Introduction

The Native Ads sub-group of the IAB OpenRTB Project assembled in May 2014 to develop a new supplementary API specification for companies interested in an open protocol for the automated trading of Native Ads enabled media across a broader range of platforms, devices, and advertising solutions. This document is the culmination of those efforts.

About the IAB’s Networks & Exchanges Committee:
The IAB Networks & Exchanges Committee is comprised of senior leaders of ad networks and ad exchanges member companies. The committee is dedicated to furthering the interests of digital ecosystem in today's complex ad marketplace. Committee objectives are to foster the highest standards of professionalism and accountability in relationships with publishers, advertisers, intermediaries, and the agency community, to develop programs that enable revenue growth, and to create best practices that protect consumers and the industry.

The OpenRTB Project is a working group within the IAB Advertising Technology Council.

This document can be found at www.iab.net

IAB Contact Information:

Brendan Riordan-Butterworth
Director of Technical Standards, IAB
brendan@iab.net

License

OpenRTB Specification by OpenRTB is licensed under a Creative Commons Attribution 3.0 License, based on a work at openrtb.info. Permissions beyond the scope of this license may be available at http://openrtb.info. To view a copy of this license, visit http://creativecommons.org/licenses/by/3.0/ or write to Creative Commons, 171 Second Street, Suite 300, San Francisco, CA 94105, USA.
# Table of Contents

Before You Get Started ............................................................................................... 5

1 Introduction ........................................................................................................... 6
   1.1 Mission / Overview ....................................................................................... 6
   1.2 Credits / Project History ............................................................................. 6
   1.3 Resources .................................................................................................... 7
   1.4 Version History ............................................................................................ 7

2 Native Ads Basics ................................................................................................. 7
   2.1 IAB Core Six ............................................................................................... 7
   2.2 Data Format ................................................................................................. 9
   2.3 Versioning ................................................................................................... 9
   2.4 Customization and Extensions .................................................................. 9

3 Bid Request Details ............................................................................................. 10
   3.1 Native Object Hierarchy .......................................................................... 10

4 Native Ad Request Markup Details ..................................................................... 11
   4.1 Native Markup Request Object .................................................................. 11
   4.2 AssetObject ............................................................................................... 12
   4.3 Title Object .............................................................................................. 13
   4.4 Image Object ............................................................................................ 13
   4.5 Video Object ............................................................................................ 14
   4.6 Data Object ............................................................................................... 15

5 Native Ad Bid Response Markup ........................................................................ 16
   5.1 Native Ad Creative JSON .......................................................................... 16
   5.2 Native Object ............................................................................................ 16
   5.3 Asset Object ............................................................................................. 17
   5.4 Title Object .............................................................................................. 18
   5.5 Image Object ............................................................................................ 18
   5.6 Data Object ............................................................................................... 19
   5.7 Video Object ............................................................................................ 19
   5.8 Link Object ............................................................................................... 20

6 Bid Request/Response Samples .......................................................................... 21
   6.1 App Wall Example ..................................................................................... 21
      6.1.1 Bid Request ....................................................................................... 21
      6.1.2 Bid Response ..................................................................................... 22
   6.2 Chat List Example ..................................................................................... 24
      6.2.1 Bid Request ....................................................................................... 24
      6.2.2 Bid Response ..................................................................................... 25
   6.3 Content Stream with Video Element Example ......................................... 26
      6.3.1 Bid Request ....................................................................................... 26
      6.3.2 Bid Response ..................................................................................... 28
   6.4 Google Text Ad ......................................................................................... 29
      6.4.1 Bid Request ....................................................................................... 29
      6.4.2 Bid Response ..................................................................................... 30
7 Reference Lists/Enumerations................................................................................. 31
  7.1 Native Layout IDs.............................................................................................. 31
  7.2 Native Ad Unit IDs............................................................................................ 31
  7.3 Data Asset Types............................................................................................... 32
  7.4 Image Asset Types............................................................................................. 33
8 Implementation Notes ....................................................................................... 34
  8.1 Multi Placement Bid Requests........................................................................... 34
Before You Get Started

This specification contains a detailed explanation of a sub-protocol of the OpenRTB real-time bidding interface. Not all objects are required, and each object may contain a number of optional parameters. To assist a first time reader of the specification, we have indicated which fields are essential to support a minimum viable real time bidding interface for various scenarios (banner, video, mobile, etc.).

A minimal viable interface should include the required and recommended parameters, but the scope for these parameters may be limited to specific scenarios. In these cases, the scope will be qualified with the applicable scenarios (e.g., required for native impressions and recommended for native impressions). Conversely, if the scope is not qualified, it applies to all scenarios.

Optional parameters may be included to ensure maximum value is derived by the parties.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>of</td>
<td>required</td>
<td>string</td>
<td>-</td>
<td>Unique ID of the bid request, provided by the exchange.</td>
</tr>
<tr>
<td>version</td>
<td>required</td>
<td>string</td>
<td>-</td>
<td>Open RTB version</td>
</tr>
<tr>
<td>img</td>
<td>required</td>
<td>array of objects</td>
<td>-</td>
<td>Array of impression objects. Multiple impression auctions may be specified in a single bid request. At least one impression is required for a valid bid request.</td>
</tr>
<tr>
<td>site</td>
<td>recommended</td>
<td>object</td>
<td>-</td>
<td>See Site Object</td>
</tr>
<tr>
<td>app</td>
<td>recommended</td>
<td>object</td>
<td>-</td>
<td>See App Object</td>
</tr>
<tr>
<td>device</td>
<td>recommended</td>
<td>object</td>
<td>-</td>
<td>See Device Object</td>
</tr>
<tr>
<td>user</td>
<td>recommended</td>
<td>object</td>
<td>-</td>
<td>See User Object</td>
</tr>
</tbody>
</table>

**Required** parameters must be included.

**Recommended** parameters should be included unless there is a compelling reason to omit them.

**Optional** parameters may be included at your discretion.

**IMPORTANT:** Since recommended parameters are not required, they may not be available from all supply sources. It is suggested that all parties to OpenRTB transaction complete the integration checklist (please refer to OpenRTB 2.3) to identify which parameters the supply side supports in the bid request, and which parameters the demand side requires for ad decisioning.
1 Introduction

1.1 Mission / Overview

The mission of the OpenRTB Native project is to spur standardization and greater growth in the Real-Time Bidding (RTB) marketplace for Native Ads by providing open industry standards for communication between buyers of advertising and sellers of publisher inventory.

This specification is a sub-protocol of OpenRTB 2.3 to allow for the delivery of native advertising formats, as their specifics differ from publisher to publisher. In May 2013, a separate IAB subcommittee has been formed to define the request and response structures of native ad units.

Establishing a true open standard for this new format will be instrumental to native ads adoption by app publishers and demand side platforms. With a common framework on the buy-side, the industry as a whole will benefit from increased demand for native ad formats.

1.2 Credits / Project History

Neal Richter & Avinash Shahdadvpu, Rubicon Project
Jim Butler, Nexage
Adam Morgenlender & Gabor Cselle, Twitter
Narayanan Balakrishnan & Anand Narayanan, InMobi
Giuseppe Di Mauro, PubMatic
Ilya Kaplus, Visible Measures
Jennifer Lum, Adelphic
Wesley Biggs, Byyd
Benoit Grouchko & Elisabeth Rotrou, Criteo
David Hernandez, AOL
Rajaraman Periasamy, RocketFuel
Jin Yu, OpenX
Anton Roslov, Phorm
Andraž Tori, Zemanta
Osvaldo Doederlein, Google
1.3 Resources

<table>
<thead>
<tr>
<th>Resource</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>OpenRTB Website</td>
<td><a href="http://openrtb.info">http://openrtb.info</a></td>
</tr>
<tr>
<td>OpenRTB Native Ads Project Page</td>
<td><a href="http://github.com/openrtb/OpenRTB/NativeAds.html">http://github.com/openrtb/OpenRTB/NativeAds.html</a></td>
</tr>
<tr>
<td>Developer / Product Manager</td>
<td></td>
</tr>
<tr>
<td>Mailing List</td>
<td><a href="http://groups.google.com/group/openrtb-native">http://groups.google.com/group/openrtb-native</a></td>
</tr>
</tbody>
</table>

1.4 Version History

Version 0.99.10.24  PUBLIC DRAFT October 24, 2014
Version 0.99.10.27  PUBLIC DRAFT October 27, 2014
Version 1.0.0.0  EXTERNAL DRAFT November 19, 2014
Version 1.0.0.1  EXTERNAL DRAFT December 14, 2014
Version 1.0.0.2  FINAL DRAFT January 23, 2015

2 Native Ads Basics

Native advertising is an online advertising method in which the advertiser attempts to gain attention by providing content in the context of the user's experience. Native ad formats match both the form and function of the user experience in which it is placed. This is in contrast to traditional banner or interstitials ads, which are displayed in a separate space of predefined and universal size, without regard to their surroundings.

2.1 IAB Core Six

The IAB Native Advertising Playbook lists six types of native ad units:

- In Feed Units
- Paid Search Units
- Recommendation Widgets
- Promoted Listings
- IAB Standard with Native Elements
- Custom / “Can’t be contained”

Some examples for native ad formats are shown below.
2.2 Data Format

As this specification outlines an optional sub-protocol of the main OpenRTB protocol payload, the format must follow that of its parent. Please refer to the main OpenRTB specification for details of various formats that may be used.

2.3 Versioning

The Native Object in the Bid Request (OpenRTB 2.3) contains a “ver” field defining the version of the OpenRTB native extension.

2.4 Customization and Extensions

The OpenRTB Native Ads spec allows for exchange specific customization and extensions of the specification. Any object may contain extensions. In order to keep extension fields consistent across platforms, they should consistently be named ‘ext’.
3 Bid Request Details

RTB transactions are initiated when an exchange or other supply source sends a bid request to a bidder. The bid request consists of a bid request object, at least one impression object, and may optionally include additional objects providing impression context.

3.1 Native Object Hierarchy

Following is the object hierarchy for a bid request. The new Native Object is another optional element of the impression object, and can be specified as an alternative to or in conjunction with a banner object or video object.
4 **Native Ad Request Markup Details**

4.1 **Native Markup Request Object**

The Native Object defines the native advertising opportunity available for bid via this bid request. It must be included directly in the impression object if the impression offered for auction is a native ad format.

The Default column dictates how optional parameters should be interpreted if explicit values are not provided.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ver</td>
<td>optional</td>
<td>string</td>
<td>1</td>
<td>Version of the Native Markup version in use.</td>
</tr>
<tr>
<td>layout</td>
<td>recommended</td>
<td>integer</td>
<td>-</td>
<td>The Layout ID of the native ad unit. See the table of Native Layout IDs below.</td>
</tr>
<tr>
<td>adunit</td>
<td>recommended</td>
<td>integer</td>
<td>-</td>
<td>The Ad unit ID of the native ad unit. See the Table of Native Ad Unit IDs below for a list of supported core ad units.</td>
</tr>
<tr>
<td>plcmtcnt</td>
<td>optional</td>
<td>integer</td>
<td>1</td>
<td>The number of identical placements in this Layout. Refer to Section 8.1 Multi Placement Bid Requests.</td>
</tr>
<tr>
<td>seq</td>
<td>optional</td>
<td>integer</td>
<td>0</td>
<td>xx (see the IAB Core Six layout types). 0 for the first ad, 1 for the second ad, and so on. This is not the sequence number of the content in the stream.</td>
</tr>
<tr>
<td>assets</td>
<td>required</td>
<td>array of objects</td>
<td>-</td>
<td>An array of Asset Objects. Any bid must comply with the array of elements expressed by the Exchange.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>
### 4.2 AssetObject

The main container object for each asset requested or supported by Exchange on behalf of the rendering client. Any object that is required is to be flagged as such. Only one of the \{title,,img,video,data\} objects should be present in each object. All others should be null/absent. The id is to be unique within the AssetObject array so that the response can be aligned.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>required</td>
<td>int</td>
<td>-</td>
<td>Unique asset ID, assigned by exchange. Typically a counter for the array.</td>
</tr>
<tr>
<td>required</td>
<td>optional</td>
<td>int</td>
<td>0</td>
<td>Set to 1 if asset is required (exchange will not accept a bid without it)</td>
</tr>
<tr>
<td>title</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Title object for title assets. See Title Object definition.</td>
</tr>
<tr>
<td>img</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Image object for image assets. See Image Object definition.</td>
</tr>
<tr>
<td>video</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Video object for video assets. See the Video Object definition. Note that in-stream video ads are not part of Native. Native ads may contain a video as the ad creative itself.</td>
</tr>
<tr>
<td>data</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Data object for ratings, prices etc. See Data Object definition.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>

¹: asset object may contain only one of title, img, data or video.
### 4.3 Title Object

The Title object is to be used for title element of the Native ad.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>len</em></td>
<td>required</td>
<td>integer</td>
<td>-</td>
<td>Maximum length of the text in the title element.</td>
</tr>
<tr>
<td><em>ext</em></td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>

### 4.4 Image Object

The Image object to be used for all image elements of the Native ad such as Icons, Main Image, etc.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>type</em></td>
<td>optional</td>
<td>integer</td>
<td>-</td>
<td>Type ID of the image element supported by the publisher. The publisher can display this information in an appropriate format. See Table Image Asset Types for commonly used examples.</td>
</tr>
<tr>
<td><em>w</em></td>
<td>optional</td>
<td>integer</td>
<td>-</td>
<td>Width of the image in pixels.</td>
</tr>
<tr>
<td><em>wmin</em></td>
<td>recommended</td>
<td>integer</td>
<td>-</td>
<td>The minimum requested width of the image in pixels. This option should be used for any rescaling of images by the client. Either <em>w</em> or <em>wmin</em> should be transmitted. If only <em>w</em> is included, it should be considered an exact requirement.</td>
</tr>
<tr>
<td><em>h</em></td>
<td>optional</td>
<td>integer</td>
<td>-</td>
<td>Height of the image in pixels.</td>
</tr>
</tbody>
</table>
**hmin**  **recommended**  **integer**  **-**  
The minimum requested height of the image in pixels. This option should be used for any rescaling of images by the client. Either h or hmin should be transmitted. If only h is included, it should be considered an exact requirement.

**mimes**  **optional**  **array of strings**  **All types allowed**  
Whitelist of content MIME types supported. Popular MIME types include, but are not limited to “image/jpg” “image/gif”.

Each implementing Exchange should have their own list of supported types in the integration docs. See [Wikipedia's MIME page](#) for more information and links to all IETF RFCs.

If blank, assume all types are allowed.

**ext**  **optional**  **object**  **-**  
This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification

### 4.5 Video Object

The video object to be used for all video elements supported in the Native Ad. This corresponds to the Video object of OpenRTB 2.3. Exchange implementers can impose their own specific restrictions. Here are the required attributes of the Video Object. For optional attributes please refer to OpenRTB 2.3.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>mimes</td>
<td>required</td>
<td>array of strings</td>
<td></td>
<td>Content MIME types supported. Popular MIME types include, but are not limited to “video/x-ms-wmv” for Windows Media, and “video/x-flv” for Flash Video.</td>
</tr>
<tr>
<td>Field</td>
<td>Scope</td>
<td>Type</td>
<td>Default</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>------------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>minduration</td>
<td>required</td>
<td>integer</td>
<td>-</td>
<td>Minimum video ad duration in seconds.</td>
</tr>
<tr>
<td>maxduration</td>
<td>required</td>
<td>integer</td>
<td>-</td>
<td>Maximum video ad duration in seconds.</td>
</tr>
<tr>
<td>protocols</td>
<td>required</td>
<td>array of integers</td>
<td>-</td>
<td>An array of video protocols the publisher can accept in the bid response. See OpenRTB 2.3 Table 5.8 Video Bid Response Protocols for a list of possible values.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>

### 4.6 Data Object

The Data Object is to be used for all non-core elements of the native unit such as Ratings, Review Count, Stars, Download count, descriptions etc. It is also generic for future of Native elements not contemplated at the time of the writing of this document.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>required</td>
<td>integer</td>
<td>-</td>
<td>Type ID of the element supported by the publisher. The publisher can display this information in an appropriate format. See Table 7.3 Data Asset Types for commonly used examples.</td>
</tr>
<tr>
<td>len</td>
<td>optional</td>
<td>integer</td>
<td>-</td>
<td>Maximum length of the text in the element’s response.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>
5 Native Ad Bid Response Markup

The structure and contents of the Bid Response is the same as in the OpenRTB standard. The difference is how ad creative is returned. The native creative is returned as a JSON-encoded string in the `adm` field of the Bid Object, or in response to calling the URL given in the `nurl` field of the Bid Object.

5.1 Native Ad Creative JSON

The JSON returned in `adm` or in response to `nurl` is a JSON string with the following attributes:

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>native</td>
<td>required</td>
<td>object</td>
<td>-</td>
<td>Top level Native object</td>
</tr>
</tbody>
</table>

5.2 Native Object

The native object is the top level JSON object which identifies a native response. The native object has following attributes:

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ver</td>
<td>optional</td>
<td>integer</td>
<td>1</td>
<td>Version of the Native Markup version in use.</td>
</tr>
<tr>
<td>assets</td>
<td>required</td>
<td>array of objects</td>
<td>-</td>
<td>List of native ad’s assets.</td>
</tr>
<tr>
<td>link</td>
<td>required</td>
<td>object</td>
<td>-</td>
<td>Destination Link. This is default link object for the ad. Individual assets can also have a link object which applies if the asset is activated (clicked). If the asset doesn’t have a link object, the parent link object applies. See LinkObject Definition</td>
</tr>
<tr>
<td>imptrackers[]</td>
<td>optional</td>
<td>array of strings</td>
<td>-</td>
<td>Array of impression tracking URLs, expected to return a 1x1 image or 204 response - typically only passed when using 3rd party trackers.</td>
</tr>
</tbody>
</table>
**5.3 Asset Object**

Corresponds to the Asset Object in the request. The main container object for each asset requested or supported by Exchange on behalf of the rendering client. Any object that is required is to be flagged as such. Only one of the {title, img, video, data} objects should be present in each object. All others should be null/absent. The id is to be unique within the AssetObject array so that the response can be aligned.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td><strong>required</strong></td>
<td>int</td>
<td>-</td>
<td>Unique asset ID, assigned by exchange, must match one of the asset IDs in request</td>
</tr>
<tr>
<td>required</td>
<td>optional</td>
<td>int</td>
<td>0</td>
<td>Set to 1 if asset is required. (bidder requires it to be displayed).</td>
</tr>
<tr>
<td>title</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Title object for title assets. See <a href="#">Title Object</a> definition.</td>
</tr>
<tr>
<td>img</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Image object for image assets. See <a href="#">Image Object</a> definition.</td>
</tr>
<tr>
<td>video</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Video object for video assets. See <a href="#">Video Object</a> definition. Note that in-stream video ads are not part of Native. Native ads may contain a video as the ad creative itself.</td>
</tr>
<tr>
<td>data</td>
<td>optional¹</td>
<td>object</td>
<td>-</td>
<td>Data object for ratings, prices etc.</td>
</tr>
</tbody>
</table>

### jstracker

**optional**

string -

Optional JavaScript impression tracker. This is a valid HTML, Javascript is already wrapped in `<script>` tags. It should be executed at impression time where it can be supported.

### ext

**optional**

object -

This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification.
### 5.4 Title Object

Corresponds to the Title Object in the request, with the value filled in.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>text</td>
<td>required</td>
<td>String</td>
<td>-</td>
<td>The text associated with the text element.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>

### 5.5 Image Object

Corresponds to the Image Object in the request. The Image object to be used for all image elements of the Native ad such as Icons, Main Image, etc.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>required</td>
<td>string</td>
<td>-</td>
<td>URL of the image asset.</td>
</tr>
<tr>
<td>Field</td>
<td>Scope</td>
<td>Type</td>
<td>Default</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>w</td>
<td>recommended</td>
<td>integer</td>
<td>-</td>
<td>Width of the image in pixels.</td>
</tr>
<tr>
<td>h</td>
<td>recommended</td>
<td>integer</td>
<td></td>
<td>Height of the image in pixels.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>

### 5.6 Data Object

Corresponds to the Data Object in the request, with the value filled in. The Data Object is to be used for all miscellaneous elements of the native unit such as Ratings, Review Count, Stars, Downloads, Price count etc. It is also generic for future of Native elements not contemplated at the time of the writing of this document.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>label</td>
<td>optional</td>
<td>string</td>
<td>-</td>
<td>The optional formatted string name of the data type to be displayed.</td>
</tr>
<tr>
<td>value</td>
<td>required</td>
<td>string</td>
<td>-</td>
<td>The formatted string of data to be displayed. Can contain a formatted value such as “5 stars” or “$10” or “3.4 stars out of 5”.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>

### 5.7 Video Object

Corresponds to the Video Object in the request, yet containing a value of a conforming VAST tag as a value.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vasttag</td>
<td>required</td>
<td>string</td>
<td>-</td>
<td>VAST xml.</td>
</tr>
</tbody>
</table>
5.8 Link Object

Used for ‘call to action’ assets, or other links from the Native ad. This Object should be associated to its peer object in the parent Asset Object or as the master link in the top level Native Ad response object. When that peer object is activated (clicked) the action should take the user to the location of the link.

<table>
<thead>
<tr>
<th>Field</th>
<th>Scope</th>
<th>Type</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>required</td>
<td>string</td>
<td>-</td>
<td>Landing URL of the clickable link.</td>
</tr>
<tr>
<td>clicktrackers[]</td>
<td>optional</td>
<td>array of strings</td>
<td>-</td>
<td>List of third-party tracker URLs to be fired on click of the URL.</td>
</tr>
<tr>
<td>fallback</td>
<td>optional</td>
<td>string (URL)</td>
<td>-</td>
<td>Fallback URL for deeplink. To be used if the URL given in url is not supported by the device.</td>
</tr>
<tr>
<td>ext</td>
<td>optional</td>
<td>object</td>
<td>-</td>
<td>This object is a placeholder that may contain custom JSON agreed to by the parties to support flexibility beyond the standard defined in this specification</td>
</tr>
</tbody>
</table>
6  Bid Request/Response Samples

6.1  App Wall Example

The ad might look like -

6.1.1  Bid Request

```json
{
   "native": {
      "assets": [
      {
         "id": 1,
         "required": 1,
         "title": {
            "len": 30
         }
      },
      {
         "id": 2,
         "required": 0,
         "data": {
            "type": 3,
            "len": 5
         }
      }
   }
   
```
6.1.2 Bid Response

{
  "native": {
    "ver": 1,
    "link": {
      "url": "deeplink://deeplink/url/into/app",
      "fallback": "http://i.am.a/URL",
      "clicktrackers": [
        "http://a.com/a",
        "http://b.com/b"
      ]
    },
    "impltrackers": [
      "http://a.com/a",
      "http://b.com/b"
    ],
    "assets": [
      {
        "id": 1,
        "title": {
          "text": "InstallBOA"
        }
      }
    ]
  }
}
"link": {
   "url": "http://i.am.a/URL"
},
{
   "id": 2,
   "data": {
      "value": 5
   }
},
{
   "id": 3,
   "img": {
      "url": "http://cdn.mobad.com/ad.png",
      "w": 64,
      "h": 64
   }
},
{
   "id": 4,
   "data": {
      "value": "Install"
   },
   "link": {
      "url": "http://i.am.a/URL"
   }
}
6.2 Chat List Example

6.2.1 Bid Request

```
{
   "native": {
      "layout": 4,
      "assets": [
      {
         "id": 1,
         "required": 1,
         "title": {
            "len": 30
         }
      },
      {
         "id": 2,
         "required": 0,
         "data": {
            "type": 2,
            "len": 100
         }
      }
   }
}
```
6.2.2 Bid Response

{
  "native": {
    "ver": 1,
    "link": {
      "url": "deeplink://deeplink/url/into/app",
      "fallback": "http://i.am.a/URL",
      "clicktrackers": [
        "http://a.com/a",
        "http://b.com/b"
      ]
    },
    "impltrackers": [
      "http://a.com/a",
      "http://b.com/b"
    ],
    "assets": [
      {
        "id": 1,
        "title": {
          "text": "Install BOA"
        }
      },
      {
        "id": 2,
        "data": {
          "value": "Manage Finances on your phone"
        }
      }
    ]
  }
}
6.3 Content Stream with Video Element Example

6.3.1 Bid Request

```json
{}
  "native": {
    "layout": 6,
```
"assets": [
{"id": 1,
"required": 1,
"title": {
"len": 30
}
},
{"id": 2,
"required": 0,
"data": {
"type": 3,
"len": 10
}
},
{"id": 3,
"required": 1,
"img": {
"w": 64,
"h": 64,
"mimes": [
"image/png"
]
}
},
{"id": 4,
"video": {
"linearity": 1,
"minduration": 15,
"maxduration": 30,
"protocols": [
"VAST 2.0"
]
}
},
{"id": 5,
"required": 0,
"data": {
"type": 2,
"len": 10
}
}]}
6.3.2 Bid Response

```json
{
    "native": {
        "ver": 1,
        "link": {
            "url": "deeplink://deeplink/url/into/app",
            "fallback": "http://i.am.a/URL",
            "clicktrackers": [
                "http://a.com/a",
                "http://b.com/b"
            ]
        }
    },
    "assets": [
        {
            "id": 1,
            "title": {
                "text": "Install BOA"
            }
        },
        {
            "id": 2,
            "data": {
                "value": 5
            }
        },
        {
            "id": 3,
            "img": {
                "url": "http://cdn.mobad.com/ad.png",
                "w": 1200,
                "h": 627
            }
        },
        {
            "id": 4,
            "video": {
                "vasttag": "<VAST version='2.0'/></VAST>"
            }
        },
        {
            "id": 5,
            "data": {
                "value": "Click"
            },
            "link": {
                "url": "http://i.am.a/URL"
            }
        }
    ]
}
```
6.4 Google Text Ad

An Google text ad with title, description 1, description 2 and display url can be represented as -

6.4.1 Bid Request

```json
{
    "native": {
        "assets": [
            {
                "id": 1,
                "title": {
                    "len": 25
                }
            },
            {
                "id": 2,
                "data": {
                    "type": 2,
                    "len": 35
                }
            },
            {
                "id": 3,
                "data": {
                    "type": 10,
                    "len": 35
                }
            },
            {
                "id": 4,
                "data": {
                    "type": 11,
                    "len": 35
                }
            }
        ]
    }
}
```
6.4.2 Bid Response
{
    "native": {
        "ver": 1,
        "link": {
            "url": "deeplink://deeplink/url/into/app",
            "fallback": "http://i.am.a/URL",
            "clicktrackers": [
                "http://a.com/a",
                "http://b.com/b"
            ]
        },
        "assets": [
            {
                "id": 1,
                "title": {
                    "text": "Plasma Television"
                }
            },
            {
                "id": 2,
                "data": {
                    "value": "Huge range of equipment on sale"
                }
            },
            {
                "id": 3,
                "data": {
                    "value": "Free delivery. Order now."
                }
            },
            {
                "id": 4,
                "data": {
                    "value": "mybestplasmatvstore.com"
                }
            }
        ]
    }
}
7 Reference Lists/Enumerations

7.1 Native Layout IDs

Below is a list of the core layouts described in the introduction above.

An implementing exchange may not support all asset variants or introduce new ones unique to that system.

<table>
<thead>
<tr>
<th>Layout ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Content Wall</td>
</tr>
<tr>
<td>2</td>
<td>App Wall</td>
</tr>
<tr>
<td>3</td>
<td>News Feed</td>
</tr>
<tr>
<td>4</td>
<td>Chat List</td>
</tr>
<tr>
<td>5</td>
<td>Carousel</td>
</tr>
<tr>
<td>6</td>
<td>Content Stream</td>
</tr>
<tr>
<td>7</td>
<td>Grid adjoining the content</td>
</tr>
<tr>
<td>500+</td>
<td>Reserved for Exchange specific layouts.</td>
</tr>
</tbody>
</table>

7.2 Native Ad Unit IDs

Below is a list of the core ad unit ids described by IAB here

http://www.iab.net/media/file/IABNativeAdvertisingPlaybook120413.pdf

In feed unit is essentially a layout, it has been removed from the list. The in feed units can be identified via the layout parameter on the request.

An implementing exchange may not support all asset variants or introduce new ones unique to that system.
Ad Unit ID | Description
---|---
1 | Paid Search Units
2 | Recommendation Widgets
3 | Promoted Listings
4 | In-Ad (IAB Standard) with Native Element Units
5 | Custom /“Can’t Be Contained”
500+ | Reserved for Exchange specific formats.

### 7.3 Data Asset Types

Below is a list of common asset element types of native advertising at the time of writing this spec. This list is non-exhaustive and intended to be extended by the buyers and sellers as the format evolves.

An implementing exchange may not support all asset variants or introduce new ones unique to that system.

<table>
<thead>
<tr>
<th>Type ID</th>
<th>Name</th>
<th>Description</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>sponsored</td>
<td>Sponsored By message where response should contain the brand name of the sponsor.</td>
<td>text</td>
</tr>
<tr>
<td>2</td>
<td>desc</td>
<td>Descriptive text associated with the product or service being advertised.</td>
<td>text</td>
</tr>
<tr>
<td>3</td>
<td>rating</td>
<td>Rating of the product being offered to the user. For example an app’s rating in an app store from 0-5.</td>
<td>number formatted as string</td>
</tr>
<tr>
<td>4</td>
<td>likes</td>
<td>Number of social ratings or “likes” of the product being offered to the user.</td>
<td>number formatted as string</td>
</tr>
<tr>
<td>ID</td>
<td>Name</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>downloads</td>
<td>Number downloads/install of this product</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>price</td>
<td>Price for product/app/in-app purchase. Value should include currency symbol in localised format.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>saleprice</td>
<td>Sale price that can be used together with price to indicate a discounted price compared to a regular price. Value should include currency symbol in localised format.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>phone</td>
<td>Phone number</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>address</td>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>desc2</td>
<td>Additional descriptive text associated with the product or service being advertised</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>displayurl</td>
<td>Display URL for the text ad</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>ctatext</td>
<td>CTA description - descriptive text describing a 'call to action' button for the destination URL.</td>
<td></td>
</tr>
<tr>
<td>500+</td>
<td>XXX</td>
<td>Reserved for Exchange specific usage numbered above 500</td>
<td></td>
</tr>
</tbody>
</table>

### 7.4 Image Asset Types

Below is a list of common image asset element types of native advertising at the time of writing this spec. This list is non-exhaustive and intended to be extended by the buyers and sellers as the format evolves.

An implementing exchange may not support all asset variants or introduce new ones unique to that system.
8 Implementation Notes

8.1 Multi Placement Bid Requests

If the bid request has a placement count ("plcmtcnt") greater than 1, then the implication is that the bidder is submitting bids to a Generalized Second Price auction where multiple identical placements are being offered in the same content feed or stream.

Example: If a bid request is for 5 ad placements within a feed based layout. The bidder can return 1-5 bids. The exchange runs a generalized second price auction across these bids. The bidder can potentially win between 0-5 placements in the auction.

An example bid response would look like

```json
{
  "id": "1234567890",
  "seatbid": [{
    "bid": [{
      "id": "1",
      "impid": "1",
      "price": 10,
      "nurl": "http://adserver.com/WinNoticeUrlThatReturnsNative1",
      "adm": "<native response>",
    },
    "bid": [{
      "id": "2",
      "impid": "1",
      "price": 20,
      "nurl": "http://adserver.com/WinNoticeUrlThatReturnsNative2",
    }
  ]
}
```
"adm": "<native response>"