# [EXTERNAL EXPORT] Components

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### Integration Scenarios

SDK supports the integration with Google Ad Manager (GAM), MoPub, and pure In-App bidding scenario just with the **Prebid Server** server. Integration scenarios have different APIs but at the same time, they work based on common components.

Integration with **MoPub** is based on the Mediation feature. The ad views are instantiated via mediation adapters when the Prebid Network line item won in the waterfall.

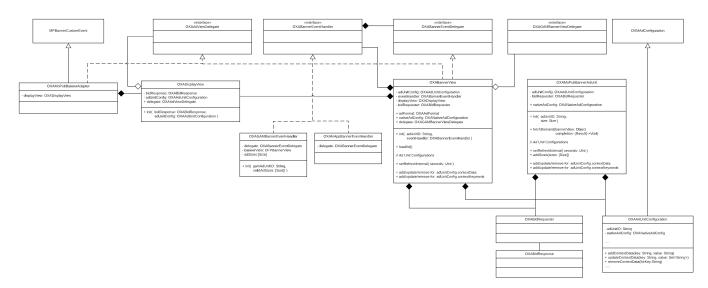
Integration with **GAM** is based on the App Events feature, and SDK manages the ad views in the UI. The ad views are instantiated when the Prebid line item won in the waterfall and GAM returned a meta-information about the necessity of rendering the cached creative via the app event. Otherwise, if another line item won, SDK will display an instant MA SDK Ad View.

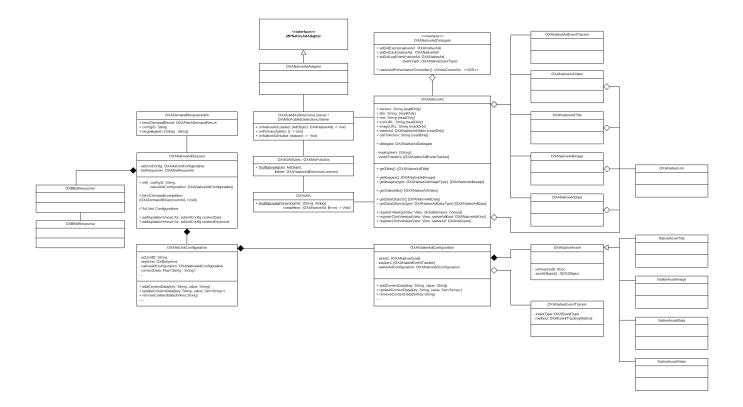
**In-App Bidding Integration** works as a regular advertising SDK. Publisher integrates the Ad View or Interstitial Controller into the app's UI and this view renderers ads from the winning bid.

SDK supports these APIs to support particular ad kinds:

- Banner the API for the inventory which is able to show display ads, outstream video ads, native style ads.
- Native the API for the inventory which could display Unified Native Ads, Native Templates.
- · Interstitial the API for the inventory which is able to display HTML or Video interstitials
- Rewarded Video the API for Rewarded Video ads

#### Banner



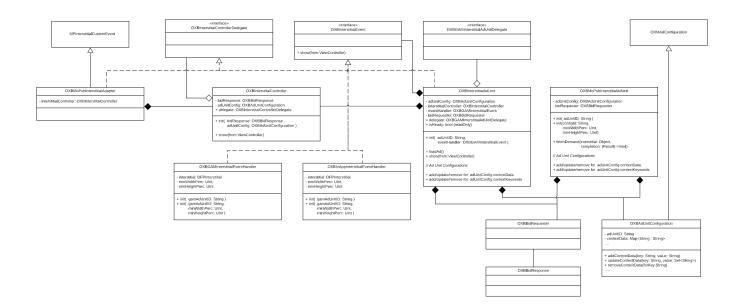


### **Native Event Trackers**

The checklist of supporting event trackers features:

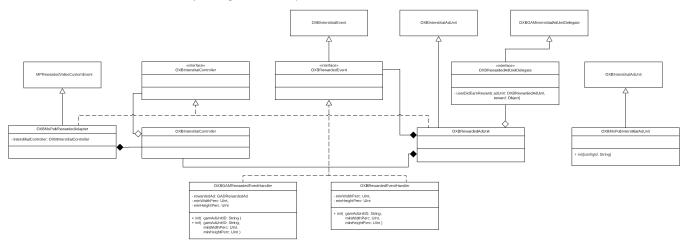
- SDK supports all general-purpose event types of native event trackers:
  - impression Apollo's impression with 1 viewable pixel
  - viewable-mrc50 Visible impression using MRC definition at 50% in view for 1 second
  - viewable-mrc100 100% in view for 1 second (ie GroupM standard)
  - viewable-video50 Visible impression for video using MRC definition at 50% in view for 2 second
  - 555 OMID (TODO)
- SDK informs the publisher that a particular event was tracked via OXANativeAdDelegate. Despite the possible multiple event trackers for a single event type, the respective delegate method **will be called only once** for the lifecycle.
- SDK does not support the javascript method for the event trackers.
- · SDK support custom OMID event type and method

#### Interstitial



### Rewarded

The components for Rewarded API are based on the Interstitial API with a single addition - the delegate method for informing that user is earned the reward. All functionality of bid requesting and rendering is the same as for Interstitial ads. So the classes for Rewarded API inherit the behavior of Interstitial API and extend it by adding the reward-specific methods.

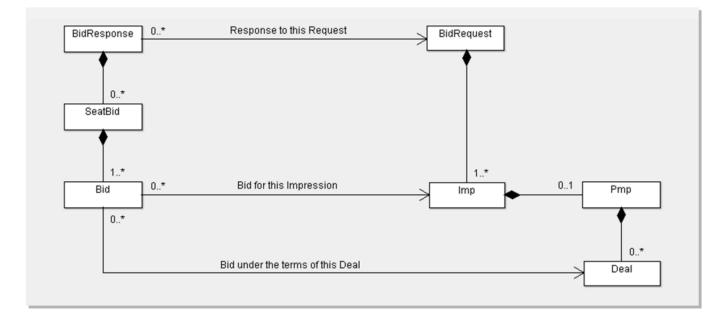


### **Internal Modules**

### **Bid Response**

The Prebid Server responds with either:

- An OpenRTB 2.5 BidResponse.
- An HTTP 400 status code if the request is malformed



#### Figure 4: Bid Response object model.

The appliance of received response depends on the integration kind:

- · GAM set up keywords into the ad unit. Store the creative in the cache.
- MoPub set up keywords into the ad unit. Pass creative to the adapter via extras.
- In-App render the ad.

In any case, there is no reason to deserialize the bid response partially and cache the raw data.

## Configuration and Targeting

### Ad Unit Configuration

All properties, which a publisher could assign to the ad unit, are transformed to the particular OpenRTB params in the bid requests. There are obligatory, optional, and ad unit-specific properties for prebid ad units. The chart below shows the set of supported properties and which ad unit they belong to. This table defines the interface for customizable properties of ad units.

|                | Banner     | HTML Interstitial | Video Interstitial | Rewarded Video | Outram Video | Native Styles | Native                   |
|----------------|------------|-------------------|--------------------|----------------|--------------|---------------|--------------------------|
| configID       | Obligatory | Obligatory        | Obligatory         | Obligatory     | Obligatory   | Obligatory    | Unsupported Ad<br>Format |
| adUnitSizes    | Obligatory | Not Used          | Not Used           | Not Used       | Not Used     | Not Used      | Unsupported Ad<br>Format |
| minWidthPerc   | Not Used   | Optional          | Not Used           | Not Used       | Not Used     | Not Used      | Unsupported Ad<br>Format |
| minHeightPrec  | Not Used   | Optional          | Not Used           | Not Used       | Not Used     | Not Used      | Unsupported Ad<br>Format |
| nativeAdConfig | Not Used   | Not Used          | Not Used           | Not Used       | Not Used     | Obligatory    | Obligatory               |
| contextData    | Optional   | Optional          | Optional           | Optional       | Optional     | Not Used      | Unsupported Ad<br>Format |
| contextKeyword | Optional   | Optional          | Optional           | Optional       | Optional     | Not Used      | Unsupported Ad<br>Format |

### Native Ad Unit Configuration

Native ads assume a special set of configuration properties according to the IAB standards. In order to keep API as clean as possible, these configs are assembled in a separate class - NativeAdConfig, which could be set up by the publisher into a particular Ad Unit and get held in the AdUnitConfig.

Looking at this property bid requestor can build and perform native ad requests.

The configurable parameters are defined by IAB specs (4.1 Native Markup Request Object).