

Oath:
Ad Platforms

: Video SSP

Open RTB 2.5 API

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Introduction

This document specifies the Video SSP OpenRTB 2.5 implementation for Demand-Side Platforms (DSPs) interested in buying from our marketplaces.

The intended Audience is product and engineering teams at DSPs that want to integrate with the Video SSP using the OpenRTB 2.5 standard.

Data Center Locations

At the time of writing, Video SSP has 4 data centers

- North California
- North Virginia
- Singapore
- Frankfurt

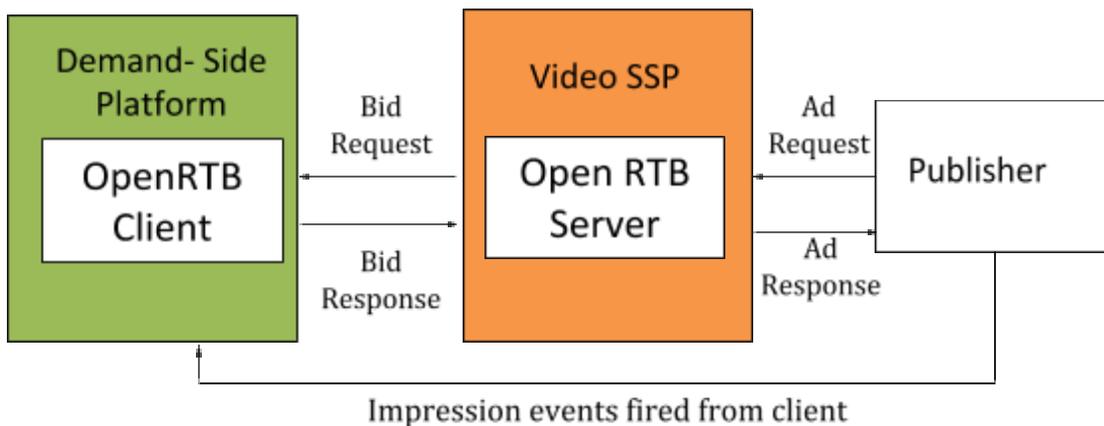
Please email the support team at support@teamaol.com for the latest data center locations and setup instructions.

Support

For additional technical help, contact your Customer Success Manager or email support@teamaol.com.

OpenRTB Basics

The following figure illustrates the OpenRTB interactions between our SSP and external Demand-Side Platforms (DSPs). Ad requests originate at publisher sites. For each inbound ad request, bid requests are sent to bidders, responses are evaluated under the prevailing auction rules and the corresponding ad response is sent to the publisher. The OpenRTB 2.5 standard focuses on the real-time interactions between our SSP and external DSPs.



Transport

We send Bid Requests in **HTTP POST** messages because they accommodate greater payloads than HTTP GET. Bid Responses should have an HTTP status code of 200, unless there is no bid. In such case, an HTTP status code 204 should be returned, following the recommended method for communicating "no bid" in OpenRTB 2.5.

The base protocol between our platform and the DSP is **HTTP Keep-Alive**.

Data Format

Bid Request and Bid Responses payload will follow the JSON format. The HTTP message should have the respective header and the Content-Type is application/json.

OpenRTB Version

The OpenRTB Version is passed in the header of a Bid Request using this custom HTTP header parameter **x-openrtb-version: 2.5**

Bid Request

Bid Request Object

A Bid Request contains the information required by the buyer to make a bid; it contains the following objects.

Field Name	Included	Type	Description
id	Always	string	Unique ID of this bid request.
imp	Always	array of objects	Our platform sends only one impression per bid request.
site	For site ad opportunities	object	Include either a <i>site</i> or <i>app</i> object, but not both.
app	For app ad opportunities	object	Include either a <i>site</i> or <i>app</i> object, but not both.
device	Always	object	This object denotes the device to deliver ad impressions to.
user	Always	object	This object denotes the user the ad impression will be delivered to.
at	Always	integer	Auction type 1 = First Price 2 = Second Price
tmax	Always	integer	Maximum time in milliseconds allowed for bid response. Our platform waits for 150ms responses received after the specified max are ignored.
cur	Always	array of strings	Currency, our platform supports only USD.
bcat	When set by publisher	array of strings	Blocked advertiser categories using the IAB content categories. See Table 5.1 Content Categories of the OpenRTB 2.5 standard for details.
badv	When set by publisher	array of strings	Blockedadvertisers by domain. (e.g., "company1.com")

source	Always	object	A Source object provides data about the inventory source and names the entity responsible for the final auction decision (which ad won the auction).
regs	Always	object	The Regs object specifies industry/legal regulations and contains the COPPA flag.

Impression Object

The *imp* object describes the impression being auctioned.

Field Name	Included	Type	Description
id	Always	string	This value must always be 1 as we currently support only one impression per Bid Request.
metric	When Metric(s) info is available	array of objects	An array of Metric object
video	Always	object	This object describes the video opportunity.
pmp	When Deals are present	object	The PMP Object contains any optional deals for the impression.
tagid	Always	string	Identifier for specific ad placement or ad tag that was used to initiate the auction. This can be useful for debugging or for optimization by the buyer.
bidfloor	When Available	float	Minimum bid allowed for this impression expressed in CPM
bidfloorcur	When Available	string	Currency specified using ISO-4217 alpha codes.
secure	When set by publisher	integer	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. Video SSP expects buyers to comply with the flag and respond with secure responses if set = 1.
ext	For ssai, when available	object	Our platform will include an extension to send "ssai" information for identification of server side request.

Impression Object Extension

The following extension is added for identification of server side requests.

Object Name	Included	Type	Description
ssai	When available	integer	We are adding "ssai" param to identify server-side requests. Following values are supported: 0 = unknown or undefined 1 = standard client-side requests 2 = assets stitched server-side but tracking pixels fired client-side 3 = asset fetch and tracking pixels fired server-side

Metric Object

VideoSSP sends two Viewability values in this object: the viewability value from MOAT and a viewability value based on VideoSSP data. VideoSSP determines the viewability score using proprietary detection technology and the frequency the impression has been viewable in the past (Backward compatible with value sent in video-> ext->viewability).

Field Name	Included	Type	Description
type	Always	string	"viewability" always sent
value	Always	float	Viewability value would be in the range 0.0 – 1.0. Example: 0.5 would mean there is a 50% chance that the

			<p>impression would be viewable by the user.</p> <p>This is an estimate of the likelihood that this placement will be viewable by the end user.</p>
vendor	Always	string	<p>Source of the value. This value distinguishes whether this viewability value is from MOAT or VideoSSP. MOAT = historical (last 7 day) viewability info from MOAT.</p> <p>EXCHANGE - Viewability info is based on VideoSSP proprietary detection technology and how often it has been viewable in the past (Backward compatible with value sent in video-> ext->viewability)</p>

Video Object

The Video Object describes the video opportunity.

Field Name	Included	Type	Description
mimes	Always	array of strings	<p>Content MIME types supported. Popular MIME types include, but are not limited to "video/mp4" for MP4 Video, and "video/x-flv" for Flash Video.</p> <p>MIME values for VPAID compliant inventory are as follows: VPAID JS – "application/javascript" VPAID Flash – "application/x-shockwave-flash"</p>
minduration	Always	integer	Minimum video ad duration in seconds. Our platform's minimum is 5 seconds.
maxduration	Always	integer	Maximum video ad duration in seconds.
protocols	Always	array of integers	Video bid response protocols.

			<p>1=VAST 1.0 (not supported) 2=VAST 2.0 3=VAST 3.0 4=VAST 1.0 Wrapper (not supported) 5=VAST 2.0 Wrapper 6=VAST 3.0 Wrapper</p>
w	When available	integer	Width of the video player in pixels.
h	When available	integer	Height of the video player in pixels.
startdelay	Always	integer	<p>Indicates the start delay in seconds for preroll, midroll, or postroll ad placement.</p> <p>0 = Pre-roll (default) -1 = Generic mid-roll (not supported) -2 = Generic post-roll (not supported)</p>
placement	Always	integer	<p>Placement type for the impression.</p> <p>1 = In-Stream 2 = In-Banner 3 = In-Article (Outstream) 4 = In-Feed (not supported) 5 = Interstitial/Slider/Floating (not supported)</p>
linearity	Always	integer	<p>Video SSP custom value (not part of original OpenRTB specifications) indicating linear or non-linear ad impression.</p> <p>1= Linear/Instream (default) 2 = Non Linear/overlay (not supported) 4 = Outstream</p>
playbackmethod	When available	Array of integers	<p>List of allowed playback methods. Blank assumes all are allowed.</p> <p>1 = Auto-play sound on 2 = Auto-play sound off 3 = Click-to-play 4 = Mouse-over (not supported)</p>

api	Always for desktop	Array of integers	List of supported API frameworks for this impression. Our platform Video supports VPAID 1.0, 2.0 and 3.0 1=VPAID 1.0 2=VPAID 2.0 3=MRAID-1 (not supported) 4=ORMMA (not supported) 5=MRAID-2 (not supported)
ext	For viewability, when available	object	Our platform will include an extension to send viewability information if available.

Video Object Extension - Viewability

This optional extension will be added when viewability information is available.

Field Name	Included	Type	Description
viewability	When available	integer	Viewability percentage for the placement. Expressed as a percentage between 0 and 100 (rounded down to the nearest 10), or -1. The value of -1 indicates that viewability data is not available. This is an estimate of the likelihood that this placement will be viewable by the end user. The percentage metric is derived based on our proprietary detection technology and how often the ad has been viewable in the past.

Site Object

A Site Object is included if the ad supported content is part of a website (as opposed to an application). A bid request will not contain both a Site Object and an App Object.

Field Name	Included	Type	Description
id	Always	string	An Exchange-specific site ID that is a combination of Seller ID, Tag ID and Site ID(global media ID on VideoSSP) separated by a dash(-).

cat	Always	array of strings	Array of IAB content categories for the overall site. See Table 5.1 Content Categories of the OpenRTB 2.5 standard for details.
page	Always	string	URL of the page the ad will be shown on.
ref	When available	string	Referrer URL that caused navigation to the current page.
publisher	Always	object	Details about the Publisher of the site.
content	Always	object	Details about the Content within the site.
ext	For windowdepth, and mpcid (marketplace connection id)	object	Extensions used to send windowdepth information and marketplace connection id (see below).

Site Object Extension

The following extension is added when the request is coming from a site.

Object Name	Included	Type	Description
windowdepth	When available	integer	Iframe window depth. -1= Unknown 0= No iframe 1= Single iframe 2= Two or more iframes
mpcid	When available	string	ID of the publisher's marketplace connection the ad request is coming from.

App Object

An App Object is included if the ad supported content is part of a mobile application (as opposed to a mobile website). A bid request MUST not contain both an App Object and a Site Object.

Field Name	Included	Type	Description
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id	Always	string	An Exchange-specific site ID that is a combination of Seller ID, Tag ID and App ID(Global media ID on VideoSSP) separated by a dash(-).
name	Always	string	Application name
cat	Always	array of strings	Array of IAB content categories for the overall application. See Table 5.1 Content Categories of the OpenRTB 2.5 standard for details.
bundle	When available	string	Application bundle or package name (eg, com.foo.mygame); intended to be unique ID across exchanges.
storeurl	When available	string	App store URL for the installed app.
publisher	Always	object	Details about the Publisher of the app.
content	Always	object	Details about the Content within the app.
ext	For mpcid (marketplace connection id)	object	An extension for marketplace connection id (see below).

App Object Extension

The following extension is added when the request is coming from an app.

Object Name	Included	Type	Description
mpcid	When available	string	Identifier of the publisher's marketplace connection the ad request is coming from.

Content Object

The Content Object includes the content language and category information for the media in which the Ad will be displayed. This object is passed as part of the Site and App objects.

Field Name	Included	Type	Description
cat	When available	string array	Array of IAB content categories that describe the content producer. See Table 5.1 Content Categories of the OpenRTB 2.5 standard for details.
len	When available	integer	Length of content in seconds.
language	When available	string	Content language using ISO-639-1-alpha-2.

Publisher Object

The Publisher Object includes the Publisher ID information for the media in which the Ad will be displayed. This object is passed as part of the Site and App objects.

Object Name	Included	Type	Description
id	Always	string	Unique Identifier for the publisher in the Video SSP exchange.

Device Object

The Device Object provides information pertaining to the device, which can be a mobile handset, desktop computer, set top box or other digital device.

Field Name	Included	Type	Description
ua	When available	string	Browser user agent string.
lmt	Always	integer	"Limit Ad Tracking" signal commercially endorsed (e.g., iOS, Android), where 0 = tracking is unrestricted, 1 = tracking must be limited per commercial guidelines. Note:

			<ul style="list-style-type: none"> We require Publishers to respect the guidelines and pass this identifier in the Ad Request. If not passed, we pass the value as "0". When passing Proxy ID in IFA, we always pass lmt = "1", so that proxy id is not used for targeting but only for frequency capping.
ip	When available	string	IPv4 address closest to device.
dpidsha1	When available	string	SHA1 hashed platform-specific ID (e.g., Android ID or UDID for iOS).
dpidmd5	When available	string	MD5 hashed platform-specific ID (e.g., Android ID or UDID for iOS). Should be interpreted as case insensitive.
ipv6	When available	string	IP address in IPv6.
carrier	When available	string	Carrier or ISP derived from the IP address. Should be specified using Mobile Network Code (MNC) http://en.wikipedia.org/wiki/Mobile_Network_Code
language	When available	string	Device language in Alpha-2/ISO 639-1 codes (see Table 1).
make	When available	string	Device make.
model	When available	string	Device model.
os	When available	string	Device OS.
osv	When available	string	Device OS version.
js	When available	integer	1= the device supports JavaScript 0= JavaScript not supported
connectiontype	When available	integer	Return the detected data connection type for the device. 0=Unknown 1=Ethernet 2=Wifi 3=Cellular Data – Unknown Generation

			4=Cellular Data – 2G 5=Cellular Data – 3G 6=Cellular Data – 4G
devicetype	Always	integer	Device type being used (see Table 2).
ifa	When available	string	Native identifier for advertisers; an opaque ID assigned by the device or browser for use as an advertising identifier. (e.g. Apple's IFA ¹), Android's Advertising ID, etc) Note: In case of traffic from device types 3, 6 or 7, when no valid IFA is present, we send a custom synthetic proxy ID only to be used for frequency capping. This proxy ID is not to be used for audience modeling. <small>1) Identifier for Advertisers</small>
geo	Always	object	Derived from the device's location services (e.g., cell tower triangulation, GPS) or IP address.
ext	For IFA classification	object	This extension follows IAB guidelines and informs DSPs whether the ifa is a regular device ID or synthetic ID. It may only be used for frequency capping, NOT audience targeting).

Device Object Extension

The following extension is added when the request is coming from an app.

Object Name	Included	Type	Description
ifa_type	When available	string	Indicates whether the value sent in IFA param is a regular device ID or a proxy ID (used for frequency capping for CTV traffic). Following values are supported: dpid = Regular Device ID

			sessionid = Proxy ID generated for frequency capping and should not be used for audience modeling.
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Table 1 - Device Language (Alpha-2/ISO 639-1 codes)

Value	Language
ar	Arabic
da	Danish
de	German
el	Greek
en	English
es	Spanish
fr	French
he	Hebrew
hi	Hindi
hu	Hungarian
id	Indonesian
it	Italian
ja	Japanese
ko	Korean
ms	Malaysian
nl	Dutch, Flemish
no	Norwegian
pa	Punjabi
pl	Polish
pt	Portuguese

ru	Russian
sv	Swedish
th	Thai
tl	Tagalog
tr	Turkish
vi	Vietnamese
zh	Cantonese, Mandarin

Table 2 - Device Type

Value	Description	OpenRTB Version	Supported	Examples
1	Mobile/Tablet	2.0	No	We use Values 4 and 5 below instead of this one.
2	Personal Computer	2.0	Yes	Desktop and laptop PCs
3	Connected TV	2.0	Yes	Smart TVs, Apple TV, Amazon Fire, Roku.
4	Phone	2.2	Yes	iPhones, Android phones, Windows phones, other phones.
5	Tablet	2.2	Yes	iPads, Android tablets, Windows tablets, other tablets.
6	Connected Device	2.2	Yes	Game consoles.
7	Set Top Box	2.2	Yes	Cable set top boxes.

Geo Object

The Geo Object provides geographic location information pertaining to the device, and is part of the Device Object.

Field Name	Included	Type	Description
lat	Always	float	Latitude from -90 to 90. South is negative.
lon	Always	float	Longitude from -180 to 180. West is negative.
country	When available	string	Country using ISO-3166-1 Alpha-3.
region	When available	string	Region using ISO 3166-2.
type	When available	string	Source of the geo data (GPS, IP address, user provided 1=GPS/Location Services 2=IP Address

User Object

The User Object contains information known or derived about the human user of the device. Note that the **user ID** is unique and assigned by our platform (refer to the Device Object for hardware or platform derived ids). The user id has the reasonable stability to serve as the basis for frequency capping.

Object Name	Included	Type	Description
id	Always	string	Unique user ID on our platform.
buyeruid	When available	string	Buyer's user ID for this user as mapped by our platform for the buyer. See "User Syncing" below.
yob	When available	integer	Year of birth as a 4-digit integer.
gender	When available	string	Gender as "M" male, "F" female, "O" Other. (Null indicates unknown).
ext	When available	object	Our platform will include "consent" extension for GDPR (see below).

User Object Extension

The following extension is added when the request is coming from a user who is registered within the European Union or otherwise falls under GDPR .

Object Name	Included	Type	Description
consent	When available	string	Encoded value of the user consent. Base 64 web safe. Our platform would only pass the consent string if regs.ext.gdpr=1 and Oath has been given the vendor level consent by the user.

User Syncing

There are two methods of user syncing, and the DSP may choose to do either or both.

1. Push Method (When DSP initiates the user sync URL)

The account team provides the full user syncing URLs. The buyer sends an HTTPS request from the user’s browser to a User Sync URL with the parameters listed in the table below.

Example

```
https://pixel.advertising.com/ups/UMS_PIXEL_ID/sync?uid=[DSP_USER_ID]
&_origin=1&gdpr=[GDPR_JURISDICTION]&gdpr_consent=[consent_str_based_o
n_iab_specification]
```

Parameter	Included	Type	Description
uid	Always	string	Substitute your unique user ID for DSP_USER_ID for the request originating user. DSP_USER_ID has a maximum length of 128 characters Expiration for User ID The DSP must specify the Time To Live (TTL) of the user ID, after which time expires our platform will not use the ID when sending bid requests
origin	Optional	Boolean	0 = Oath initiated user sync 1 = DSP initiated user sync
gdpr	Always	Boolean	0=GDPR does not apply 1=GDPR applies
gdpr_consent	When available	string	URL-safe base64-encoded GDPR consent string. Only meaningful if gdpr=1

The HTTPS request will return a response code 204 (No Content) with an empty body.

2. Pull Method (When Oath SSP initiates the user sync URL)

Our client code sends an HTTPS request from the user’s browser to a URL specified by the DSP. Oath SSP appends parameters (listed in the table above) to the DSP’s User Sync URL.

Example

```
https://pixel.dsp.com/pixel?partner=adaptv&gdpr=[GDPR_JURISDICTION]&gdpr_consent=[consent_str_based_on_iab_specification]
```

The DSP then returns a 302 redirect, containing the redirect URL. See the example User Sync URL provided below with `origin=0`.

```
https://pixel.advertising.com/ups/UMS_PIXEL_ID/sync?uid=[DSP_USER_ID]&_origin=0&gdpr=[GDPR_JURISDICTION]&gdpr_consent=[consent_str_based_on_iab_specification]
```

GDPR

Oath SSP will not initiate a user sync request in the following cases:

1. First or third party jurisdiction is within the EU, and no consent has been provided.
2. First or third party jurisdiction is within the EU, and consent is missing.

Oath SSP requires DSP partners to follow the same GDPR logic.

Source Object

This object describes the nature and behavior of the entity that is the source of the bid request upstream from the exchange. The primary purpose of this object is to define post-auction or upstream decisioning when the exchange itself does not control the final decision.

Object Name	Included	Type	Description
pchain	Always	string	The Payment ID chain string containing embedded syntax described in the TAG Payment ID Protocol v1.0.

Regs Object

The Regs object contains the COPPA flag, which signals whether or not the request falls under the regulations established by United States Federal Trade Commission' for the United States Children's Online Privacy Protection Act ("COPPA") and a GDPR extension.

Object Name	Included	Type	Description
coppa	Always	integer	Flag indicates if this request is subject to COPPA 0 = no 1 = yes
ext	When available	object	An extension used for GDPR (see below).

Regs Object Extension

This extension is added to the regs object when the request is subject to the European Union’s (EU) General Data Privacy Regulations (GDPR).

Object Name	Included	Type	Description
gdpr	Always	boolean	1= user is within EU and subject to GDPR 0=user is outside of EU therefore not subject to GDPR.

PMP Object and Deal ID

The PMP Object contains on the Deals that have been arranged for the impression:

Object Name	Included	Type	Description
private_auction	When deals are present	integer	An integer flag indicating this impression is a private auction eligible only to seats named in the Direct Deals object. Always set to 0 as all bids are accepted.
deals	When deals are present	array of objects	A collection of Direct Deal objects eligible for this impression.
ext	For marketplace id	object	Our platform includes an extension for marketplace id (see below).

Direct Deals Object

The Deal object indicates a priority deal between a buyer and a seller has been previously arranged and indicates that this impression is available only under the terms of that deal.

Field Name	Included	Type	Description
id	Always	string	The unique identifier for the direct deal.
bidfloor	Always	float	Bid floor for this impression (in CPM).
bidfloorcur	Always	string	USD is the only supported currency.
at	Always	integer	Auction type - the following values are supported: 2 - second price deal 3 - fixed price deal, with the agreed upon price sent in the bidfloor
wseat	When available	array of strings	Whitelist - a list of buyer seats (e.g., advertisers, agencies) allowed to bid on this deal. Buyer seats must already be present on our platform for the buyer organization to participate in a deal. Omission of this param implies no seat restrictions.
ext	For Programmatic Guaranteed Deals	object	Our platform uses an extension to indicate programmatic guaranteed deals (see below).

Direct Deals Object Extension

The following extension is added when the deal is a programmatic guaranteed.

Object Name	Included	Type	Description
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guaranteed	When deal is guaranteed	integer	Identifier for programmatic guaranteed deals. 1= programmatic guaranteed deal Not sent for non-guaranteed deals
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PMP Object Extension

The following extension is added when the request is coming from a marketplace.

Object Name	Included	Type	Description
marketplaceid	When available	integer	Identifies the marketplace in which the request is participating. 1= Video SSP public marketplace 0=unknown

Sample Bid Requests

IPv6 Desktop Ad Opportunity (EU User, Impacted by GDPR):

```
{
  "id": "718a9c73-3f27-4fda-b58b-5ca04ac420e7",
  "bcat": [ "IAB25", "IAB7-39", "IAB8-18", "IAB8-5" ],
  "badv": [ abc.com, xyz.com ],
  "at": 2,
  "imp": [{
    "id": "1",
    "tagid": "789087",
    "bidfloor": 6.5,
    "bidfloorcur": "USD",
    "metric": [{
      "type": "viewability",
      "value": 0.80,
      "vendor": "MOAT"
    },
    {
      "type": "viewability",
      "value": 1.00,
      "vendor": "EXCHANGE"
    }
  ],
  "video": {
    "mimes": [
      "video/x-flv",
      "video/mp4",
      "application/x-shockwave-flash"
    ],
    "placement": 1,
    "linearity": 1,
    "minduration": 5,
    "maxduration": 30,
    "protocols": [
      2,
      3,
      5,
      6
    ],
    "api": [
      1,
      2
    ],
    "startdelay": 0,
    "playbackmethod": [
```

```

        3
      ],
      "ext": {
        "viewability": 100
      }
    },
    "pmp": {
      "private_auction": 0,
      "deals": [{
        "id": "532",
        "bidfloor": 7.58,
        "bidfloorcur": "USD",
        "at": 3,
        "wseat": ["AgencyAA", "AgencyCC"],
"ext": {
          "guaranteed": 1
        }
      }],
      "ext": {
        "marketplaceid": 56
      }
    },
    "secure": 0
  }],
  "site": {
    "id": "5544-789087-578",
    "page": "test1.com",
    "publisher": {
      "id": "5544"
    },
    "content": {
      "cat": [
        "IAB1",
        "IAB3",
        "IAB11",
        "IAB11-4",
        "IAB12"
      ],
      "len": 120,
      "language": "en"
    },
    "cat": [
      "IAB1",
      "IAB3",
      "IAB11",
      "IAB11-4",

```

```
        "IAB12"
    ],
    "ext": {
        "mpcid": "789087"
    }
},
"device": {
    "ipv6": "2600:1700:1d90:3b90:b1:78c2:576f:b55e",
    "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/45.0.2454.99
Safari/537.36",
    "language": "en",
    "os": "Mac OS X",
    "devicetype": 2,
    "geo": {
        "country": "FRA",
        "lat": 48.86,
        "lon": 2.34,
        "type": 2
    }
},
"user": {
    "id": "7320731778973028548",
    "ext": {
        "consent": "3FDF299BE572"
    }
},
"source": {
    "pchain": "e1a5b5b6e3255540v:5544",
},
"regs": {
    "coppa": 0,
    "ext": {
        "gdpr": "1"
    }
},
"cur": [
    "EUR"
],
"tmax": 150
}
```

IPv6 Desktop Ad Opportunity(Non-EU User: No impact of GDPR):

```
{
  "id": "718a9c73-3f27-4fda-b58b-5ca04ac420e7",
  "bcat": [ "IAB25", "IAB7-39", "IAB8-18", "IAB8-5" ],
  "badv": [ abc.com, xyz.com ],
  "at": 2,
  "imp": [{
    "id": "1",
    "tagid": "95265",
    "bidfloor": 6.5,
    "bidfloorcur": "USD",
    "metric": [{
      "type": "viewability",
      "value": 0.80,
      "vendor": "MOAT"
    }],
    {
      "type": "viewability",
      "value": 1.00,
      "vendor": "EXCHANGE"
    }
  ]],
  "video": {
    "mimes": [
      "video/x-flv",
      "video/mp4",
      "application/x-shockwave-flash"
    ],
    "placement": 1,
    "linearity": 1,
    "minduration": 5,
    "maxduration": 30,
    "protocols": [
      2,
      3,
      5,
      6
    ],
    "api": [
      1,
      2
    ],
    "startdelay": 0,
    "playbackmethod": [
      3
    ],
  ],
}
```

```

        "ext": {
            "viewability": 100
        }
    },
    "pmp": {
        "private_auction": 0,
        "deals": [{
            "id": "532",
            "bidfloor": 7.58,
            "bidfloorcur": "USD",
            "at": 3,
            "wseat": ["AgencyAA", "AgencyCC"]
        }],
        "ext": {
            "guaranteed": 1
        }
    },
    "ext": {
        "marketplaceid": 56
    },
    "secure": 0
}],
"site": {
    "id": "5544-95265-578",
    "page": "test1.com",
    "publisher": {
        "id": "5544"
    },
    "content": {
        "cat": [
            "IAB1",
            "IAB3",
            "IAB11",
            "IAB11-4",
            "IAB12"
        ],
        "len": 120,
        "language": "en"
    },
    "cat": [
        "IAB1",
        "IAB3",
        "IAB11",
        "IAB11-4",
        "IAB12"
    ]
}

```

```

    ],
    "ext": {
      "mpcid": "95265"
    }
  },
  "device": {
    "ipv6": "2600:1700:1d90:3b90:b1:78c2:576f:b55e",
    "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/45.0.2454.99
Safari/537.36",
    "language": "en",
    "os": "Mac OS X",
    "devicetype": 2,
    "geo": {
      "country": "USA",
      "region": "FL",
      "lat": 28.74,
      "lon": -81.86,
      "type": 2
    }
  },
  "user": {
    "id": "7320731778973028548"
  },
  "source": {
    "pchain": "e1a5b5b6e3255540v:5544",
  },
  "regs": {
    "coppa": 0,
    "ext": {
      "gdpr": "0"
    }
  },
  "cur": [
    "USD"
  ],
  "tmax": 150
}

```

IPv4 Desktop Ad Opportunity with two Deals:

```

{
  "id": "e3f45c88-cf2e-421d-b22d-c5252c277f58",
  "bcat": [ "IAB25", "IAB7-39", "IAB8-18", "IAB8-5" ],
  "badv": [abc.com, xyz.com],
  "at": 2,

```

```
"imp": [{
  "id": "1",
  "tagid": "785687",
  "bidfloor": 6.5,
  "bidfloorcur": "USD",
  "metric": [{
    "type": "viewability",
    "value": 0.80,
    "vendor": "MOAT"
  },
  {
    "type": "viewability",
    "value": 0.80,
    "vendor": "EXCHANGE"
  }
],
  "video": {
    "mimes": [
      "video/x-flv",
      "video/mp4"
    ],
    "placement": 1,
    "linearity": 1,
    "minduration": 5,
    "maxduration": 30,
    "protocols": [
      2,
      5
    ],
    "api": [
      1,
      2
    ],
    "startdelay": 0,
    "playbackmethod": [
      3
    ],
    "ext": {
      "viewability": 80
    }
  },
  "pmp": {
    "private_auction": 0,
    "deals": [{
      "id": "133",
```

```

        "bidfloor": 15.99,
        "bidfloorcur": "USD",
        "at": 2,
        "wseat": ["Agency1","Agency2"]
    },
    {
        "id": "131",
        "bidfloor": 11.20,
        "bidfloorcur": "USD",
        "at": 3,
        "wseat": ["Agency2","Agency5"]
    }
}
"ext": {
    "guaranteed": 1
}
}
}],
"site": {
    "id": "5544-785687-504",
    "publisher": {
        "id": "5544"
    },
    "content": {
        "cat": [
            "IAB1",
            "IAB3",
            "IAB11",
            "IAB11-4",
            "IAB12"
        ],
        "len": 120,
        "language": "en"
    },
    "cat": [
        "IAB1",
        "IAB3",
        "IAB11",
        "IAB11-4",
        "IAB12"
    ],
    "page": "arts.com"
},
"device": {
    "ip": "10.0.5.0",

```

```
    "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_5)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/38.0.2125.122
Safari/537.36",
    "os": "Mac OS X",
    "geo": {
        "country": "USA",
        "region": "FL",
        "lat": 35.00,
        "lon": -115.12,
        "type": 2
    }
},
"user": {
    "id": "4073985471950257438",
    "buyeruid": "111122223333"
},
"source": {
    "pchain": "e1a5b5b6e3255540v:5544",
},
"regs": {
    "coppa": 1
},
"cur": [
    "USD"
],
"tmax": 150
}
```

IPv6 Mobile Web Ad Opportunity with Outstream:

```
{
    "id": "e07584ea-36f2-49e3-9652-7c3e892c2fb0",
    "bcat": [ "IAB25", "IAB7-39", "IAB8-18", "IAB8-5" ],
    "badv": [ abc.com, xyz.com ],
    "at": 2,
    "imp": [{
        "id": "1",
        "tagid": "608855",
        "bidfloor": 6.5,
        "bidfloorcur": "USD",
        "metric": [{
            "type": "viewability",
            "value": 0.80,
            "vendor": "MOAT"
        }],
    }],
}
```

```

    {
      "type": "viewability",
      "value": 0.80,
      "vendor": "EXCHANGE"
    },
    "video": {
      "mimes": [
        "video/x-flv",
        "video/mp4"
      ],
      "placement": 3,
      "linearity": 4,
      "minduration": 5,
      "maxduration": 30,
      "protocols": [
        2,
        3,
        5,
        6
      ],
      "startdelay": 0,
      "playbackmethod": [
        3
      ],
      "ext": {
        "viewability": 80
      }
    },
    "secure": 0
  }],
  "site": {
    "id": "5544-608855-560",
    "page": "testmaljweo23.com",
    "publisher": {
      "id": "5544"
    },
    "content": {
      "cat": [
        "IAB1",
        "IAB3",
        "IAB11",
        "IAB11-4",
        "IAB12"
      ],
      "len": 120,
      "language": "en"
    }
  }

```

```
    },
    "cat": [
        "IAB1",
        "IAB3",
        "IAB11",
        "IAB11-4",
        "IAB12"
    ],
    "ext": {
        "mpcid": "608855"
    }
},
"device": {
    "ipv6": "2600:1700:1d90:3b90:b1:78c2:576f:b55e",
    "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/45.0.2454.99
Safari/537.36",
    "language": "en",
    "os": "Mac OS X",
    "devicetype": 2,
    "geo": {
        "country": "USA",
        "region": "FL",
        "lat": 28.74,
        "lon": -81.86,
        "type": 2
    }
},
"user": {
    "id": "740419359801750632"
},
"regs": {
    "coppa": 0
},
"source": {
    "pchain": "e1a5b5b6e3255540v:5544",
},
"regs": {
    "coppa": 0
},
"cur": [
    "USD"
],
"tmax": 150
}
```

IPv4 Mobile App Ad Opportunity with two Deals:

```
{
  "id": "fdc3f95f-d0e5-49ba-9e71-e9f34c975e0c",
  "bcat": [ "IAB25", "IAB7-39", "IAB8-18", "IAB8-5"],
  "at": 2,
  "imp": [{
    "id": "1",
    "tagid": "596900",
    "bidfloor": 6.5,
    "bidfloorcur": "USD",
    "metric": [{
      "type": "viewability",
      "value": 0.40,
      "vendor": "MOAT"
    },
    {
      "type": "viewability",
      "value": 0.00,
      "vendor": "EXCHANGE"
    }
  ]],
  "video": {
    "mimes": [
      "video/x-flv",
      "video/mp4"
    ],
    "placement": 1,
    "linearity": 1,
    "minduration": 5,
    "maxduration": 30,
    "protocols": [
      2,
      3,
      5,
      6
    ],
    "startdelay": 0,
    "playbackmethod": [
      2
    ],
    "ext": {
      "viewability": 0
    }
  },
  "pmp": {
```

```

        "private_auction": 0,
        "deals": [{
            "id": "509",
            "bidfloor": 3,
            "bidfloorcur": "USD",
            "at": 3,
            "wseat": ["Agency123","Agency456"]
        }, {
            "id": "131",
            "bidfloor": 11.2,
            "bidfloorcur": "USD",
            "at": 3,
            "wseat": ["Agency567","Agency789"]
        }
    ],
    "ext": {
        "guaranteed": 1
    },
    "secure": 0
},
"app": {
    "id": "5544-596900-2341",
    "name": "testmahapp",
    "publisher": {
        "id": "5544"
    },
    "content": {
        "cat": [
            "IAB1",
            "IAB3",
            "IAB11",
            "IAB11-4",
            "IAB12"
        ],
        "len": 120,
        "language": "en"
    },
    "cat": [
        "IAB1",
        "IAB3",
        "IAB11",
        "IAB11-4",
    ]
}

```

```

        "IAB12"
    ],
    "storeurl":
"https://play.google.com/store/apps/details?id=org.wikipedia",
    "bundle": "tv.adapt.adaptvtest1",
    "ext": {
        "mpcid": "596900"
    }
},
"device": {
    "ip": "10.172.64.10",
    "carrier": "WIFI",
    "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/45.0.2454.99
Safari/537.36",
    "make": "LG",
    "model": "LS676",
    "osv": "6.0.1",
    "js": 1,
    "language": "en",
    "os": "Android",
    "connectiontype": 2,
    "devicetype": 4,
    "geo": {
        "country": "USA",
        "region": "FL",
        "lat": 28.74,
        "lon": -81.86,
        "type": 2
    }
},
"user": {
    "id": "5723374360020944014"
    "yob": 1987,
    "gender": "F"
},
"source": {
    "pchain": "e1a5b5b6e3255540v:5544",
},
"regs": {
    "coppa": 0
},
"cur": [
    "USD"
],
"tmax": 150

```

```
}
```

IPv4 CTV Traffic(Containing Proxy ID):

```
{  
  "id": "a370a4ae-e41e-48e7-80a4-599e362484b8",  
  "imp": [{  
    "id": "1",  
    "tagid": "1153659",  
    "bidfloor": 6.5,  
    "bidfloorcur": "USD",  
    "video": {  
      "mimes": ["video/mp4"],  
      "placement": 1,  
      "linearity": 1,  
      "minduration": 5,  
      "maxduration": 30,  
      "protocols": [2, 5],  
      "startdelay": 0,  
      "playbackmethod": [1],  
      "ext": {  
        "viewability": -1  
      }  
    },  
    "pmp": {  
      "private_auction": 0,  
      "deals": [{  
        "id": "P586",  
        "at": 2  
      },  
      {  
        "id": "P1348",  
        "bidfloor": 12.00,  
        "bidfloorcur": "USD",  
        "at": 2  
      },  
      {  
        "id": "P1480",  
        "at": 2  
      },  
      {  
        "id": "P1791",  
        "bidfloor": 5.00,  
        "bidfloorcur": "USD",  
        "at": 2  
      }  
    }  
  }  
}
```

```

        }],
        "ext": {
            "marketplaceid": 1
        }
    },
    "secure": 1,
    "ext": {
        "ssai": 1
    }
}],
"app": {
    "id": "18275-1153659-2841"
    "name": "xumo",
    "publisher": {
        "id": "18275"
    },
    "content": {},
    "storeurl": "https://channelstore.roku.com/details/96065/xumo",
    "bundle": "com.xumo.app",
    "ext": {
        "mpcid": "1153659",
    }
},
"device": {
    "ip": "150.127 .224 .139 ",
    "lmt": 1,
    "ifa": "6d456c4c-8cdb-5ab0-a06a-d045bc1a89a8",
    "dpidsha1": "fccae1e78185cfc7e5d24d1e43958582283ac2bd9",
    "dpidmd5": "19e83a5026bd9bde29cc00110964f943",
    "ext": {
        "ifa_type": "sessionid"
    },
    "ua": "Roku/DVP-8.1 (518.01E04090A) ",
    "os": "Roku",
    "devicetype": 3,
    "geo": {
        "lat": 32.88,
        "lon": -96.94,
        "type": 2
    }
},
"user": {
    "id": "VAb9636e12-f34d-11e8-87d9-0aed9a7e529a"
},
"source": {

```

```

        "pchain": "e1a5b5b6e3255540v:18275",
    },
    "regs":{
        "coppa":0,
        "ext":{
            "gdpr":0
        }
    },
    "at":2,
    "badv":["realtor.com","splenda.com","centralohiohondadealers.com","essentiawater.com","pluto.tv","codefellows.org","fathead.com","epicpass.com","atlasbutlerplumbing.com","restylaneusa.com"]
    ,
    "cur":["USD"],
    "tmax":150
}

```

Bid Response

Bid Response Object

The top-level Bid Response Object is defined below. The OpenRTB 2.5 standard supports multiple seatbids (buyer seats) per Bid Response and multiple bids per seatbid.

Note: our platform now supports multiple seatbids.

Object Name	Scope	Type	Description
id	Required	string	ID of the Bid Request that originated this Bid Response.
seatbid	Required	array of objects	Array of seatbid objects.
bidid	Optional	string	Bid response ID to assist tracking for bidders. This value is chosen by the bidder for cross-reference.
cur	Optional	string	Bid currency using ISO-4217 alphabetic codes. Our platform expects currencies outlined in Table 3 below.

Table 3 – Supported Currencies

AED	BSD	DKK	HUF	LKR	NAD	SCR	UAH	XFU	CYP	SKK
AFN	BTN	DOP	IDR	LRD	NGN	SDG	UGX	XOF	DEM	SRG
ALL	BWP	DZD	ILS	LSL	NIO	SEK	USD	XPD	ECS	SVC
AMD	BYR	EGP	INR	LTL	NOK	SGD	USN	XPF	EEK	TMM
ANG	BZD	ERN	IQD	LVL	NPR	SHF	USS	XPT	ESP	TRL
AOA	CAD	ETB	IRR	LYD	NZD	SLL	UYI	XTS	FIM	VEB
ARS	CDF	EUR	ISK	MAD	OMR	SOS	UYU	XXX	FRF	XEU
AUD	CHE	FJD	JMD	MDL	PAB	SRD	UZS	YER	GHC	YUN
AWG	CHF	FKP	JOD	MGA	PEN	SSP	VEF	ZAR	GRD	ZWD
AZN	CHW	GBP	JPY	MKD	PGK	STD	VND	ZMK	IEP	
BAM	CLF	GEL	KES	MMK	PHP	SYP	VUV	ZWL	ITL	
BBD	CLP	GHS	KGS	MNT	PKR	SZL	WST	ADF	LUF	
BDT	CNY	GIP	KHR	MOP	PLN	THB	XAF	ADP	MGF	
BGN	COP	GMD	KMF	MRO	PYG	TJS	XAG	AFA	MTL	
BHD	COU	GNF	KPW	MUR	QAR	TMT	XAU	AON	MZM	
BIF	CRC	GTQ	KRW	MVR	RON	TND	XBA	ATS	NLG	
BMD	CUC	GYD	KWD	MWK	RSD	TOP	XBB	AZM	PTE	
BND	CUP	HKD	KYD	MXN	RUB	TRY	XBC	BEF	ROL	
BOB	CVE	HNL	KZT	MXV	RWF	TTD	XBD	BGL	SDD	
BOV	CZK	HRK	LAK	MYR	SAR	TW	XCD	CFP	SDP	
BRL	DJF	HTG	LBP	MZN	SBD	TZS	XDR	CSK	SIT	

Seatbid Object

Object Name	Scope	Type	Description
bid	Required	array of objects	Array of bid objects.
seat	Optional	string	ID of the bidder seat on behalf of which this bid is made. Video SSP does recommend seat being passed in all the cases.

Bid Object

The Bid Object contains the bid details:

Object Name	Scope	Type	Description
id	Required	string	ID for this Bid Object chosen by the bidder for tracking and debugging purposes. Useful when multiple bids are submitted for a single impression on a given seat.
impid	Required	string	ID of the impression object to which this bid applies.
price	Required	float	Bid price in CPM.
adid	Optional	string	ID that references the ad to be served if the bid wins.
nurl	Optional	string	Win notice URL called if the bid wins. Note - all standard substitution macros are supported in addition to a platform-specific failover macro (see Table 4 below). These same substitution macros may also be placed in the ad markup. Video SSP will perform the same data substitutions as in the nurl (notice URLs) above.

adomain*	Required	array of strings	Advertiser domain for block list checking (e.g., "ford.com"). This can be an array of for the case of rotating creatives.
adm	Required	string	VAST XML ad markup for the Video Object. Note: our platform requires standard JSON encoding (see json.org) including unicode characters and standard JSON escape character sequences.
crid*	Required	string	Video SSP requires the passing of the Creative ID in the Bid response. Only one ID should be sent per bid response. This Creative ID is used for reporting content issues or defects.
dealid	Optional	string	A unique identifier for the direct deal associated with the bid. If the bid is associated and in response to a Deal ID in the request object it is required in the response object.

*Requirement for integration with Video SSP (bid.adomina and bid.crid is optional in OpenRTB).

The following substitution macros are supported for Win Notice URL (*nurl*) and *adm*. These include the OpenRTB 2.5 Substitution Macros (see section 4.4 of the OpenRTB 2.5 standard) and an additional custom macro for failover wins. A failover win happens when the ad from the bid that won the initial auction fails to deliver and the next bid gets a chance to deliver an ad.

Table 4 - Supported nurl Substitution Macros

Macro	Description
\${AUCTION_ID}	ID of the bid request from the Bid Request Object; <i>bidrequest.id</i> field.
\${AUCTION_BID_ID}	ID of the bid from the Bid Response Object; <i>bidresponse.bidid</i> field.
\${AUCTION_IMP_ID}	ID of the impression just won from the Bid Object; <i>imp.id</i> field.

<code>\${AUCTION_SEAT_ID}</code>	ID of the bidder's seat for whom the bid was made from the Seat Bid Object; <i>seatbid.seat</i> attribute.
<code>\${AUCTION_AD_ID}</code>	ID of the ad markup the bidder wishes to serve from the Bid Object; <i>bid.adid</i> field.
<code>\${AUCTION_PRICE}</code>	Settlement price using the same currency and units as the bid.
<code>\${AUCTION_CURRENCY}</code>	The currency used in the bid. This will always be USD.
<code>\${FAILOVER_WIN}</code>	Used to differentiate bid wins that happen due to failover: the value is 0 if the bid won the original auction and 1 if the bid won due to failover.
<code>\${AUCTION_PRICE:B64}</code>	Encrypted settlement price encoded using Base64 algorithm. Please contact Video SSP for more details.

Sample Bid Response

```
{
  "id": "cd0aa0c2-41ac-4d71-bbc7-0a0d17c50b7b",
  "seatbid": [
    {
      "bid": [
        {
          "id": "1",
          "impid": "1",
          "price": 9.43,
          "crid": "12345",
          "adid": "1971675345",
          "nurl": "http://winnotify.dsp.com/winnotice?bidid=${
            AUCTION_BID_ID}&auctionid=${AUCTION_ID}&price=${AUCTION_PRICE}&failover=${FAILOVER_WIN}",
          "adm": "<?xml version='1.0' encoding='UTF-8' ?><VAST
            version='2.0'
            xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:
            noNamespaceSchemaLocation='vast.xsd'><Ad><InLine><AdSystem
            version='2.0'>Ad Server</AdSystem><AdTitle>In-Stream
            Video</AdTitle><Description>A test creative with a
            description.</Description><Impression><![CDATA[http://adserver.com/imp]]></Impression><Creatives><Creative
            sequence='1'>
            AdID=' '><Linear><Duration>00:00:58</Duration><VideoClick
```

```

s><ClickThrough><![CDATA[http://adserver.com/click]]></ClickThrough></VideoClicks><MediaFiles><MediaFile id="1"
delivery="progressive" type="video/x-flv"
bitrate="457" width="300"
height="225"><![CDATA[http://adserver.com/video.flv]]></MediaFile></MediaFiles></Linear></Creative></Creatives></InLine></Ad></VAST>",
"dealid": "532"
  }],
  "seat": "AgencyAA"
},
{
  "bid": [
    {
      "id": "2",
      "impid": "1",
      "price": 8.7,
      "crid": "12345",
      "adid": "09876543",
      "nurl": "http://winnotify.dsp.com/winnotice?bidid=${
        AUCTION_BID_ID}&auctionid=${AUCTION_ID}&price=${AUCTION_PRICE}&failover=${FAILOVER_WIN}",
      "adm": "<?xml version='1.0' encoding='UTF-8'?><VAST
        version='2.0'
        xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:
        noNamespaceSchemaLocation='vast.xsd'><Ad><InLine><AdSystem
        version='2.0'>Ad Server</AdSystem><AdTitle>In-Stream
        Video</AdTitle><Description>A test creative with a
        description.</Description><Impression><![CDATA[http://adserver.com/imp]]></Impression><Creatives><Creative
        sequence='1'
        AdID=''><Linear><Duration>00:00:58</Duration><VideoClicks><ClickThrough><![CDATA[http://adserver.com/click]]></ClickThrough></VideoClicks><MediaFiles><MediaFile id='1'
        delivery='progressive' type='video/x-flv'
        bitrate='457'
        width='300' height='225'><![CDATA[http://adserver.com/video.flv]]></MediaFile></MediaFiles></Linear></Creative></Creatives></InLine></Ad></VAST>",
        "dealid": "1024"
      }],
      "seat": "AgencyBB"
    }
  ],
  "bidid": "abcd1234",
  "cur": "USD"
}

```

```
}
```

Sample Bid Response with JSON unicode characters

```
{
  "id": "cd0aa0c2-41ac-4d71-bbc7-0a0d17c50b7b",
  "seatbid": [
    {
      "bid": [
        {
          "id": "1",
          "impid": "1",
          "price": 9.43,
          "crid": "12345",
          "adid": "1971675345",
          "nurl": "http://winnotify.dsp.com/winnotice?bidid=${
            AUCTION_BID_ID}&auctionid=${AUCTION_ID}&price=${AUCTION_PRICE}&failover=${FAILOVER_WIN}",
          "adm": "\u003c?xml version=\u00221.0\u0022 encoding=\u0022UTF-8\u0022
            ?\u003e\u003cVAST version=\u00222.0\u0022
            xmlns:xsi=\u0022http://www.w3.org/2001/XMLSchema-instance\u0022
            xsi:noNamespaceSchemaLocation=\u0022vast.xsd\u0022\u003e\u003cAd\u003e\u003cInLine\u003e\u003cAdSystem
            version=\u00222.0\u0022\u003eAd
            Server\u003c/AdSystem\u003e\u003cAdTitle\u003eIn-Stream
            Video\u003c/AdTitle\u003e\u003cDescription\u003eA test
            creative with a
            description.\u003c/Description\u003e\u003cImpression\u003e
            \u003c![CDATA[http://adserver.com/imp]]\u003e\u003c/Impres
            sion\u003e\u003cCreatives\u003e\u003cCreative
            sequence=\u00221\u0022
            AdID=\u0022\u003e\u003cLinear\u003e\u003cDuration\u003e00:00
            :58\u003c/Duration\u003e\u003cVideoClicks\u003e\u003cClick
            Through\u003e\u003c![CDATA[http://adserver.com/click]]\u00
            3e\u003c/ClickThrough\u003e\u003c/VideoClicks\u003e\u003cM
            ediaFiles\u003e\u003cMediaFile id=\u00221\u0022
            delivery=\u0022progressive\u0022 type=\u0022video/x-flv\u0022
            bitrate=\u0022457\u0022 width=\u0022300\u0022
            height=\u0022225\u0022\u003e\u003c![CDATA[http://adserver.com/vide
            o.flv]]\u003e\u003c/MediaFile\u003e\u003c/MediaFiles\u003e
            \u003c/Linear\u003e\u003c/Creative\u003e\u003c/Creatives\u00
            003e\u003c/InLine\u003e\u003c/Ad\u003e\u003c/VAST\u003e",
          "dealid": "532"
        }
      ]
    }
  ],
  "seat": "AgencyAA"
}
```

```

},
{
  "bid": [
    {
      "id": "2",
      "impid": "1",
      "price": 8.7,
      "crid": "12345",
      "adid": "09876543",
      "nurl": "http://winnotify.dsp.com/winnotice?bidid=${
        AUCTION_BID_ID}&auctionid=${AUCTION_ID}&price=${AUCTION_PR
        ICE}&failover=${FAILOVER_WIN}",
      "adm": "\u003c?xml version=\u00221.0\u0022 encoding=\u0022UTF-8\u0022
        ?\u003e\u003cVAST version=\u00222.0\u0022
        xmlns:xsi=\u0022http://www.w3.org/2001/XMLSchema-instance\u0022
        xsi:noNamespaceSchemaLocation=\u0022vast.xsd\u0022\u003e\u003cAd\u003e\u003cInLine\u003e\u003cAdSystem
        version=\u00222.0\u0022\u003eAd
        Server\u003c/AdSystem\u003e\u003cAdTitle\u003eIn-Stream
        Video\u003c/AdTitle\u003e\u003cDescription\u003eA test
        creative with a
        description.\u003c/Description\u003e\u003cImpression\u003e
        \u003c![CDATA[http://adserver.com/imp]]\u003e\u003cImpres
        sion\u003e\u003cCreatives\u003e\u003cCreative
        sequence=\u00221\u0022
        AdID=\u0022\u0022\u003e\u003cLinear\u003e\u003cDuration\u003e00:00
        :58\u003c/Duration\u003e\u003cVideoClicks\u003e\u003cClick
        Through\u003e\u003c![CDATA[http://adserver.com/click]]\u003e\u003c
        ClickThrough\u003e\u003c/VideoClicks\u003e\u003cMediaFiles\u003e\u003cMediaFile id=\u00221\u0022
        delivery=\u0022progressive\u0022 type=\u0022video/x-flv\u0022
        bitrate=\u0022457\u0022 width=\u0022300\u0022
        height=\u0022225\u0022\u003e\u003c![CDATA[http://adserver.com/vid
        eo.flv]]\u003e\u003c/MediaFile\u003e\u003c/MediaFiles\u003e
        \u003c/Linear\u003e\u003c/Creative\u003e\u003c/Creatives\u003e
        \u003c/InLine\u003e\u003c/Ad\u003e\u003c/VAST\u003e",
      "dealid": "1024"
    }
  ],
  "seat": "AgencyBB"
}
],
"bidid": "abcd1234",
"cur": "USD"
}

```


Appendix - Changes from Beta Spec to this Spec

The following summarizes the changes that occurred to the Beta Spec.

- Added support for Video Object *viewability* extension.
- Added support for Video Object *playbackmethod*.
- Added support for Site Object *cat* and App Object *cat*.
- Added support for App Object *bundle* and *storeurl*.
- Added support for Device Object *ifa* and *dpidmd5*.
- Changed Bid Object *adid* to be optional.
- Added full support for Bid Object *nurl*.
- Added full JSON support, including unicode and other escape characters to the Bid Object *adm* object.
- 06/23/2015 – Added geo Object
- 09/02/2015 – Added details for MIME for VPAID Inventory
- 10/05/2015 – Added mpcid, marketplaceid, secure flag and outstream details. Updated viewability specifications.
- 03/15/2016 – Added Publisher object, updated NURL macros. Updated Creative ID to be required.
- 04/12/2016 – Updated definition of auction type in Deals object to reflect OpenRTB standard
- 06/20/2016 – Added Regs object, and devic.lmt field. Updated Adomain in the bid response to be required, and Seat in the Seatbid as recommended
- 04/03/2017 – Currencies supported in bid responses, nurl for win notice description, SSL compliance language on page, push method for user sync to HTTPS.
- 07/13/2017 – Added support for multiple seatbids in bid response.
- 08/18/2017 – Added support for whitelisting of buyer seats on deals.
- 03/01/2018
 - Added support for **Content Category (cat)** and **Language (language)**, under **Site** and **App** objects.
 - Added support for BRXD Inventory
 - IPv6 IP address and have started passing Country and Region fields to Geo Object in select cases
 - Added support for Advertiser Backlist
 - **bcat** (blocked advertiser categories) and **badv** (blocked advertiser domains) params in Bid Request Object
- 05/22/2018
 - **GDPR Compliance**
 - Added two params for GDPR **regs.ext.gdpr** and **user.ext.consent**
 - Updated the User Syncing workflow as part of GDPR and UMS(Unified Mapping Service)
 - **Programmatic Guaranteed Deals**

- Added a new param to deals object **deals.ext.guaranteed**. Value 1= programmatic guaranteed deal
- o **Mobile Supply**
 - **Device objects** - Added new params **carrier, make, model, osv, js** and **connectiontype**
 - **User Object** - added **job** and **gender** params
- 09/20/2018 - Rebranded content from ONE by AOL to Oath
- 10/25/2018 - Added support for **placement** param in Bid Request Object
- 01/14/2019
 - Upgrade to Open RTB API version to 2.5 we now support the following params
 - **len** param in **content** Object
 - **id** param in **Site/App** Object
 - **pchain** param in Source Object (New Object in V 2.5)
 - **tagid** param in **imp** Object
 - **metric** new Object added. Viewability info sent in the **metric** object; **type, value** and **vendor** are supported
 - Added support for passing **bidfloor** price and **bidfloorcur** wherever available for Open Auction in imp Object
 - o In case of traffic from device types 3, 6 or 7, when no valid IFA is present, we send a custom synthetic proxy ID in IFA, to be used only for frequency capping. This proxy ID is NOT to be used for audience modeling.
 - o Added support for **at** param in Bid Request Object. **at=1** is sent for first price auctions.
 - o Added “ssai” extension to Imp Object for identifying server side requests