytics CX installation folder.
- **Experience Analytics Event manager**. Use the Event manager to identify the Experience Analytics event ID and event attributes that you must specify in the mapping file.
- **Experience Analytics event bus and configuration file**. Configure the event bus to define the pipeline between captured event data and the connection to UBX.
- **Event subscription in UBX**. Event subscriptions define a path between Experience Analytics and another business application through UBX. The subscription indicates the event data to be shared. Establishing an event subscription is the final step in the integration.

Different event subscriber applications often accept or require different types of event data. If the subscribing application requires a specific type of event data, your Experience Analytics installation must be able to provide it.

Confirm the subscriber requirements before you begin to create the event subscription. Use the UBX Dynamic Event Library to determine what the subscribing application requires.

Experience Analytics to UBX integration requirements

Before you begin to configure the integration of Experience Analytics with UBX, make certain that your environment meets the following requirements and that you have all of the access permissions that you need.

- Enable TLS 1.2 security at the operating system level on the Windows-based server on which you run the endpoint registration script. Run the script once, from a single server.
- Open port 443 in your firewall to allow Experience Analytics to communicate with UBX. All communication is through REST API calls over HTTPS.
- You must have Powershell script execution rights set to `unrestricted`.
- You must have an active UBX account.
- Your UBX user role must have access to the Experience Analytics Event manager.

UBX event types supported by the integration

Your ability to share event data from Experience Analytics depends on UBX support for the type of event, attributes, and identifiers that you provide. For the Experience Analytics to UBX integration, you can map Experience Analytics event types and attributes to their UBX equivalents.

By default, the integration supports the following UBX event types.

Add Item to Cart	App Crashed
App Session Closed	App Session Opened
Cart Abandonment	Cart Purchase
Conversion	Conversion Abandonment
Entry Page	Form Field Dwell Struggle
Form Field Repeat Struggle	Form Field Validation Struggle
Product View	Provided Rating
Remove Item from Cart	Searched Site
Video Completed	Video Launched
Video Paused	Video Played
Wrote Review	

The Experience Analytics mapping file, `TealeafUBXMapping.cfg`, lists these supported events and related attributes.

Preparing Experience Analytics to send event data to UBX

You must make changes in Experience Analytics before you can send event data to UBX automatically. To get your Experience Analytics installation ready to automatically send event data to UBX, you must complete the following preparations.

- Confirm that you have satisfied all integration requirements.
- Configure the event bus for use with UBX.
- Enable events for sharing through UBX.

Configuring the event bus for use with UBX

To automatically send event data to UBX as it is captured, you must configure the Experience Analytics event bus to process the data and send it to UBX.

Make sure that the event bus is enabled.

If you have upgraded from an environment earlier than Experience Analytics version 10.0, you must upgrade the event bus configuration file.

To enable Experience Analytics to send captured event data to UBX, you must add the UBX session agent to the Event bus pipeline in Experience Analytics.

You perform this configuration on every server that sends event data to UBX.

1. Enable the event bus, if you have not already enabled it.
   a. Go to **System** > **TMS** > **WorldView** and open the Canister configuration in the **Canister** configuration.
   b. On the Services perform tab, click **Enable Event Bus**.
   c. Clear the **Include Response** option.
   d. Save the configuration.

2. On the server where you have the Portal installed, go to **System** > **TMS** > **WorldView** and open the Event bus configuration in the **Canister** configuration.

3. Edit the event bus configuration to open the Pipeline editor.

4. In the Pipeline editor, drag the UBX session agent into the Event bus pipeline. Place the UBX agent after the **Decouple** agent and before the **Null** agent.

5. Save the configuration.

Upgrading the event bus configuration file for use with UBX

If you have upgraded your installation from a version previous to Experience Analytics version 10.0, you must update the `TeaLeafEventBus.cfg` file to include information about UBX.

To support sending event data to UBX, the event bus configuration file must contain information about UBX. Starting with version 10.0, `TeaLeafEventBus.cfg` contains the required UBX information. Previous versions of the file do not.

Because the Experience Analytics upgrader does not overwrite existing configuration files, you must manually add the UBX information to the current `TeaLeafEventBus.cfg` (as created and modified in your 9.0.2 environment) to now include the UBX agent configuration in your new Experience Analytics version 10.0 environment. You need to perform this task on every server that sends event data to UBX.

1. In the Configuration Files folder in your Experience Analytics CX installation, open `TeaLeafEventBus.cfg` in a text editor.
2. Copy the UBX section of the file.
3. Open the current `TeaLeafEventBus.cfg` file. This is the file that you carried forward from your 9.0.2 installation. Paste the copied UBX section into this file.
4. Save the file.

Now, when you open the Event bus editor, you will see the UBX agent as an option to add to a pipeline.

Enabling events for sharing through UBX

Sending Experience Analytics event data to UBX requires a change in the configuration of the Experience Analytics event. You must indicate in the configuration that the event can send data to UBX.

1. In the Event manager, edit the event that will send event data to UBX.
2. Open **More options**.
3. Select **Send to EventBus/UBX**.
4. Save the event configuration.

Troubleshooting event sharing through UBX

Sometimes things do not go as expected. In case you run into problems, you can check the log files. By default, logging is turned off. To track Experience Analytics to UBX activity, you must enable logging for the integration.

When you successfully configure UBX in the event bus, log files can be saved in the Logs folder, if logging is enabled.

To enable logging, you must update the `TealeafEventBus.cfg` file.

1. In the Configuration Files folder in your Experience Analytics CX installation, open `TeaLeafEventBus.cfg` in a text editor.
2. Edit the Log Mode parameter. By default, the value is `0`. To enable logging, change the value to `1`.
3. Save the file.

Log files are available in the Logs folder in the format `SA_UBX_<date>`.

Configuring the data sharing connection

Secure communication between your Experience Analytics installation and UBX requires an authentication key that is unique to the connection between your Experience Analytics installation and your UBX account. You create the key in UBX and copy it into your Experience Analytics configuration.

Confirm that your organization has an active UBX account and that you can make changes to it.

Confirm that you have user permissions that allow you to update configurations in your Experience Analytics installation.

To enable your Experience Analytics installation to access UBX, you must register Experience Analytics as an endpoint in your UBX account. UBX generates an authentication key during the registration process. Experience Analytics uses the key to authenticate each call that it makes to UBX.

You must add the UBX authentication key to the Experience Analytics configuration.

1. Log into UBX and go to the Endpoints tab. Click **Register new endpoint**.
2. Find and open the Experience Analytics endpoint. Click **Register**.

   UBX adds Experience Analytics to the list of available endpoints. The endpoint remains **Pending** until you complete the entire registration process.
3. Return to the Endpoints tab. Select the Experience Analytics endpoint.
4. Open the endpoint details and copy the endpoint authentication key.
5. In your Experience Analytics installation, go to the **UBXTools** folder and open `config.properties`. Enter the authentication key as the value for the `ubx.application.endpoint.authentication.key` **property**.
6. Save the file.

After you have updated the configuration file with the authentication key, you must run the `RegisterEndpoint` script to finish registering Experience Analytics as an endpoint in your UBX account.

Registering Experience Analytics with UBX

Registering the Experience Analytics endpoint with UBX requires that you run an Experience Analytics script that completes the endpoint registration that you started when you generated the authentication key.

Confirm the following:

- TLS 1.2 security has been enabled at the operating system level on the server.
- Port 443 has been opened in your firewall to allow Experience Analytics to communicate with UBX.
- You have unrestricted Powershell script execution rights.
- The `config.properties` file contains the authentication key generated in UBX when you began the endpoint registration.

1. In your Experience Analytics installation, go to the UBXTools folder.

2. In a Powershell window, run `RegisterEndpoint.ps1`. You cannot run the script with a right-click.

3. Keep the Powershell window open until you confirm that the script executed successfully and that the Experience Analytics endpoint is active in UBX. Any confirmations or errors appear only in the Powershell window. If you close the window, you lose the message.

4. The script calls UBX using the authentication key, registers Experience Analytics as an endpoint in UBX, and declares the event types and attributes that will be available for subscription.

5. Open the Endpoints tab in UBX. Refresh the Endpoints tab and confirm that the status of the Experience Analytics endpoint has changed to **Active**.

You must now map Experience Analytics identifiers and event attributes to UBX event types and attributes.

Mapping Experience Analytics data to UBX

You must define the relationship between the event types, attributes, and identifiers that UBX supports and the corresponding events that you have defined for use in your Experience Analytics environment. You do this by explicitly mapping UBX event types to events, attributes, and identifiers that you have defined in Experience Analytics.

Before you begin, confirm that you have access to the configuration files for your Experience Analytics installation and to the Experience Analytics Event manager.

Experience Analytics provides the file, `TealeafUBXMapping.cfg`, to provide the necessary mapping details for the default list of event types that you can publish through UBX. The file contains the event type names, attributes, and supported identifiers, as defined in UBX. You modify this file to map the values that you have defined in Experience Analytics events to their UBX equivalents.

By modifying this configuration file, you can indicate which event types to publish to UBX and which Experience Analytics attributes correspond to UBX attributes. You must also specify at least one personal identifier that can be used to link events to a specific individual or session.

In your Experience Analytics installation directory, go to Tealeaf CX and open `TealeafUBXMapping.cfg` in a text editor.

1. In the top part of the file, locate the `UBXEndpointAuthKey` property, and enter the authentication key for the Experience Analytics endpoint that is registered in your UBX account.

   This is the same authentication key that you entered into the `config.properties` file when you registered the Experience Analytics endpoint in UBX. You can find the authentication key in UBX. It is listed in the endpoint properties for the Experience Analytics endpoint.

2. In the **Identifier mapping** section, define at least one identifier. Remove the comment tag (`#`) from each identifier that you will publish to UBX. On the right-

hand side of the **=** sign, enter the name of the identifier as it is defined in your Experience Analytics installation.

For example, the configuration file provides an identifier called **email** to support using email address as a way to identify individuals. This is the name of the attribute in UBX. If you have defined a field named **ADDR_email** to track email addresses in your Experience Analytics installation, you must modify the line in the file to appear as shown in the following example:

email=ADDR_email

3. In the **Event attribute mapping** section, indicate the event types that you want to publish. Each event type lists the event's relevant attributes. For each event type that you will publish, do the following:

   a. Change the value for the **Active** field to **Y**.
   b. In the **TLEventId** field, enter the Event ID of the Experience Analytics event type that you want to map to the selected UBX event type. Find the Event ID in the event description contained in the Event manager.
   c. Enter the name of each Experience Analytics attribute that you want to publish on the same line as the corresponding UBX event attribute that provides the same information. Find the event attribute names in the event description contained in the Event manager.

   For example, the configuration file specifies the UBX event type: **Cart Purchase**. It includes the **OrderID** attribute to identify specific online orders. If you have defined an attribute called **WebOrdNum** in your Experience Analytics installation to track online orders, you must modify the line in the file to appear as follows:

   eventAttribute:orderID=WebOrdNum

4. Save the file.

After you finish mapping identifiers and event types, you can define event subscriptions in UBX between Experience Analytics and other business applications.

Note: To support event subscriptions between Experience Analytics and Campaign, you must specify a value for **contactConsent**. Acceptable values for **contactConsent** include the following.

- **email,opt-in**
- **email,opt-out**
- **email,unknown**

Publishing Experience Analytics event data through UBX subscriptions

To share Experience Analytics event data with another application through UBX, you must configure an event subscription in UBX between the two applications.

To configure an event subscription between Experience Analytics and another application, both applications must be registered as active endpoints in your UBX account. Confirm that the configuration for your Experience Analytics installation is

complete and that it includes all event types, event attributes, and identifiers that you intend to publish through UBX.

Consult the UBX Dynamic Event Library to confirm that the application that you designate as the event subscriber supports the event types and attributes that you intend to publish.

Use the UBX Events tab to configure an event subscription. Follow these general steps to create an event subscription in UBX.

1. Select Experience Analytics as the event publisher.
2. Select the event types that you want to publish.
3. The Events tab provides a link for each event type that lists the attributes that will be published.
4. Select the destination endpoint.
5. Activate the subscription.

After you configure the syndication, UBX processes the events automatically.