



InMobi Open RTB 2.5 Specification

Version: 4.3 [based on IAB Open RTB 2.5]

THE INFORMATION PROVIDED BY INMOBI IN THIS DOCUMENT, “OPENRTB 2.5 SPECIFICATION [FOR DEMAND PARTNERS]” SHOULD HELP YOU GET ONBOARD AND BEGIN TRADING VIA THE OPEN RTB PROTOCOL. WE WOULD URGE YOU TO GET IN TOUCH WITH YOUR DEDICATED INMOBI PARTNER MANAGER, SHOULD YOU HAVE ANY QUESTIONS.

PREPARED BY

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1. Welcome to Programmatic Buying

Real-time bidding (RTB) allows entities to buy mobile inventory programmatically through an online auction, where each auction is for a specific ad placement or impression. The InMobi RTB platform follows the standards set by [OpenRTB version 2.5](#).

This document highlights the details required for integrating with the InMobi RTB platform.

2. Integration and Testing

Please contact us to register your bidder URL with the InMobi RTB platform. Upon registering, InMobi will configure an RTB integration test.

3. Getting Started

3.1 Version

The InMobi RTB platform follows the standards set by OpenRTB Version 2.5. The OpenRTB version is communicated via the following header:

```
x-openrtb-version: 2.5
```

3.2 Transport

The base protocol for communication is HTTP 1.1. Specifically, HTTP POST is used for bid requests in order to accommodate greater payloads than HTTP GET and to facilitate the use of binary representations. HTTP GET is used for billing notifications.

3.3 Data Format

The format for bid request and bid response data payloads is JSON. The bid request specifies this by using the Content-Type HTTP header with the standard mime type for JSON: "application/json". Hence, the format for the bid response must be in JSON.

3.4 Data Encoding

Compressing the data sent between exchanges and bidders can be very beneficial. Compression greatly reduces the size of data transferred and thus saves network bandwidth both for the exchanges and the bidders. To realize these savings fully, compression should be enabled both for the bid request sent by the exchange and the bid response returned by the bidder. The InMobi RTB platform sends compressed requests to bidders and expects compressed responses in return.

Compression is enabled for bid requests/responses using standard HTTP 1.1 mechanisms. Most web servers already support gzip compression of response content. The InMobi RTB platform will always signal that they would like responses to be compressed, by setting the standard HTTP 1.1 Accept-Encoding header with the value "gzip".

Accept-Encoding: gzip

If the bidder server supports this and is correctly configured, it will automatically respond with content that is gzip encoded. This is indicated using the standard HTTP 1.1 Content-Encoding header.

Content-Encoding: gzip

Compression is always enabled on the bid request. The exchange indicates a gzip compressed bid request by setting the HTTP 1.1 Content-Encoding header with the value "gzip".

Content-Encoding: gzip

3.5 Important Updates

- **We have stopped supporting the below fields:**
 - pmp.private_auction which means InMobi does not support private auctions and the Open RTB defined default value of 0 can be assumed.
 - deal.bidfloorcur can be assumed to be equal to bidcur.
 - banner.mimes has been removed from the request but InMobi will support popular MIME types.
 - device.ext.idfa and md5/sha1 variants have been removed and device.ifa will be present in the requests.
 - user.ext.ageid which means InMobi will not pass the Age Enumeration ID.
 - app.ext.fs which means InMobi will not pass the Family Safe or Performance App Rating.
- **Multiple bids** are now supported. Buyers can now send multiple bids corresponding to the same impression object in the response. In case of Native Markup Request object, where **plcmcnt** is greater than 1, the multiple bids may be eligible to win a single impression.
- **An ad impression** that can support **multiple ad formats**, will be sent as a separate ad requests, each of them offering a single ad format opportunity to bidders.
 - If the winning bidder has multiple bids, their other bids will not be considered for deciding the second price in the auction.
- **Ad Auditing and Quality Requirements:** InMobi reviews the quality of ads served by bidders.
 - Ads that fail to comply with [content guidelines](#) and don't adhere to mandatory requirements shared below is invalidated not allowed to compete in the auction.
 - Buyers must honor ad and category blocks present in the request.
 - To ensure a higher standard of ad auditing and quality, all buyers are expected to mandatorily send the following parameters in the bid response:

Attribute	Type	Description
crid	string; required	Creative ID to assist with ad quality checking. This must not be longer than 64 characters, otherwise it will be truncated.
iurl	String; recommended	Sample image URL (without cache busting) for content checking.
adomain	string array; required	Advertiser domain for block list checking (e.g., "ford.com"). This can be a list of domains if there is a rotating creative.
cat	string array; recommended	IAB content categories of the creative.
w	Integer; recommended for Banner ads	Width of the creative in device independent pixels (DIPS). Required for banner ads
h	Integer; recommended for Banner ads	Height of the creative in device independent pixels (DIPS). Required for banner ads

4. Bid Request

BidRequest provides various forms of information to assist bidders in making targeting and pricing decisions. The following table summarizes the objects in the Bid Request model:

4.1 Bid Object Hierarchy

Object	Supported	Extensions
Bid Request (Top level object)	Yes	No
Imp	Yes	Yes
Banner	Yes (Exactly one of Banner/Native/Video will be present)	No
Native	Yes (Exactly one of Banner/Native/Video will be present)	Yes

Video	Yes (Exactly one of Banner/Native/Video will be present)	Yes
Pmp	Yes	No
Deal	Yes	No
Site	Yes (For Mobile Web traffic)	Yes
App	Yes (For App traffic)	Yes
Content	No	No
Publisher	No	No
Producer	No	No
Device	Yes	Yes
Geo	Yes	No
User	Yes	Yes
Data	Yes	No
Segment	Yes	No
Source	No	No
Regs	Yes	No

4.2 Object: Bid Request

Attribute	Type	Description
id	string	Unique ID of the bid request, provided by the exchange.
imp	object array	Array of Imp objects representing the impressions offered. At most and at least, one Imp object will be present.

site	object; conditional	Details via a Site object about the publisher's website. Only applicable for mobile web traffic.
app	object; conditional	Details via an App object about the publisher's app (i.e., non-browser applications). Only applicable for in-app traffic.
device	object	Details via a Device object about the user's device to which the impression will be delivered.
user	object	Details via a User object about the human user of the device; the advertising audience.
at	integer; default 2	Auction type, where 1 = First Price, 2 = Second Price Plus
tmax	integer; conditional	Maximum time (in milliseconds) the exchange allows for bids to be received including Internet latency to avoid timeout. This value supersedes any a priori guidance from the exchange.
cur	string array	Array of allowed currencies for bids on this bid request using ISO-4217 alpha codes. This will be communicated a priori.
bcat	string array; conditional	Blocked advertiser categories using the IAB content categories.
badv	string array; conditional	Block list of advertisers by their domains (e.g., "ford.com").
source	object; conditional	A Source object (Section 4.3) that provides data about the inventory source and which entity makes the final decision.
regs	object	A Regs object (Section 4.4) that specifies any industry, legal, or governmental regulations in force for this request.

4.3 Object: Source

Attribute	Type	Description
fd	integer	Entity responsible for the final impression sale decision, where 0 = exchange, 1 = upstream source.

tid	string	Transaction ID that must be common across all participants in this bid request (e.g., potentially multiple exchanges).
pchain	string	Payment ID chain string containing embedded syntax described in the TAG Payment ID Protocol v1.0.

4.4 Object: Regs

This object contains any legal, governmental, or industry regulations that apply to the request. The COPPA flag signals whether or not the request falls under the United States Federal Trade Commission’s regulations for the United States Children’s Online Privacy Protection Act (“COPPA”). The United States Federal Trade Commission has changed the compliance rules for the Children’s Online Privacy Protection Act (“COPPA”), effective July 1, 2013. The proposal affects websites, and associated services), that have been identified as: (1) directed to users under 13 years of age; or (2) collecting information from users actually known to be under 13 (collectively “Children’s Sites”).

General Data Protection Regulation (GDPR) will be in effect from May 25, 2018 across the European Union. These new regulations create a framework to protect personal data about individuals in the EU and must be adhered to by all businesses who collect or process such data. Failure to comply with GDPR can result in strict penalties for non-compliant companies. GDPR requires parental consent to process the personal data of children under the age of 16. InMobi will reuse the COPPA flag designed for US to also indicate the GDPR age gating criteria. Buyers must continue to use the same COPPA flag for the EU region as well.

Attribute	Type	Description
coppa	integer	Flag indicating if this request is subject to the COPPA regulations established by the USA FTC and GDPR age gating requirement , where 0 = no, 1 = yes.
ext	Object	Please refer to Section 4.4.1 for extension parameters

4.4.1 Objects: Regs Extension

Attribute	Type	Description
gdpr	integer	Whether or not the request is subject to GDPR regulations - 0 =No, 1 = Yes - omission indicates Unknown

4.5 Object: Imp

Attribute	Type	Description
id	string	A unique identifier for this impression within the context of the bid request (starts with 1 and increments).
banner	object; optional	A Banner object; present if this impression is offered as a banner ad opportunity.
video	object; optional	A Video object; present if this impression is offered as a video ad opportunity.
native	object; optional	A Native object; present if this impression is offered as a native ad opportunity.
pmp	object; optional	A PMP object containing any private marketplace deals in effect for this impression.
displaymanager	string; optional	Name of ad mediation partner, SDK technology, or player responsible for rendering ad (typically video or mobile).
instl	integer; default 0	1 = the ad is interstitial or full screen, 0 = not interstitial.
bidfloor	float	Minimum bid for this impression expressed in CPM.
bidfloorcur	string; default "USD"	Currency specified using ISO-4217 alpha codes.
secure	integer; default 0	Flag to indicate if the impression requires secure HTTPS URL creative assets and markup, where 0 = non-secure, 1 = secure. If omitted, the secure state is unknown, but non-secure HTTP support can be assumed.
ext	object	Please refer to Section 4.5.1 for extension parameters

4.5.1 Object: Imp Extension

The InMobi RTB platform is directly integrated with multiple MRC accredited viewability tracking vendors in order to better serve brand advertisers. This feature is not enabled for bidders by default.

Attribute	Type	Description
viewabilityvendors	string array; optional	Supported viewability vendor SDKs in app for all ad-formats for this impression. Please refer to Section 8.18 for list of viewability vendors. Example: ['integralads.com','moat.com']

4.6 Object: Banner

Attribute	Type	Description
w	integer	Width in device independent pixels (DIPS)
h	integer	Height in device independent pixels (DIPS)
battr	integer array; optional	Blocked creative attributes. Refer to list 8.1
pos	integer; optional	Ad position on screen. Refer to list 8.2
api	integer array; optional	List of supported API frameworks for this impression. Refer to List 8.3 . If an API is not explicitly listed, it is assumed not to be supported.
id	string; optional	Unique identifier for this banner object. Values start at 1 and increase with each object; and will be unique within an impression.

4.7 Object: Format

Attribute	Type	Description
w	integer	Width in device independent pixels (DIPS).
h	integer	Height in device independent pixels (DIPS).
wratio	integer	Relative width when expressing size as a ratio.

hratio	integer	Relative height when expressing size as a ratio.
wmin	integer	The minimum width in device independent pixels (DIPS) at which the ad will be displayed the size is expressed as a ratio.

4.8 Object: Native

Attribute	Type	Description
request	object	Request payload complying with the Native Ad Specification.
ver	string; default 1	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 8.3 . If an API is not explicitly listed, it is assumed not to be supported.
battr	integer array; optional	Blocked creative attributes. Refer to List 8.1 .

4.8.1 Object: Native Markup Request

Attribute	Type	Description
ver	string; default 1	Version of the Native Markup version in use.
layout	integer	The Layout ID of the native ad unit. See the table of Native Layout IDs in List 8.15
plcmcnt	integer; default 1	The number of identical placements in this layout.
assets	object array	An array of Asset Objects. Any bid must comply with the array of elements expressed here.
seq	Integer; default 0	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.

adunit	integer	The Ad unit ID of the native adunit. See the Table of Native Ad Unit IDs below for a list of supported core ad units.
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4.8.2 Object: Native Asset

Only one of the {title, img} objects should be present in each asset object. Only one of title, img, and data objects will be present in a single asset object.

Attribute	Type	Description
id	integer	Unique asset ID. Denotes the counter for the array.
required	integer; default 0	Set to 1 if the asset is required (The InMobi RTB Platform will not accept a bid without it)
title	object; optional	Title object for title assets. See Title Object definition below.
img	object; optional	Image object for image assets. See Image Object definition below.
data	object; optional	Data object for ratings, prices etc. See Data Object definition below.

4.8.3 Object: Title

Attribute	Type	Description
len	integer	Maximum length of the text in the title element.

4.8.4 Object: Image

Attribute	Type	Description
type	integer	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	The minimum requested width of the image in pixels.

hmin	integer	The minimum requested height of the image in pixels.
w	integer	Width in device independent pixels (DIPS)
h	integer	Height in device independent pixels (DIPS)
ext	object	Refer to Section 4.8.4.1 for Image Object Extension

4.8.4.1 Extension: Image Object

Attribute	Type	Description
ar	float	Expressing size as a ratio (width over height).
arTolerance	float	Acceptable deviations from the aspect ratio in percentage.

4.9.4.2 Image Asset Types

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

4.8.5 Object: Data

Attribute	Type	Description
type	integer	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.

4.8.5.1 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.
12	cta_text	text	CTA description - descriptive text describing a 'call to action' button for the destination URL.

4.9 Object: Video

InMobi RTB platform support videos that comply with the VAST standard. Companion ads are supported and are recommended. The InMobi RTB platform will signal this by including an array of Banner objects under companionads.

Maximum size of video assets should not be more than 10MB. The InMobi RTB platform has directly integrated with multiple MRC accredited viewability tracking vendors in order to better serve brand advertisers.

Attribute	Type	Description
mimes	string array	Supported MIME types include "video/mp4".
minduration	integer; optional	Minimum video ad duration in seconds.
maxduration	integer	Maximum video ad duration in seconds. Current supported max duration is 30 seconds.
protocols	integer array	Array of supported video protocols. Refer to list 8.5
w	integer	Width of the video player in device independent pixels (DIPS).
h	integer	Height of the video player in device independent pixels (DIPS).
startdelay	integer	Indicates the start delay in seconds for pre-roll, mid-roll, or post-roll ad placements. Refer to list 8.8

placement	integer	Placement type for impression. Please refer to Section 8.11
linearity	integer	Indicates if the impression must be linear, nonlinear, etc. If none specified, assume all are allowed. Refer to list 8.4
skip	integer; default 0	Indicates if the player will allow the video to be skipped, where 0 = no, 1 = yes.
skipmin	integer; default 0	Videos of total duration greater than this number of seconds can be skippable; only applicable if the ad is skippable.
skipafter	integer; default 0	Number of seconds a video must play before skipping is enabled; only applicable if the ad is skippable.
battr	integer array; optional	Blocked creative attributes. Refer to list 8.1
maxbitrate	integer	Maximum bitrate in Kbps.
boxingallowed	integer; optional	Indicates if letter-boxing of 4:3 content into a 16:9 window is allowed, where 0 = no, 1 = yes.
playbackmethod	integer array; optional	Playback methods that may be in use. If none are specified, any method may be used.
playbackend	integer; optional	The event that causes playback to end. Refer to List 8.7 .
pos	integer	Ad position on screen. Refer to list 8.2
companionad	object array; optional	Array of Banner objects (Section 4.6) if companion ads are available.
api	integer array; optional	List of supported API frameworks for this impression. If an API is not explicitly listed, it is assumed not to be supported.
companiontype	integer array	Supported VAST companion ad types. Refer to list 8.13 .
ext	object	Refer to Section 4.10.1 .

Here's a brief guide to various types of video requests:

Video Experience	Important Attributes
Full screen video, including landscape, portrait, vertical experiences	<ul style="list-style-type: none"> ● bidrequest.imp.instl = 1 ● bidrequest.imp.video.placement = 5 (denoting Interstitial/Slider/Floating) ● bidrequest.imp.video.ext.experiences = [1,2,3] (Refer to section 8.16 for video experience id mappings. Experiences absent in the experiences array, can be assumed to not be supported. It is mandatory to explicitly call out the experience used/required in the response for portrait/vertical videos to function correctly.
Full screen splash video	Same as the above with the following differences: <ul style="list-style-type: none"> ● bidrequest.imp.video.placement = 501 (denoting Splash Video) ● bidrequest.imp.video.maxduration = 6 seconds
In-feed video	<ul style="list-style-type: none"> ● bidrequest.imp.instl = 0 ● bidrequest.imp.video.placement = 4 (denoting In-Feed)

4.9.1 Extensions: Video

Value	Type	Description
rewarded	boolean	Denotes if the site is a rewarded video site.
experiences	integer array	List of video experiences supported. Refer to list 8.16 .

4.10 Object: PMP

Attribute	Type	Description
deals	object array	Array of Deal objects that convey the specific deals applicable to this impression.

4.11 Object: Deal

Attribute	Type	Description
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id	string	A unique identifier for the direct deal.
bidfloor	float; default 0.0	Minimum bid for this deal expressed in CPM.
wseat	string array	Whitelist of buyer seats (e.g., advertisers, agencies) allowed to bid on this deal. IDs of seats and the buyer's customers to which they refer must be coordinated between bidders and the exchange a priori. Omission implies no seat restrictions
at	integer; default 2	Optional override of the overall auction type of the bid request, where 1 = First Price, 2 = Second Price Plus.

4.12 Object: Site

Attribute	Type	Description
id	string	Exchange-specific site ID
name	string; optional	Site name (may be aliased at the publisher's request).
domain	string; optional	Domain of the site (e.g., "mysite.foo.com").
cat	string array; optional	Array of IAB content categories of the site.
page	string; optional	URL of the page where the impression will be shown
mobile	integer; default 1	Indicates if the site has been programmed to optimize layout when viewed on mobile devices, where 0 = no, 1 = yes.
ext	object	Refer to Section 4.12.1

4.13 Object: App

Attribute	Type	Description
id	string	Exchange-specific app ID.

name	string; optional	App name (may be aliased at the publisher's request).
bundle	string; optional	A platform-specific application identifier intended to be unique to the app and independent of the exchange. On Android, this should be a bundle or package name (e.g., com.foo.mygame). On iOS, it is a numeric ID.
domain	string; optional	Domain of the app (e.g., "mygame.foo.com").
storeurl	string; optional	App store URL for an installed app; for IQG 2.1 compliance.
publisher	object	Refer to Section 4.13.3
content	object	Refer to Section 4.13.2
cat	string array; optional	Array of IAB content categories of the app.
ext	object	Refer to the next section.

4.13.1 Extension: App

Attribute	Type	Description
bundle	string; optional	A platform-specific application identifier intended to be unique to the app and independent of the exchange. This will be a bundle or package name (e.g., com.foo.mygame) for both Android and iOS. Not be confused with app.bundle which actually denotes the market identifier.

4.13.2 Object: Content

Attribute	Type	Description
id	string	ID uniquely identifying the content.
title	string	Content title. Video Examples: "Search Committee" (television), "A New Hope" (movie), or "Endgame" (made for web). Non-Video Example: "Why an Antarctic Glacier Is Melting So

		Quickly” (Time magazine article).
series	string	Content series. Video Examples: “The Office” (television), “Star Wars” (movie), or “Arby ‘N’ The Chief” (made for web). Non-Video Example: “Ecocentric” (Time Magazine blog)
artist	string	Artist credited with the content.
genre	string	Genre that best describes the content (e.g., rock, pop, etc).
cat	string array	Array of IAB content categories that describe the content producer
context	integer	Type of content (game, video, text, etc.).
contentrating	string	Content rating (e.g., MPAA).
userrating	string	User rating of the content
livestream	integer	0 = not live, 1 = content is live
len	integer	Length of content in seconds; appropriate for video or audio.
ext	object	Refer to Section 4.13.2.1

4.13.2.1 Object: Content Extension

Attribute	Type	Description
layoutcontext	string	TBD

4.13.3 Object: Publisher

Attribute	Type	Description
id	string; optional	Exchange-specific publisher ID
name	string; optional	Publisher name
cat	string array; optional	Array of IAB content categories that describe the publisher

domain	string; optional	Highest level domain of the publisher
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4.14 Object: Device

Attribute	Type	Description
ua	string	Browser user agent string.
geo	object	Location of the device assumed to be the user's current location defined by a Geo object.
dnt	integer; optional	Standard "Do Not Track" flag as set in the header by the browser, where 0 = tracking is unrestricted, 1 = do not track. Applicable for Mobile Web traffic.
lmt	integer; optional	"Limit Ad Tracking" signal commercially endorsed (e.g., iOS, Android), where 0 = tracking is unrestricted, 1 = tracking must be limited per commercial guidelines. Applicable for In-App traffic.
ip	string; optional	IPv4 address closest to device.
devicetype	integer	The general type of device. Refer to list 8.9
make	string; optional	Device make (e.g., "Apple").
model	string; optional	Device model (e.g., "iPhone").
os	string	Device operating system (e.g., "iOS")
osv	string	Device operating system version (e.g., "3.1.2").
hvw	string	Hardware version of the device (e.g., "5S" for iPhone 5S).
language	string; optional	Browser language using ISO-639-1-alpha-2.
carrier	string; optional	Carrier or ISP (e.g., "VERIZON"). "WIFI" is often used in mobile to indicate high bandwidth (e.g., video friendly vs. cellular).

connectiontype	integer	Network connection type. Refer to list 8.10
ifa	string; optional	ID sanctioned for advertiser use in the clear (i.e., not hashed).
didsha1	string; optional	Hardware device ID (only IMEI); hashed via SHA1.
didmd5	string; optional	Hardware device ID (only IMEI); hashed via MD5
dpidsha1	string; optional	Platform device ID (e.g., Android ID); hashed via SHA1
dpidmd5	string; optional	Platform device ID (e.g., Android ID); hashed via MD5

4.15 Object: Geo

Attribute	Type	Description
lat	float	Latitude from -90.0 to +90.0, where negative is south.
lon	float	Longitude from -180.0 to +180.0, where negative is west.
type	integer	Source of location data; recommended when passing lat/lon. Refer to Section 8.20
country	string	Country code using ISO-3166-1-alpha-3.
city	string; optional	InMobi RTB Platform derived city name.
zip	string; optional	Zip or postal code.

4.16 Object: User

Attribute	Type	Description
id	string; recommended	Exchange-specific ID for the user. At least one of id or buyerid is recommended.
buyerid	string; recommended	Buyer-specific ID for the user as mapped by the exchange for the buyer. At least one of buyerid or id is recommended.
gender	string; optional	Gender, where "M" = male, "F" = female, "O" = known to be other (i.e., omitted is unknown).

customdata	string	Optional feature to pass bidder data that was set in the exchange's cookie. The string must be in base85 cookie safe characters and be in any format. Proper JSON encoding must be used to include "escaped" quotation marks.
geo	object	Location of the user's home base defined by a Geo object. Refer to Section 4.16.2
data	object array; optional	Additional user data. Each Data object (Section 4.18) represents a different data source.
ext	object	Refer to Section 4.17.1

4.16.1 Extension: User

Attribute	Type	Description
consent	string	User consent when GDPR regulations are in effect - an optional string that contains the data structure developed by the GDPR Consent Working Group under the auspices of IAB Europe. 0 = No, 1 = Yes - omission indicates Unknown
providersSettings	Object	Refer to section 4.16.1.1

4.16.2 Object: Geo

Attribute	Type	Description
lat	Float; optional	Latitude from -90.0 to +90.0, where negative is south.
lon	Float; optional	Longitude from -180.0 to +180.0, where negative is west.
country	string; optional	Source of location data; recommended when passing lat/lon.
city	string; optional	City using United Nations Code for Trade & Transport Locations.

zip	string; optional	Zip or postal code.
type	integer	Source of location data; recommended when passing lat/lon. Refer to list 8.22 Location Type

4.17 Object: Data

Attribute	Type	Description
id	string	Exchange-specific ID for the data provider.
name	string; optional	Exchange-specific name for the data provider.
segment	object array	Array of Segment (Section 4.19) objects that contain the actual data values.

4.18 Object: Segment

Attribute	Type	Description
id	string	ID of the data segment specific to the data provider.
name	string; optional	Name of the data segment specific to the data provider.
value	string	String representation of the data segment value.

5. Sample Bid Requests

5.1 Request: Banner

<pre> { "id": "8bbe9850-0151-1000-c9a6-3eaaaad3f494", "regs": { "coppa": 0 }, "imp": [{ "id": "1", "banner": { </pre>	<ol style="list-style-type: none"> 1. bidrequest.imp.banner denotes that this impression is a banner opportunity. 2. bidrequest.imp.banner.format showcases the various alternative sizes (taking into account device density) that can be served on this request. (This is disabled by default).
--	---

```

"format": [{
  "w": 320,
  "h": 50
}, {
  "w": 300,
  "h": 50
}, {
  "w": 600,
  "h": 100
}, {
  "w": 640,
  "h": 100
}
],
"w": 320,
"h": 50,
"id": "1",
"pos": 1,
"battr": [
  1,
  2,
  3,
  4,
  5,
  6
],
"api": [
  3,
  5
]
},
"displaymanager": "inmobi",
"instl": 0,
"bidfloor": 0.07,
"bidfloorcur": "USD",
"secure": 1,
"pmp": {
  "deals": [
    {
      "id": "123456",
      "bidfloor": 15.0,
      "at": 1
    }, {
      "id": "788910",
      "bidfloor": 10.0,
      "at": 2
    }
  ]
},
"ext": {
  "viewabilityvendors": [
    "moat.com"
  ]
}
},
"app": {
  "id": "bec616cfc2734f2fa88d81d08f9eb7b5",
  "name": "My Talking Angela",
  "cat": [
    "IAB10-2",
    "IAB1",
    "IAB19-29",

```

3. **bidrequest.imp.banner.api** showcases the various APIs supported. In this case, MRAID 1 and MRAID 2.
4. **bidrequest.imp.secure** set to 1 denotes that HTTPS is required for beacons, creative markup, etc.
5. **bidrequest.imp.pmp.deals** denotes the PMP deals applicable for this request.
6. **bidrequest.imp.ext.viewabilityvendors** denotes the viewability vendors supported.

```

    "IAB9-30",
    "IAB6"
  ],
  "bundle": "909351158",
  "storeurl": "http://itunes.apple.com/app/id909351158?mt=8",
  "ext": {
    "bundle": "com.outfit7.talkingAngela"
  }
},
"device": {
  "dnt": 0,
  "lmt": 0,
  "ua": "Mozilla/5.0 (iPad; CPU OS 8_4 like Mac OS X) AppleWebKit/600.1.4 (KHTML, like Gecko) Mobile / 12 H143 ",
  "ip": "183.224.95.126",
  "geo": {
    "lat": 25.037,
    "lon": 102.706,
    "country": "USA",
    "city": "ATLANTA",
    "type": 1
  },
  "carrier": "ATT Mobile",
  "language": "en",
  "make": "Apple",
  "model": "iPad",
  "os": "iOS",
  "osv": "8.4",
  "connectiontype": 2,
  "devicetype": 5,
  "ifa": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C",
  "dpidsha1": "a3600e82956b227038c8cf0652ddd091a4236cd7",
  "dpidmd5": "f250f794d8df011998e8b48e817570b7",
  "ext": {
  }
},
"user": {
  "id": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C",
  "buyerid": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C",
  "gender": "F",
  "ext": {
  }
},
"at": 2,
"tmax": 200,
"bcat": [
  "IAB7-27",
  "IAB7-29",
  "IAB7-28",
  "IAB7-22"
],
"badv": [
  "paps.com",
  "fhs.com",
  "www.affairalert.com",
  "www.ewank.com"
]
}

```

5.2 Request: Video

```
{
  "id": "8bbe9850-0151-1000-c9a6-3eeeaad3f494",
  "regs": {
    "coppa": 0
  },
  "imp": [
    {
      "id": "1",
      "video": {
        "mimes": [
          "video/mp4"
        ],
        "minduration": 1,
        "maxduration": 30,
        "protocols": [
          2,
          5
        ],
        "w": 480,
        "h": 320,
        "startdelay": 0,
        "placement": 4,
        "linearity": 1,
        "skip": 0,
        "skipmin": 0,
        "skipafter": 0,
        "battr": [
          1,
          2,
          3,
          4,
          5,
          6
        ],
        "maxbitrate": 2000,
        "boxingallowed": 0,
        "playbackmethod": [
          1
        ],
        "playbackend": 1,
        "pos": 0,
        "companionad": [
          {
            "w": 480,
            "h": 320,
            "id": "1"
          }
        ],
        "companiontype": [
          1
        ],
        "ext": {
          "experiences": [
            1,
            2,
            3
          ],
          "rewarded": 1
        }
      }
    }
  ]
}
```

1. **bidrequest.imp.video** denotes that this impression is a video opportunity.
2. **bidrequest.imp.video.protocols** denotes the VAST protocols supported. In this case, VAST 2.0 and VAST 2.0 Wrapper is supported.
3. **bidrequest.imp.video.companiontype** denotes the companion types supported for this request.
4. **bidrequest.imp.video.ext.rewarded** denotes whether the placement is a rewarded video placement or not.
5. **bidrequest.imp.video.ext.experiences** denotes the orientation experiences supported for this request. In this case, all of landscape, portrait or vertical video are supported.
6. **bidrequest.imp.video.placement** denotes the placement type applicable. In this case, 4 represents an In-Feed video placement.
7. **bidrequest.imp.instl** denotes whether the placement is a full screen placement or not. In this case, it is not.
8. **bidrequest.imp.video.maxduration** denotes the maximum video duration allowed.

```

},
"displaymanager": "inmobi",
"instl": 0,
"bidfloor": 0.07,
"bidfloorcur": "USD",
"secure": 1,
"pmp": {
  "deals": [
    {
      "id": "123456",
      "bidfloor": 15.0,
      "at": 1
    },
    {
      "id": "788910",
      "bidfloor": 10.0,
      "at": 2
    }
  ]
},
"ext": {
  "viewabilityvendors": [
    "moat.com"
  ]
}
},
"app": {
  "id": "bec616cfc2734f2fa88d81d08f9eb7b5",
  "name": "My Talking Angela",
  "cat": [
    "IAB10-2",
    "IAB1",
    "IAB19-29",
    "IAB9-30",
    "IAB6"
  ],
  "bundle": "909351158",
  "storeurl": "http://itunes.apple.com/app/id909351158?mt=8",
  "ext": {
    "bundle": "com.outfit7.talkingAngela"
  }
},
"device": {
  "dnt": 0,
  "lmt": 0,
  "ua": "Mozilla/5.0 (iPad; CPU OS 8_4 like Mac OS X) AppleWebKit/600.1.4 (KHTML, like Gecko) Mobile / 12 H143 ",
  "ip": "183.224.95.126",
  "geo": {
    "lat": 25.037,
    "lon": 102.706,
    "country": "USA",
    "city": "ATLANTA",
    "type": 1
  },
  "carrier": "ATT Mobile",
  "language": "en",
  "make": "Apple",
  "model": "iPad",
  "os": "iOS",
  "osv": "8.4",
  "connectiontype": 2,

```

<pre> "devicetype": 5, "ifa": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C", "dpidsha1": "a3600e82956b227038c8cf0652ddd091a4236cd7", "dpidmd5": "f250f794d8df011998e8b48e817570b7", "ext": { } }, "user": { "id": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C", "buyerid": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C", "gender": "F", "ext": { } }, "at": 2, "tmax": 200, "bcat": ["IAB7-27", "IAB7-29", "IAB7-28", "IAB7-22"], "badv": ["paps.com", "fhs.com", "www.affairalert.com", "www.ewank.com"] } </pre>	
---	--

5.3 Request: Native

<pre> { "id": "8bbe9850-0151-1000-c9a6-3eeead3f494", "regs": { "coppa": 0 }, "imp": [{ "id": "1", "native": { "ver": "1", "request": { "layout": 6, "plcmcnt": 3, "assets": [{ "id": 4, "required": 1, "img": { "type": 3, "wmin": 300, "hmin": 250, "ext": { "ar": 1.2, </pre>	<ol style="list-style-type: none"> 1. bidrequest.imp.native denotes that this impression is a native opportunity. 2. bidrequest.imp.native.request.assets.img.ext.{ar,arTolerance} denotes the aspect ratio and tolerance in aspect ratio allowed for images. 3. bidrequest.imp.native.plcmcnt denotes the number of identical placements available. A value greater than one here denotes that multiple bids can win this impression.
---	--

```

        "arTolerance": 10.0
      }
    },
    {
      "id": 5,
      "required": 0,
      "data": {
        "type": 12
      }
    },
    {
      "id": 6,
      "required": 0,
      "data": {
        "type": 5
      }
    },
    {
      "id": 7,
      "required": 0,
      "data": {
        "type": 3
      }
    }
  ]
},
"displaymanager": "inmobi",
"instl": 0,
"bidfloor": 0.07,
"bidfloorcur": "USD",
"secure": 1,
"pmp": {
  "deals": [
    {
      "id": "123456",
      "bidfloor": 15.0,
      "at": 1
    },
    {
      "id": "788910",
      "bidfloor": 10.0,
      "at": 2
    }
  ]
},
"ext": {
  "visibilityvendors": [
    "moat.com"
  ]
}
],
"app": {
  "id": "bec616cfc2734f2fa88d81d08f9eb7b5",
  "name": "My Talking Angela",
  "cat": [
    "IAB10-2",
    "IAB1",
    "IAB19-29",
    "IAB9-30",
    "IAB6"
  ]
}

```

```

],
"bundle": "909351158",
"storeurl": "http://itunes.apple.com/app/id909351158?mt=8",
"ext": {
  "fs": "1",
  "bundle": "com.outfit7.talkingAngela"
}
},
"device": {
  "dnt": 0,
  "lmt": 0,
  "ua": "Mozilla/5.0 (iPad; CPU OS 8_4 like Mac OS X) AppleWebKit/600.1.4 (KHTML, like Gecko) Mobile / 12 H143 ",
  "ip": "183.224.95.126",
  "geo": {
    "lat": 25.037,
    "lon": 102.706,
    "country": "USA",
    "city": "ATLANTA",
    "type": 1
  },
  "carrier": "ATT Mobile",
  "language": "en",
  "make": "Apple",
  "model": "iPad",
  "os": "iOS",
  "osv": "8.4",
  "connectiontype": 2,
  "devicetype": 5,
  "ifa": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C",
  "dpidsha1": "a3600e82956b227038c8cf0652ddd091a4236cd7",
  "dpidmd5": "f250f794d8df011998e8b48e817570b7",
  "ext": {
  }
},
"user": {
  "id": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C",
  "buyerid": "249D9EEF-9DC3-4X61-9328-DFA9288B8B4C",
  "gender": "F",
  "ext": {
  }
},
"at": 2,
"tmax": 200,
"bcat": [
  "IAB7-27",
  "IAB7-29",
  "IAB7-28",
  "IAB7-22"
],
"badv": [
  "paps.com",
  "fhs.com",
  "www.affairalert.com",
  "www.ewank.com"
]
}

```


6. Bid Responses

RTB responses contain bids that make reference to specific impressions within the bid request. The bid response consists of the top-level bid response object and optional objects that depict the bids.

InMobi RTB platform treats the following response types as no-bids:

- HTTP responses having a non 200 status code.
- HTTP responses having no body or a body just containing an empty JSON object.
- A well-formed no bid response.
`{"id": "1234567890", "seatbid": []}`
- A well-formed no bid response with a reason code. This is the recommended form.
`{"id": "1234567890", "seatbid": [], "nbr": 2}`

InMobi supports both the standard first price and the second-price plus auction models. Bids below the floor price will not be considered in the auction.

Win/loss notifications are currently not supported by the InMobi RTB platform.

Multiple bids are now supported. Buyers can now send multiple bids corresponding to the same impression object in the response. In case of Native Markup Request object, where **plcmcnt** is greater than 1, multiple bids may be eligible to win a single impression.

6.1. Object Specifications

The following subsections define each of the objects in the bid response model. Several conventions are used throughout:

- Attributes are “required” if their omission would technically break the protocol.
- Some optional attributes are denoted “recommended” due to their elevated business importance.

6.2 Bid Response Object Hierarchy

Object	Supported	Extensions
Bid Response (Top level object)	Yes	No
Seat Bid	Yes	No
Bid	Yes	Yes

6.3 Object: Bid Response

Attribute	Type	Description
id	string; required	This is the unique identifier of the response.
seatbid	object array; required	Array of seatbid objects; 1+ required if a bid is to be made
bidid	string; recommended	Bidder generated response id to assist with logging/tracking. This functionality is currently not supported but the corresponding substitution macro is.
cur	string; recommended; default "USD"	Bid currency using ISO-4217 alpha codes.
nbr	integer; recommended	Reason for not bidding. Refer to List 8.17 .

6.4 Object: Seat Bid

Attribute	Type	Description
bid	object array; required	Array of 1+ Bid objects each related to an impression. Multiple bids can relate to the same impression.
seat	string; required	ID of the buyer seat (e.g., advertiser, agency) on whose behalf this bid is made.

6.5 Object: Bid

Attribute	Type	Description
id	string; required	Bidder generated bid id to assist with logging/tracking.
impid	string; required	Id of the Imp object in the related bid request.
price	float; required	Bid price expressed as CPM although the actual transaction is for a unit impression only.

nurl	String	Win notice URL called by the exchange if the bid wins (not necessarily indicative of a delivered, viewed, or billable ad); optional means of serving ad markup. Substitution macros (Section 4.4) may be included in both the URL and optionally returned markup.
burl	string; required	Billing notice URL called by the exchange when a winning bid becomes billable based on exchange-specific business policy (e.g., typically delivered, viewed, etc.). Substitution macros(Section 6.8) may be included in the URL.
lurl	String; optional	Loss notice URL called by the exchange when a bid is known to have been lost. Substitution macros may be included. See (Section 6). Check Section 8.21 for Loss Reason Codes. \${AUCTION_PRICE} macro in lurl will not be replaced.
adm	string; required in case of non-native ads	Ad markup for banner (HTML) /video (Vast XML) responses.
admobject	object; required for native ads	Ad markup object (Section 6.6) for native responses.
adid	string	ID of a preloaded ad to be served if the bid wins. This functionality is currently not supported but the corresponding substitution macro is.
adomain	string array; recommended	Advertiser domain for block list checking (e.g., “ford.com”). This can be a list of domains if there is a rotating creative.
iurl	string; recommended	URL without cache-busting to an image that is representative of the content of the campaign for ad quality/safety checking.
cid	string; recommended	Campaign ID to assist with ad quality checking; the collection of creatives for which iurl should be representative.
crid	string; recommended	Creative ID to assist with ad quality checking. This must not be longer than 64 characters, otherwise it will be truncated.
cat	string array; required	IAB content categories of the creative.

attr	integer array; recommended	Set of attributes describing the creative.
api	integer; recommended	API required by the markup if applicable. Recommended wherever applicable, for example, for rich media banner ads. Refer to List 8.3 .
dealid	String; required for a PMP deal	Reference to the deal.id from the bid request if this bid pertains to a private marketplace direct deal.
w	integer;required for banner ads	Width of the creative in device independent pixels (DIPS). Required for banner ads.
h	integer;required for banner ads	Height of the creative in device independent pixels (DIPS). Required for banner ads.
ext	object	Refer to the next section.

6.5.1 Extensions: Bid

On the response side, bidders need to explicitly mention the viewability vendors used so that the InMobi RTB platform can properly initialize the appropriate vendor libraries in app. List of Viewability Vendors can be found [here](#).

Attribute	Type	Description
dspld	string	DSP-id from exchange partners, if available.
advid	string	Advertiser-id per the bidder's data.
advName	string	Advertiser-name per the bidder's data.
video	object	Object containing video related extensions fields.
imptrackers	string array	Array of impression trackers InMobi fires along with the billable impression event (burl). This allows the DSP to send 3rd or 1st party impression trackers to be fired alongside the billing one. Ask your account manager to enable it.
viewabilityvendors	string array	Viewability Vendor trackers present in the creative.

	Example: ['integralads.com', 'moat.com']
--	--

6.5.1.1 Extensions: BidVideoExt

Attribute	Type	Description
experience	integer	Video experiences used. Refer to list 8.16 .

6.6 Object: Native

Attribute	Type	Description
ver	integer; default 1	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	Array of impression tracking URLs, expected to return a 1x1 image or 204 response typically only passed when using 3rd party trackers.

6.6.1 Object: Asset

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	Title object for title assets. See Title Object definition. (Section 6.7.2) .
img	object	Image object for image assets. See Image Object definition (Section 6.7.3) .

data	object	Data object for ratings, prices etc. See Data Object definition (Section 6.7.4).
link	object	Refer to Section 6.7.5

6.6.2 Object: Title

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

6.6.3 Object: Image

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.

6.6.4 Object: Data

Attribute	Type	Description
label	string	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”.

6.6.5 Object: 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.

6.7 Substitution Macros

Macro	Description
#{AUCTION_ID}	Id of the bid request; from BidRequest.id attribute.
#{AUCTION_BID_ID}	Id of the bid; from BidResponse.bidid attribute.
#{AUCTION_IMP_ID}	Id of the impression just won; from imp.id attribute.
#{AUCTION_SEAT_ID}	Id of the bidder seat for whom the bid was made.
#{AUCTION_AD_ID}	Id of the ad markup the bidder wishes to serve; from bid.adid attribute.
#{AUCTION_PRICE}	Settlement price using the same currency and units as the bid.
#{AUCTION_CURRENCY}	The currency used in the bid (explicit or implied); for confirmation only.
#{AUCTION_LOSS}	Loss reason codes.

7. Sample Bid Responses

7.1 Bid Response: Banner

<pre>{ "cur": "USD", "id": "8bbe9850-0151-1000-c9a6-3eaaaad3f494", "bidid": "<Partner Specific Response Id>", "seatbid": [{</pre>	<ol style="list-style-type: none"> 1. The example showcases a sample banner response with 3 bids (2 from seat 1, and 1 from seat 2). 2. bidresponse.seatbid[].bid[].burl denotes the billing url.
--	--

```

"seat": "<Partner Specific Seat 1>",
"bid": [
  {
    "adid": "<Partner Specific Ad Id 1>",
    "adm": "<Ad 1>",
    "adomain": [
      "abc.com"
    ],
    "attr": [
      1,
      2,
      7
    ],
    "crid": "1234dawdawdwd",
    "id": "<Partner Specific Bid Id 1>",
    "impid": "1",
    "iurl": "http://imgurl.com",
    "burl":
"http://winurl.com?win_price=${AUCTION_PRICE}",
    "price": 0.660,
    "cid": "<Partner Specific Bid Id 1>",
    "bundle": "com.outfit7.talkingTom",
    "cat": [
      "IAB10-2",
      "IAB1",
      "IAB19-29",
      "IAB9-30",
      "IAB6"
    ],
    "api": 3,
    "w": 640,
    "h": 100,
    "dealid": "123456",
    "ext": {
      "viewabilityvendors": [
        "moat.com"
      ]
    }
  },
  {
    "adid": "<Partner Specific Ad Id 2>",
    "adm": "<Ad 2>",
    "adomain": [
      "def.com"
    ],
    "attr": [
      3,
      7
    ],
    "crid": "1234dawdawasdad",
    "id": "<Partner Specific Bid Id 2>",
    "impid": "1",
    "iurl": "http://imgurl2.com",
    "burl":
"http://winurl2.com?win_price=${AUCTION_PRICE}",
    "price": 1.9,
    "cid": "<Partner Specific Bid Id 2>",
    "bundle": "com.outfit7.talkingTom",
    "cat": [
      "IAB10-2",
      "IAB1"
    ],
    "api": 5,

```

3. **bidresponse.seatbid[].bid[].{iurl, cat, cid, crid, attr, api, adomain}** denotes various creative metadata. **iurl, cat, crid, adomain** are recommended parameters; **cid** is exposed in reporting; **attr** is required for mraid/rich media ads.
4. **bidresponse.seatbid[].bid[].ext.viewabilityvendors** denotes the viewability vendors that need to be initialised.
5. **bidresponse.seatbid[].bid[].dealid** denotes the deal applicable to this response.
6. **bidresponse.seatbid[].bid[].{w, h}** denotes the size of the creative and is mandatory. Accurate w and h values help us in ensuring a quality experience for the user.


```

"w": 300,
"h": 50,
"ext": {
  "viewabilityvendors": [
    "integralads.com"
  ]
}
},
{
  "seat": "<Partner Specific Seat 2>",
  "bid": [
    {
      "adid": "<Partner Specific Ad Id 3>",
      "adm": "<Ad 3>",
      "adomain": [
        "supercell.com"
      ],
      "attr": [
        1,
        2
      ],
      "crid": "1234da244",
      "id": "<Partner Specific Bid Id 3>",
      "impid": "1",
      "iurl": "http://imgurl3.com",
      "burl":
"http://winurl3.com?win_price=${AUCTION_PRICE}",
      "price": 5.660,
      "cid": "<Partner Specific Bid Id 3>",
      "bundle": "com.supercell.clashRoyale",
      "cat": [
        "IAB9-30",
        "IAB6"
      ],
      "api": 3,
      "w": 640,
      "h": 100
    }
  ]
}
}
}

```

7.2 Response: Video

```

{
  "cur": "USD",
  "id": "8bbe9850-0151-1000-c9a6-3eeead3f494",
  "bidid": "<Partner Specific Response Id>",
  "seatbid": [
    {
      "seat": "<Partner Specific Seat 1>",
      "bid": [
        {
          "adid": "<Partner Specific Ad Id 1>",
          "adm": "<Vast Ad 1>",
          "adomain": [

```

1. The example showcases a sample video response with 1 bid.
2. **bidresponse.seatbid[].bid[].burl** denotes the billing url.
3. **bidresponse.seatbid[].bid[].{iurl, cat, cid, crid, attr, api, adomain}** denotes various creative metadata. **iurl, cat, crid, adomain** are recommended parameters; **cid** is exposed in reporting; and **protocol** is required.

```

    "abc.com"
  ],
  "attr": [
    1,
    2,
    7
  ],
  "crid": "1234dawdawdwd",
  "id": "<Partner Specific Bid Id 1>",
  "impid": "1",
  "iurl": "http://imgurl.com",
  "burl":
"http://winurl.com?win_price=${AUCTION_PRICE}",
  "price": 0.660,
  "cid": "<Partner Specific Bid Id 1>",
  "bundle": "com.outfit7.talkingTom",
  "cat": [
    "IAB10-2",
    "IAB1",
    "IAB19-29",
    "IAB9-30",
    "IAB6"
  ],
  "protocol": 5,
  "dealid": "123456",
  "ext": {
    "visibilityvendors": [
      "moat.com"
    ],
    "video": {
      "experience": 3
    }
  }
}
]
}
}

```

4. **bidresponse.seatbid[].bid[].ext.visibilityvendors** denotes the viewability vendors that need to be initialised.
5. **bidresponse.seatbid[].bid[].dealid** denotes the deal applicable to this response.
6. **bidresponse.seatbid[].bid[].ext.video.experience** denotes the orientation experience applicable. In this case, the experience chosen is vertical video.

7.3 Response: Native

```

{
  "cur": "USD",
  "id": "8bbe9850-0151-1000-c9a6-3eaaaad3f494",
  "bidid": "<Partner Specific Response Id>",
  "seatbid": [
    {
      "seat": "<Partner Specific Seat 1>",
      "bid": [
        {
          "adid": "<Partner Specific Ad Id 1>",
          "adobject": {
            "native": {
              "ver": 1,
              "assets": [
                {
                  "id": 1,
                  "img": {

```

1. The example showcases a sample native response with 1 bid.
2. **bidresponse.seatbid[].bid[].burl** denotes the billing url. The billing url can also be sent in **bidresponse.seatbid[].bid[].adobject.native.imptrackers**.
3. **bidresponse.seatbid[].bid[].{iurl, cat, cid, crid, attr, api, adomain}** denotes various creative metadata. **iurl, cat, crid, adomain** are recommended parameters; and **cid** is exposed in reporting..
4. **bidresponse.seatbid[].bid[].ext.visibilityvendors** denotes the viewability vendors that need to be initialised.

```

    "w": 80,
    "h": 80,
    "url": "<image_url>"
  },
  {
    "id": 2,
    "img": {
      "w": 1200,
      "h": 627,
      "url": "<image_url>"
    }
  },
  {
    "id": 3,
    "title": {
      "text": "<title>"
    }
  },
  {
    "id": 4,
    "data": {
      "value": "description"
    }
  },
  {
    "id": 5,
    "data": {
      "value": "Download"
    }
  }
],
"link": {
  "url": "<landingpage_link>",
  "clicktrackers": [
    "<cick trackers>"
  ],
  "fallback": "fallback_landingpage_link"
},
"imptrackers": [
  "<impression_trackers>"
]
},
"adomain": [
  "abc.com"
],
"attr": [],
"clid": "1234dawdawdwdwd",
"id": "<Partner Specific Bid Id 1>",
"impid": "1",
"iurl": "http://imgurl.com",
"burl":
"http://winurl.com?win_price=${AUCTION_PRICE}",
"price": 0.660,
"cid": "<Partner Specific Bid Id 1>",
"bundle": "com.outfit7.talkingTom",
"cat": [
  "IAB10-2",
  "IAB1",
  "IAB19-29",
  "IAB9-30",
  "IAB6"
]

```

5. **bidresponse.seatbid[].bid[].dealid** denotes the deal applicable to this response.
6. **bidresponse.seatbid[].bid[].adobject.native.link fallback** denotes the fallback landing page to be used for deeplinking.

```
    },
    "dealid": "123456"
  }
]
}
```

8. Enumerated Lists

8.1 Creative Attributes

Value	Description
1	Audio Ad (Auto-Play)
2	Audio Ad (User Initiated)
3	Expandable (Automatic)
4	Expandable (User Initiated - Click)
5	Expandable (User Initiated - Rollover)
6	In-Banner Video Ad (Auto-Play)
7	In-Banner Video Ad (User Initiated)
8	Pop (e.g., Over, Under, or Upon Exit)
9	Provocative or Suggestive Imagery
10	Shaky, Flashing, Flickering, Extreme Animation, Smileys
11	Surveys
12	Text Only
13	User Interactive (e.g., Embedded Games)

14	Windows Dialog or Alert Style
15	Has Audio On/Off Button
16	Ad Provides Skip Button (e.g. VPAID-rendered skip button on pre-roll video)
17	Adobe Flash

8.2 Ad Position

Value	Description
0	Unknown
1	Above the Fold
2	DEPRECATED - May or may not be initially visible depending on screen size/resolution.
3	Below the Fold
7	Full Screen

8.3 API Frameworks

Value	Description
3	MRAID-1
4	ORMMA
5	MRAID-2
7	OM-TRACKING (OMSDK)

Note: VPAID is not supported.

8.4 Video Linearity

Value	Description
1	Linear / In-Stream
2	Non-Linear / Overlay

8.5 Protocols

Value	Description
1	VAST 1.0
2	VAST 2.0
3	VAST 3.0
4	VAST 1.0 Wrapper
5	VAST 2.0 Wrapper
6	VAST 3.0 Wrapper
7	VAST 4.0
8	VAST 4.0 Wrapper

8.6 Playback Methods

Value	Description
1	On Initiates on Page Load with Sound On
2	Initiates on Page Load with Sound Off by Default
3	Initiates on Click with Sound On

5	Initiates on Entering Viewport with Sound On
6	Initiates on Entering Viewport with Sound Off by Default

8.7 Playback Cessation Modes

Value	Description
1	On Video Completion or when Terminated by User
2	On Leaving Viewport or when Terminated by User
3	On Leaving Viewport Continues as a Floating/Slider Unit until Video Completion or when Terminated by User

8.8 Start Delay

Value	Description
>0	Mid-Roll (value indicates start delay in second)
0	Pre-Roll
-1	Generic Mid-Roll
-2	Generic Post-Roll

8.9 Device Type

Value	Description
1	Mobile/Tablet
2	Personal Computer
3	Connected TV

4	Phone
5	Tablet
6	Connected Device
7	Set Top Box

8.10 Connection Type

Value	Description
0	Unknown
1	Ethernet
2	WIFI
3	Cellular Network – Unknown Generation
4	Cellular Network – 2G
5	Cellular Network – 3G
6	Cellular Network – 4G

8.11 Video Placement Types

Value	Description
4	In-Feed - Found in content, social, or product feeds
5	Interstitial/Slider/Floating Covers the entire or a portion of screen area but is always on screen while displayed (i.e. cannot be scrolled out of view). Note that a full-screen interstitial (e.g., in mobile) can be distinguished from a floating/slider unit by the imp.instl field.

8.12 Content Delivery Methods

Value	Description
1	Streaming
2	Progressive
3	Download

8.13 Companion Types

Value	Description
1	Static Resource
2	HTML Resource
3	iframe Resource

8.14 Native layout IDs

Layout ID	Description	Assets
1	Content Wall	Mandatory: Title, Icon as img, Main as img Optional: Description, CTA
2	App Wall	TBD
3	News Feed	Mandatory: Title, Icon Optional: Description, CTA
4	Chat List	TBD
5	Carousel	TBD

6	Content Stream	Mandatory: Title, Icon as img, Main as img Optional: Description, CTA
501	Native Splash	Mandatory: Main as img Optional: Description, CTA
502	Banner	Mandatory: Main as img

8.15 Video Experiences

Value	Description
1	Landscape Video
2	Portrait Video
3	Vertical Video

8.16 No Bid Reason Code

Value	Description
0	Unknown Error
1	Technical Error
2	Invalid Request
3	Known Web Spider
4	Suspected Non-Human Traffic
5	Cloud, Data center, or Proxy IP
6	Unsupported Device
7	Blocked Publisher or Site

8	Unmatched User
9	Daily Reader Cap Met
10	Daily Domain Cap Met

8.17 Viewability Vendors

Vendor	Domain
Integral Ad Science	integralads.com
Moat	moat.com
ActiveView	doubleclickbygoogle.com
Double Verify	doubleverify.com

8.18 Geo Type

Value	Description
1	GPS/Location Service
2	IP Address
3	User Provided (e.g. registered data)

8.19 Loss Reason Codes

Loss Reason Code	Loss Reason Name
1	Internal Error
2	Impression Opportunity Expired
4	Invalid Deal ID

5	Invalid Auction ID
6	Invalid (malformed) advertiser domains
7	Missing Markup
8	Missing Creative ID
10	Missing Minimum Creative Approval Data
101	Bid was Below Auction Floor
102	Lost to higher bid
103	Lost to a Bid for a PMP Deal
104	Buyer Seat Blocked
200	Creative Filtered - General; reason unknown.
202	Disapproved Creative
203	Creative Filtered - Size Not Allowed
205	Creative Filtered - Advertiser Exclusions
209	Creative Filtered - Category Exclusions
1001	Unknown Loss Reason

8.20 Location Type

Value	Description
1	GPS/Location Services
2	IP Address