Open RTB Specification For Native Ads
Version 1.2

THE INFORMATION PROVIDED BY INMOBI IN THIS DOCUMENT, "**OPENRTB NATIVE AD SPECIFICATION V1.2 [FOR DEMAND PARTNERS]**" SHOULD HELP YOU GET ONBOARD AND BEGIN TRADING ON NATIVE AD REQUESTS, IF YOU TRANSACT VIA THE OPEN RTB PROTOCOL. THE DOCUMENT ONLY COVERS THE NATIVE AD SPECIFICATION (UPDATED TO SUPPORT ORTB SPECIFICATION VERSION 1.2) REQUIRED TO TRANSACT VIA OPEN RTB. WE WOULD URGE YOU TO GET IN TOUCH WITH YOUR DEDICATED INMOBI PARTNER MANAGER, SHOULD YOU HAVE ANY QUESTIONS.

PREPARED BY

INMOBI

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GETTING 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. 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.

1. INTRODUCTION:

This specification is a sub-protocol of OpenRTB to allow for the delivery of native advertising formats, as their specifics differ from publisher to publisher. In May 2013, a separate IAB subcommittee was formed to define the request and response structures of native ad units; version 1.0 was published in early 2015. OpenRTB Dynamic Native Ads API Specification Version 1.2 RTB Project Page 7 Version 1.1 is designed to fix errors, make clarifications, and promote further adoption through refined standardization of assets and classification fields. Version 1.2 adds support for third-party/dynamic creatives, more robust event-tracking support, privacy opt-out information sharing, and makes other minor enhancements.

2. NATIVE ADS: OVERVIEW

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.

2.1 VERSIONING:

The Native Object in the Bid Request (OpenRTB contains a "ver" field defining the version of the OpenRTB native extension.

2.2 CUSTOMIZATIONS AND EXTERNSIONS:

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 will consistently be named "ext".

3. BID REQUEST OVERVIEW

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 HEIRARCHY:

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. BID REQUEST OBJECT {IMPRESSION OBJECT {NATIVE OBJECT}}

Please Note: The documentation below contains information specific to InMobi's implementation only. We recommend that you also refer to the guidelines presented in the OpenRTB document.

4. NATIVE AD REQUEST DETAILS

In the native request, we are principally concerned with two things: describing the native unit that's being bid on and describing what the publisher will require to render the ad.

4.1 OBJECT: NATIVE

The Native Object defines the native advertising opportunity available for bid via this bid request. It will be included as a JSON-encoded string in the bid request's imp.native field or as a direct JSON object.

Attribute	Type	Description
request	Object; required	Request payload Specification. Complying with the Native Ad

ver	string; optional	Version of the Native Ad Specification to which the request complies.
api	integer array; optional	List of supported API frameworks for this impression. Refer to List 5.6 in the following oRTB document: https://www.iab.com/wp-content/uploads/2016/03/OpenRTB-API-Specification-Version-2-5-FINAL.pdf If an API is not explicitly listed, it is assumed not to be supported.
battr	integer array; optional	Blocked creative attributes. Refer to List 5.3 in the following oRTB document: https://www.iab.com/wp-content/uploads/2016/03/OpenRTB-API-Specification-Version-2-5-FINAL.pdf

4.1.1 OBJECT: NATIVE MARKUP REQUEST

Attribute	Type	Description
ver	string; default 1; optional	Version of the Native Markup version in use.
plcmtcnt	integer; default 1; optional	The number of identical placements in this layout.
assets	object array; required	An array of Asset Objects. Any bid must comply with the array of elements expressed here.
seq	Integer; default 0; optional	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.
plcmttype	Integer; recommended	The design/format/layout of the ad unit being offered. See Table of Placement Type IDs below for a list of supported placement types

eventtrackers	array of objects; optional	Specifies what type of event tracking is supported – see Event Trackers Request Object. InMobi supports event type "1", which represents impression tracking, and method "1", which represents a URL to be inserted as a 1x1 pixel at the time of the event.
privacy	Integer; recommended	Set to 1 when the native ad supports buyer-specific privacy notice. Field is absent when the native ad doesn't support custom privacy links or if support is unknown.

4.1.2 OBJECT: ASSET REQUEST

This is 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,data} objects should be present in each object.

Attribute	Type	Description
id	Integer; required	Unique asset ID. Denotes the counter for the array. 1 = title 2 = main image 3 = icon 4 = text 5 = CTA text 6 = star rating (not currently supported) 7 = VAST 8 = Sponsored By message where response should contain the brand name of the sponsor.
required	integer; default 0; required	Set to 1 if the asset is required (The InMobi RTB Platform will not accept a bid without it)
title	object; optional; recommended	Title object for title assets. See Title Object definition below.

img	object; optional; recommended	Image object for image assets. See Image Object definition below.
data	object; optional	Data object for ratings, prices etc. See Data Object definition below.

4.1.3 OBJECT: TITLE

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

Attribute	Type	Description
len	Integer; required	Maximum length of the text in the title element. Recommended to be 25, 90, or 140.

4.1.4 OBJECT: IMAGE

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

Attribute	Type	Description
type	Integer; optional	Type ID of the image element supported by the publisher. The publisher can display this information in an appropriate format. See Image Asset Types Table below for commonly used examples.
wmin	Integer; required	The minimum requested width of the image in pixels.
hmin	Integer; required	The minimum requested height of the image in pixels.
w	Integer; optional	Width in device independent pixels (DIPS)
h	Integer; optional	Height in device independent pixels (DIPS)
ext	Object; optional	Refer to Section 4.1.4.1 for Image Object Extension

4.1.4.1 EXTENSION: IMAGE OBJECT

Attribute	Type	Description

ar	Float; optional	Expressing size as a ratio (width over height).
arTolerance	Float; optional	Acceptable deviations from the aspect ratio in percentage.

4.1.4.2 IMAGE ASSET TYPES

Type ID	Name	Description
1	Icon; recommended	Icon Image
2	Logo; recommended	Logo image for the brand/app.
3	Main; optional	Large image preview for the ad.

4.1.5 OBJECT: DATA

The Data Object is to be used for all non-core elements of the native unit such as Brand Name, Ratings, Review Count, Stars, Download count, descriptions etc.

Attribute	Type	Description
type	Integer; required	Type ID of the element supported by the publisher. The publisher can display this information in an appropriate format. See the Data Asset Types Table below for commonly used examples.
len	integer; optional	Maximum length of the text in the element's response.

4.1.5.1 DATA ASSET TYPES

Type ID	Name	Format	Description
2	desc	text	Descriptive text associated with the product or service being advertised.
3	rating	number formatted as string	Rating of the product being offered to the user. For example, an app's rating in an app store from 0-5.

5	downloads	number formatted as string	Number downloads/installs of this product.
6	price	number formatted as string	Price for product / app / in-app purchase. Value should include currency symbol in localised format.
7	Sale price	number formatted as string	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.
11	displayurl	texy	Display URL for the text ad. To be used when sponsoring entity doesn't own the content. IE sponsored by BRAND on SITE (where SITE is transmitted in this field).
12	cta_text	text	CTA description - descriptive text describing a 'call to action' button for the destination URL.

4.1.5.2 PLACEMENT TYPE ID

The FORMAT of the ad you are purchasing, separate from the surrounding context.

Type ID	Description
1	In the feed of content - for example as an item inside the organic feed/grid/listing/carousel.
2	In the atomic unit of the content - IE in the article page or single image page
3	Outside the core content - for example in the ads section on the right rail, as a banner-style placement near the content, etc.
4	Recommendation widget most presented below the article content.
500+	To be defined by the exchange

4.1.6. OBJECT: EVENT TRACKERS REQUEST

The event trackers object specifies the types of events the bidder can request to be tracked in the bid response, and which types of tracking are available for each event type and is included as an array in the request.

Attribute	Type	Description
event	Integer; required	Type of event available for tracking. See Event Types table. InMobi supports 1 = Impression tracking
methods	array of integers; required	Array of the types of tracking available for the given event. See Event Tracking Methods table. InMobi supports 1 = img pixel

5. NATIVE AD RESPONSE DETAILS

The structure and contents of the Bid Response are the same as in the OpenRTB standard. The difference is in how the ad creative is returned. The native creative shall be returned as a JSONencoded string in the adm field of the Bid Object. i.e. all the data about the ad must be returned with the response.

5.1 OBJECT: NATIVE

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

Attribute	Type	Description
ver	integer; default 1; recommended	Version of the Native Markup version in use.
assets	object array; required	List of native ad's assets.
link	object; required	Destination Link. This is default link object for the ad.
imptrackers	string array; optional	Array of impression tracking URLs expected to return a 1x1 image or 204 response - typically only passed when using 3rd party trackers.

		To be deprecated – replaced with eventtrackers.
eventtrackers	array of objects; optional	Array of tracking objects to run with the ad, in response to the declared supported methods in the request.

Replaces imptrackers. |
| privacy | String; optional | If support was indicated in the request, URL of a page informing the user about the buyer's targeting activity |

Please Note: Prior to VERSION 1.1, the native response's root node was an object with a single field "native" that would contain the object above as its value. The Native Object specified above is now the root object.

5.1.1 OBJECT: ASSET

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,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.

Attribute	Type	Description
id	integer; required	Unique asset id assigned by exchange.
required	Integer; default 0	Set to 1 if asset is required (exchange will not accept a bid without it).
title	Object; optional	Title object for title assets. See Title Object definition. (Section 5.1.2).
img	Object; optional	Image object for image assets. See Image Object definition (Section 5.1.3).
data	Object; optional	Data object for ratings, prices etc. See Data Object definition (Section 6.7.5).
link	Object; optional	Refer to Section 5.1.6

5.1.2 OBJECT: TITLE

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

Attribute	Type	Description
text	string; required	The text to be placed in the text element.

5.1.3: OBJECT: IMAGE

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.

Attribute	Type	Description
url	string; required	URL of the image asset.
w	integer; recommended	Width of the image in pixels.
h	integer; recommended	Height of the image in pixels.

5.1.4 OBJECT: DATA

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 Brand Name, Ratings, Review Count, Stars, Downloads, Price count etc.

Attribute	Type	Description
label	String; optional	The optional formatted string name of the data type to be displayed.
value	string; required	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".

5.1.5 OBJECT: LINK

This is 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.

Attribute	Type	Description
url	string; required	Landing URL of the clickable link.

clicktrackers	string array	List of third-party tracker URLs to be fired on click of the URL.
fallback	string	Fallback URL for deeplink. To be used if the URL given in the "url" property is not supported by the device.

5.1.6 OBJECT: EVENT TRACKER

The event trackers response is an array of objects and specifies the types of events the bidder wishes to track and the URLs/information to track them. Bidder must only respond with methods indicated as available in the request. Note that most Java script trackers expect to be loaded at impression time, so it's not generally recommended for the buyer to respond with Java script trackers on other events, but the appropriateness of this is up to each buyer.

Attribute	Type	Description
event	Integer; required	Type of event to track. See Event Types table.
method	Integer; required	Type of tracking requested. See Event Tracking Methods table.
url	Text; optional	The URL of the image or js. Required for image or js, optional for custom.

6. BID REQUEST/RESPONSE SAMPLES

6.1 REQUEST SAMPLE

An example bid request would look like the following:

```
{
   "id": "2b56022a-0172-1000-cd2a-d5aba0d00688",
   "imp": [{
     "id": "1",
     "native": {
        "requestobj": {
          "plcmtcnt": 1,
          "seq": 0,
          "assets": [{
            "id": 1,
            "required": 0,
            "data": {
               "type": 12
            }
```

```
        }, {
            "id": 2,
            "required": 0,
            "data": {
                "type": 3
            }
        }, {
            "id": 3,
            "required": 1,
            "img": {
                "type": 1,
                "wmin": 75,
                "hmin": 75
            }
        }, {
            "id": 4,
            "required": 1,
            "title": {
                "len": 100
            }
        }, {
            "id": 5,
            "required": 0,
            "data": {
                "type": 2,
                "len": 100
            }
        }, {
            "id": 6,
            "required": 1,
            "img": {
                "type": 3,
                "w": 600,
                "wmin": 600,
                "h": 313,
                "hmin": 313,
                "ext": {
                    "ar": 1.9169329073482428,
                    "arTolerance": 10.0
                }
            }
        }],
        "plcmttype": 1,
        "eventtrackers": [{
            "event": 1,
            "methods": [1]
        }]
    },
    "ver": "1.2"
},
"displaymanager": "inmobi",
"instl": 0,
"bidfloor": 0.10959470636889992,
"bidfloorcur": "USD",
```

```json
      "secure": 0,
      "ext": {
        "dpl": false,
        "dplRecommended": false
      }
  }],
  "app": {
    "id": "548b2ff26b864d5ea9a4470abf88e126",
    "name": "VDM Player - Best Status Video & Music Player",
    "bundle": "com.quantum.vmplayer",
    "storeurl": "https://play.google.com/store/apps/details?id=com.quantum.vmplayer",
    "cat": ["IAB19", "IAB1", "IAB1-5"],
    "publisher": {
      "id": "dc4819461bf84195b37c1963ad2d8d88",
      "name": "Vidmate_CN_Export"
    },
    "ext": {
      "fs": "1",
      "aq_sensitivity": "low"
    }
  },
  "device": {
    "ua": "Mozilla/5.0 (Linux; Android 9; MRD-LX1F Build/HUAWEIMRD-LX1F; wv) AppleWebKit/537.36 (KHTML, like Gecko) Version/4.0 Chrome/74.0.3729.136 Mobile Safari/537.36",
    "geo": {
      "lat": 29.36590003967285,
      "lon": 47.9827995300293,
      "type": 2,
      "country": "KWT",
      "city": "AL KUWAYT"
    },
    "dnt": 0,
    "lmt": 0,
    "ip": "188.71.223.208",
    "devicetype": 4,
    "make": "Huawei",
    "model": "MRD-LX1F",
    "os": "Android",
    "osv": "9.0",
    "pxratio": 1.0,
    "carrier": "Wataniya KW",
    "connectiontype": 3,
    "ifa": "0000000-0000-0000-0000-000000000000",
    "ext": {
      "gpid": "0000000-0000-0000-0000-000000000000"
    }
  },
  "user": {
    "ext": {}
  },
  "at": 2,
  "tmax": 200,
  "cur": ["USD", "CNY"],
```

```
    "bcat": ["IAB7-27", "IAB7-26", "IAB7-29", "IAB7-28", "IAB7-23", "IAB7-22", "IAB7-25", "IAB7-24", "IAB7-30", "IAB7-
31", "IAB25-3", "IAB25-2", "IAB25-1", "IAB25-7", "IAB25-6", "IAB25-5", "IAB25-4", "IAB7-39", "IAB7-34", "IAB7-33",
"IAB7-35", "IAB7-41", "IAB7-43", "IAB8-5", "IAB7-42", "IAB11-4", "IAB8-18", "IAB23", "IAB7-45", "IAB7-44", "IAB26",
"IAB8-12", "IAB24", "IAB7-10", "IAB7-19", "IAB7-16", "IAB7-15", "IAB7-18", "IAB7-12", "IAB7-11", "IAB7-14", "IAB7-
13", "IAB7-5", "IAB7-6", "IAB7-21", "IAB16-7", "IAB7-7", "IAB7-20", "IAB7-3", "IAB14-3", "IAB14-2", "IAB14-1", "IAB7-
8", "IAB7-9", "IAB9-9"],
   "badv": ["www.ottoversand.at"],
   "source": {
      "pchain": "000000000000000:0000000000000000000000000000000000"
   },
   "regs": {
      "coppa": 0,
      "ext": {
         "gdpr": 0
      }
   }
}
```

6.2 RESPONSE SAMPLE

An example bid response would look like the following:

```
{
   "id": "2b560498-0172-1000-f5b0-d5a297430689",
   "seatbid": [{
      "bid": [{
         "id": "1e894b03accbb31d4d0eeadab76cb4ff8cb45cdeeabf5f6f58457",
         "impid": "1",
         "price": 0.45512,
         "adid": "124879",
         "adomain": ["www.myntra.com"],
         "bundle": "com.myntra.android",
         "iurl": "https://assets.myntassets.com/h_640,q_100,w_480/assets/images/8861221/2019/3/1/bbc05a91-e19e-4f41-
881c-496b30acdca31551438068753-HIGHLANDER-Men-Shirts-901551438067760-1.jpg",
         "cid": "124879",
         "crid": "124879",
         "cat": ["IAB22"],
         "burl": "https://trk.atomex.net/cgi-bin/tracker.fcgi/winnotify?pp=2.022926722417117E-
4&country=IN&ty=0&aelp=0&pu=1000&tz=330&dm=1&pid=1&del=&contype=3&adpid=apsg1-103&dt=3&lin=-
1&protocol=2.3&osv=9.0&vie=0&ecs=-
1&me=0&res=&mn=RTB_VW_RETARGETING_CTC_5&ag=521&interstitial=0&ip=27.56.63.190&al=48873&an=com.mi
ui.cleanmaster&as=2001227&wpl=6&re=22&at=2&fbp=4.551211052608754E-4&rh=0&rewarded=-1&aid=9042cb11-7522-
43d6-91d1-fcf6433dbcd1&tmpFlag=0&pbp=0.5415941152604417&viewability=-
1&mraid=0&ns=0&rw=0&aio=15219&fp=0&skip=-
1&video=0&urid=1e894b03accbb31d4d0eeadab76cb4ff8cb45cdeeabf5f6f58457&sid=578872549&sd=com.miui.cleanmaste
r&native=1&wp=0.4361920920834987&pgt=0&cc=0&st=3&a=7800&os=4&ci=1264&plc=-
1&ivs=30524&l=0&co=100&prodIds=1356039814&m=1&cr=124879&s=0&pdi=&atm_cvf=1&nativeVideo=0&dma=0&start
Delay=-1&li=470&db=82&dc=4&pet=0&bp=${AUCTION_PRICE}",
         "adm": {
```

```
      "native": {
        "link": {
          "url": "http: //i.am.a/URL"
        },
        "assets": [{
          "id": 123,
          "required": 1,
          "title": {
            "text": "Learn about this awesome thing"
          }
        }, {
          "id": 124,
          "required": 1,
          "img": {
            "url": "http://www.myads.com/thumbnail1.png"
          }
        }, {
          "id": 128,
          "required": 1,
          "img": {
            "url": "http://www.myads.com/largethumb1.png"
          }
        }, {
          "id": 126,
          "required": 1,
          "data": {
            OpenRTB Dynamic Native Ads API Specification Version 1.2 RTB Project Page 29 "value": "My Brand"
          }
        }, {
          "id": 127,
          "required": 1,
          "data": {
            "value": "Learn all about this awesome story of someone using my product. "
          }
        }],
        "eventtrackers": [{
          "event": 2,
          "method": 1,
          "url": "http: //www.mytracker.com/tracker.php"
        }],
        "privacy": "http: //www.myprivacyurl.com"
      }
    }
  }],
  "seat": "61819b6eed31462c8cd9f0d715fa5894"
}],
"bidid": "1e894b03accbb31d4d0eeadab76cb4ff8cb45cdeeabf5f6f58457",
"cur": "USD"
}
```

[END]