IPONWEB

ENGINEERING MEDIA TRADING EVOLUTION

BIDSWITCH
RTB Specification

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Introduction

BidSwitch is an innovative technology developed at IPONWEB to simplify integration of Demand Side Platforms (DSP) with Sell Side Platforms (SSP). The key idea behind the service is to enable fast and cheap SSP integration without many rounds of specification refinements and development between DSP and SSP. BidSwitch acts like an intermediate between DSP and SSP which adapts custom SSP protocols to OpenRTB 2.x standards. The present specification defines the protocol for interaction between DSP and BidSwitch.

Change history

v1.0 - 1.3	Initial version
v1.4	Added support of bcat, battr and badv fields, ext.openx section containing pub_blocked_content field.
v1.5	Updated wording of bid response bid.nurl field description. Added bid request ext.aol section containing denied_categories field.
v1.6	Updated wording of fields descriptions. Added bid response ext.agency_name and ext.advertiser_name fields.
v1.7	Added bid request imp.bidfloor field. Added support for HTTP 204 as a valid nobid response.
v 1.8	Added bid request site.cat field.
v 1.9	Added SSP click macro support. Added support for video traffic. Added bid request PMP section. Deprecated ssp-specific bid request fields: ext.deals, ext.rubicon, ext.aol, ext.openx.
v 1.10	Changed video.protocol type to array of integer, fixed video request example. Added bid request ext.is_secure field. Added bid response ext.language and ext.cat fields.
v 1.11	Added ext.google.detected_vertical, imp.video.ext, imp.video.companionad bid request objects. Added bid request fields: imp.video.companiontype, wseat, imp.banner.btype, ext.adtruth. Added bid response fields: seatbid.seat, seatbid.bid.ext.vast_url. Updated bid response seatbid.bid.nurl field description for video traffic.
v 2.0	Added application traffic support. Bid request site object is optional now.

	Added ext.google.excluded_attribute and ext.google.allowed_vendor_type bid request fields. Added seatbid.bid.ext.google bid response object. Added seatbid.bid.cid bid response field. Removed fields and objects deprecated in v 1.9.
v 2.1	Added seatbid.bid.ext.js_url bid response field. Bid response seatbid.bid.nurl field is optional now. Added pmp.deals.wseat, imp.banner.expdir and "at" bid request fields.
v 2.2	Added imp.video.protocols, imp.banner.api, site.publisher.name, app.publisher.name, app.name, video.companionad.id, device.os, device.osv, device.make and device.model bid request fields. Added imp.ext.google and ext.ghostery bid request objects. Deprecated imp.video.protocol, ext.google.excluded_attribute and ext.google.allowed_vendor_type bid request fields. Added extended sensitive categories, used in bcat field.
v 2.3	Added site.ext.mobile_site and imp.banner.mimes bid request fields. Added imp.ext.yieldone, imp.pmp and ext.creative_params bid request objects. Added seatbid.bid.ext.duration, seatbid.bid.ext.img_url and seatbid.bid.ext.click_url bid response fields. Deprecated seatbid.bid.ext.liveintent and pmp objects. Updated btype field description. Important: usage of nurl, ext.js_url or ext.liveintent.img_url bid response fields depends on btype bid request field value. The field imp.video.linearity is now an optional field. Added video bid example. Updated User Matching section. Added Creative Approval section.
v 2.4	Added tmax, app.paid, regs.coppa, device.dnt, device.ipv6, device.js, device.flashver, device.devicetype, site.name, imp.ext.inventory_class, imp.displaymanager, imp.displaymanagerver, imp.ext.yieldone.allowed_creative_types, imp.video.pos and imp.instl bid request fields. Added seatbid.bit.ext.yieldone.creative_type bid response field. Deprecated imp.ext.yieldone.inventory_class bid request field. The field device.ip is now optional for in-app traffic. Changed imp.pmp.deals.at values to comply with OpenRTB 2.2.
v 2.5	Added imp.video.ext.player_type and imp.ext.yieldone.allowed_creative_category_id bid request fields. Added seatbid.bid.ext.yieldone.creative_category_id, ext.protocol, seatbid.bid.attr and seatbid.bid.dealid bid response fields. Deprecated seatbid.bid.ext.deal bid response field. Click tracking macro is now required in OpenX bids. The field imp.pmp.deal.at is now optional. Removed fields and objects deprecated in v 2.2.

v 2.6	Added imp.secure, imp.banner.ext.extra_sizes and imp.ext.viewability bid request fields. Added seatbid.bid.ext.lpdomain, seatbid.bid.h, seatbid.bid.w and seatbid.bid.iurl bid response fields. Deprecated ext.is_secure bid request field. Removed creative preview section. Removed fields and objects deprecated in v 2.3. Updated request and response samples.
v 4.0	Added native inventory support. Added site.mobile, device.geo.type, imp.iframebuster bid request fields. Added seatbid.bid.cat, seatbid.bid.adm, seatbid.bid.ext.native bid response fields. Added data and segment objects. Removed seatbid.bid.ext.js_url, seatbid.bid.ext.img_url and seatbid.bid.ext.click_url bid response fields. Removed fields and objects deprecated in v 2.4. Updated imp.banner.btype bid request field description. Updated seatbid.bid.nurl bid response field description. Updated "Macros" section, ${CLICK_URL} is no longer supported. Bid response fields seatbid.seat and seatbid.bid.nurl are now required. Bid response seatbid.bid.iurl field is now required for banner ads. Added "Supported Rich Media Frameworks" section. Removed "Creative approval" and "Additional Features" sections. Deprecated site.ext.mobile_site and ext.ghostery bid request fields. Deprecated seatbid.bid.ext.cat bid response field.

User Matching

BidSwitch has an integrated user matching functionality to simplify user sync operations for DSP. User matching information is managed within BidSwitch database, so there is no need for DSP to implement user matching logic to store the mappings.

While making bid request to DSP, BidSwitch will send both DSP user ID and BidSwitch user ID in *buyeruid* and *id* fields of User Object respectively (see Bid Request). If DSP user ID is not available, only BidSwitch user ID will be sent. For these purposes BidSwitch needs to update User Object in bid request while proxying it from an exchange to the DSP.

User synchronization can be initiated either by DSP or by BidSwitch itself. For both synchronization types BidSwitch supports secure and insecure communications with DSP using HTTP and HTTPS protocols.

DSP Initiated User Matching

To sync a particular user with BidSwitch, the DSP should initiate the user to call for 1x1.gif image by the following GET URL:

http://x.bidswitch.net/sync

providing the following HTTP request parameters:

Param	Value Type	Default	Example	Description
dsp_id	string	-	123	ID assigned to DSP by BidSwitch.
user_id	string	-	1234567890	User ID in DSP system. If the value is an empty string, the user will be considered not matched and no further sync requests would be send for this user for the "expires" period.
expires*	integer	90	30	Expiration time in days for user matching. Should be less or equal to 365.

* This field is optional.

BidSwitch matching URL also supports secure HTTPS connections.

There is an option to exclude a particular user from syncing for a certain time interval. To make it happen DSP can perform 302 redirect to the matching URL leaving *user_id* parameter blank.

Example 1. DSP initiated user matching:

https://x.bidswitch.net/sync?dsp_id=123&user_id=1234567890&expires=30

Example 2. User opt out:

Redirecting a user to the following URL will not sync this specific user for the next 5 days and will consider bids from this user as user-unmatched for the given DSP:

http://x.bidswitch.net/sync?dsp_id=123&user_id=&expires=5

BidSwitch Initiated User Matching

BidSwitch will also be able to initiate user synchronization. The partner will issue BidSwitch a matching URL that will redirect to the pixel URL described in DSP Initiated User Matching,

with properly populated *dsp_id*, *user_id* and *expires* parameters. Note that this URL should be for a pixel that performs a 302 redirect, rather than for an iframe with a script, etc. within it. The only redirect from the DSP's matching URL should be to the BidSwitch pixel.

The matching redirect URL, issued by a DSP should contain ${SSP} macro. This macro will be substituted with the SSP ID on BidSwitch side before sending a user to the partner. The value of the macro should be sent back to BidSwitch in the *ssp* parameter. The example of the matching URL, provided by partner is shown below:

> http://www.dsp-example.com/bsw_sync?bidswitch_ssp_id=${SSP}

Here, *bidswitch_ssp_id* parameter name can be changed to any other name chosen by DSP. On receiving call to the URL above the partner should respond with 302 redirect to BidSwitch matching URL with valid *dsp_id*, *user_id* and *expires* parameters as described in DSP Initiated User Matching and providing one additional *ssp* parameter with the value of ${SSP} macro. So given a call to the partner matching URL of the form

> http://www.dsp-example.com/bsw_sync?bidswitch_ssp_id=rubicon

DSP server should respond with 302 redirect to BidSwitch matching URL with the following sample *dsp_id*, *user_id* and *expires* parameters:

> http://x.bidswitch.net/sync?dsp_id=123&user_id=123&expires=5&ssp=rubicon

In addition to HTTP protocol the matching redirect URL, provided by the partner should also support secure HTTPS connections. If BidSwitch initiate a user call using HTTPS protocol the partner should redirect the user to BidSwitch matching URL using secure HTTPS connection.

After BidSwitch initiated user matching BidSwitch will associate the value of *user_id* parameter with the user's browser and make it available in any later bid requests from this user's browser. This will be sent in the *buyeruid* field of the JSON bid request. The *user_id* should not exceed 36 characters.

Opting out users

The DSP may differentiate between valuable and not valuable users. The latter are usually users that don't have any retargeting or 3p data recorded for them. It is highly recommended that in case of a sync request for a not valuable user the DSP responds with a 302 redirect to BidSwitch sync url with an empty user_id param, e.g.:

> http://x.bidswitch.net/sync?dsp_id=123&user_id=&expires=5&ssp=rubicon

Bid Request

Bid Request Object

This is the top level object that is being sent to DSP. Each bid request sent from BidSwitch to DSP will contain the following fields.

Field	Type	Description	Example
id	string	Unique ID of the bid request, provided by BidSwitch.	"b5ba5ed2-547e-4e86-8a84-34a440dad6db"
imp	array of object	Array of Impression Objects.	
device	object	Device Object which describes the device the impression will be delivered to.	
user	object	User Object which describes the user.	
tmax	integer	Maximum amount of time in milliseconds to submit a bid (e.g., 120 means the bidder has 120ms to submit a bid before the auction is complete).	120
at*	integer	Auction Type. If "1", then first price auction. If "2", then second price auction. Default value is "2".	2
site*	object	Site Object describing the site. Either site or app object should be present.	
app*	object	App Object describing the mobile application. Either site or app object should be present.	
bcat*	array of string	Blocked Advertiser Categories, using IAB taxonomy, extended by additional sensitive categories listed in BidSwitch Categories section. Creatives belonging to at least one of the listed categories are not permitted for bidding to the current bid request.	["IAB10-1", "IAB25", "BSW3"]
badv*	array of string	Array of strings of blocked top-level domains of advertisers.	["mysite.com", "mysite2.com"]
wseat*	array of string	Array of buyer seats allowed to bid on this auction. Seats are an optional feature of exchange.	["4","34","82" ,"A45"]

		For example, ["4","34","82","A45"] indicates that only advertisers using these exchange seats are allowed to bid on the impressions in this auction. If this field is present in the bid request then the bid response must include seatbid.seat field containing the id of the buyer that is bidding.	
cur	array of string	Array of allowed currencies for bids on this bid request using ISO-4217 alphabetic codes.	["USD"]
regs*	object	Regulations object.	
data*	array of object	Additional data. Each Data object represents a different data source.	
ext	object	Ext Object used for SSP specific properties.	

* Fields marked with asterisk are optional and may not be sent in each request.

Impression Object

Field	Type	Description	Example
id	string	ID of the impression being shown, unique within the bid request.	"1"
banner*	object	Banner Object describing the ad properties. Required for banner impressions.	
video*	object	Video Object describing the ad properties. Required for video impressions.	
native*	object	Native Object describing the ad properties. Required for native impressions.	
bidfloor*	float	Bid floor in CPM as set by the SSP. The currency is the same as specified in cur field.	0.01080
instl*	integer	1 if the ad is interstitial or full screen; else 0 (i.e., no).	1
secure*	integer	0 for non-secure pages (default); 1 for secure pages. Creatives for secure pages should be SSL-compliant.	1
iframebuster*	array of string	Array of names of supported iframe busters, see the "Supported Rich Media Frameworks" section below.	["dc", "rb"]
pmp*	object	Private Marketplace object.	

displaymanager*	string	Name of ad mediation partner, SDK technology, or native player responsible for rendering ad (typically video or mobile).	"SOMA"
displaymanagerver*	string	Version of ad mediation partner, SDK technology, or native player responsible for rendering ad (typically video or mobile).	"1.1"
ext*	object	Impression Ext Object	

* Fields marked with asterisk are optional and may not be sent in each request.

Impression Ext Object

Field	Type	Description	Example
rubicon*	object	Impression Ext Rubicon Object.	
google*	object	Impression Ext Google Object.	
yieldone*	object	Impression Ext YieldOne Object.	
inventory_class*	integer	Inventory class according to SSP classification.	1
viewability*	integer	This is an estimate of the likelihood that this slot will be viewable by the end user, based on how often it has been viewable in the past. Expressed as a percentage in the range of [0, 100] and rounded down to the next multiple of 10. If the field is not present in the bid request then the historical viewability data is not available.	100

* Fields marked with asterisk are optional and may not be sent in each request.

Impression Ext Rubicon Object

Field	Type	Description	Example
site_size_session_count*	integer	User session counter for this site/size. A "user session" here is 24 hours.	3

* Fields marked with asterisk are optional and may not be sent in each request.

Impression Ext Google Object

Field	Type	Description	Example
excluded_attribute*	array of integer	List of excluded creative attributes as defined by Google.	[70,28,30, 32,22]
allowed_vendor_type *	array of integer	List of allowed vendor types as defined by Google. Note that if site.publisher.id or app.publisher.id field value equals to "google_1" then the vendors listed in https://storage.googleapis.com/adx-rtb-dictionaries/gdn-vendors.txt are also allowed for bidding.	[42,43,51, 60]

* Fields marked with asterisk are optional and may not be sent in each request.

Impression Ext YieldOne Object

Field	Type	Description	Example
allowed_creative_types	array of string	List of allowed creative types as defined by YieldOne.	["HTML", "FLASH"]
allowed_creative_category_id*	array of integer	List of allowed creative categories as defined by YieldOne.	[70, 71, 72]

* Fields marked with asterisk are optional and may not be sent in each request.

Banner Object

Field	Type	Description	Example
id*	string	Unique identifier for this banner object. Used for tracking multiple banner objects (e.g., in companion banner array)	"3"
w	integer	Width of the impression in pixels.	300
h	integer	Height of the impression in pixels.	250
battr*	array of integer	Blocked creative attributes as defined in OpenRTB.	[1]
btype*	array of integer	Blocked banner ad types as defined in OpenRTB.	[1,4]
pos*	integer	Ad Position as defined in OpenRTB.	1
topframe*	integer	Indicates if the banner is in the top frame as opposed to	1

		an iframe, where 0 = no, 1 = yes.	
mimes*	array of string	Whitelist of content MIME types supported. Possible values include "text/html" and "application/x-shockwave-flash".	["text/html"]
expdir*	array of integer	Possible expansion directions for an expandable ad: 1: Left 2: Right 3: Up 4: Down 5: Fullscreen If the field is not present expandable creatives are not allowed.	[1,2]
api*	array of integer	List of supported API frameworks for this impression as defined in OpenRTB.	[3,5]
ext*	object	Banner Ext Object.	

* Fields marked with asterisk are optional and may not be sent in each request.

Banner Ext Object

Field	Type	Description
extra_sizes*	array of objects	An array of size objects denoting the alternative sizes that may be used for bidding. If one of the alternative ad sizes is used in the bid response, seatbid.bid.h and seatbid.bid.w fields are required in the bid response.

Size Object

Field	Type	Description	Example
w	integer	Width of the impression in pixels.	300
h	integer	Height of the impression in pixels.	250

Video Object

Field	Type	Description	Example
mimes	array of string	Content MIME types supported.	["video/mpeg", "video/mp4"]
pos*	integer	Ad Position as defined in OpenRTB.	1
linearity*	integer	1: Linear/In-stream 2: Non-Linear/Overlay	1
minduration	integer	Minimum video ad duration in seconds	2
maxduration	integer	Maximum video ad duration in seconds	15
protocols	array of integer	Accepted video bid response protocols as defined in OpenRTB.	[2,5]
w*	integer	Width of the player in pixels.	600
h*	integer	Height of the player in pixels.	400
startdelay*	integer	Indicates the start delay in seconds or generic values below: 0: Pre-roll -1: Generic mid-roll -2: Generic post-roll	0
battr*	array of integer	Blocked creative attributes as defined in OpenRTB.	[6]
minbitrate*	integer	Minimum bit rate in Kbps.	680
maxbitrate*	integer	Maximum bit rate in Kbps.	990
api*	array of integer	List of supported API frameworks for this impression as defined in OpenRTB.	[1,2]
companionad*	array of object	Array of Banner objects if companion ads are available. See Banner Object section.	
companiontype*	array of integer	List of allowed companion ad types. Possible values: 1: Static Resource 2: HTML Resource 3: iframe Resource	[1]
ext*	object	Video Ext Object	

* Fields marked with asterisk are optional and may not be sent in each request.

Field	Type	Description	Example
skippable*	integer	Indicates whether the video ad may be skippable (i.e. contain a skip button). The values are: 0: allow skippable 1: require skippable 2: deny skippable	0
player_type*	integer	Video player type based on detected player size: 1: Small player (width less than 300px) 2: Medium / large player (width equal or more than 300px)	2

* Fields marked with asterisk are optional and may not be sent in each request.

Native Object

Field	Type	Description	Example
request	object	Native Request object.	
battr*	array of integer	Blocked creative attributes as defined in OpenRTB.	[1,3]
api*	array of integer	List of supported API frameworks for this impression as defined in OpenRTB.	[2,3,5]

* Fields marked with asterisk are optional and may not be sent in each request.

Native Request Object

Field	Type	Description	Example
ver*	integer	Version of the Native Markup in use.	1
layout*	integer	The Layout ID of the native ad unit as described in OpenRTB Native specification.	3
adunit*	integer	The Ad unit ID of the native ad unit as described in OpenRTB Native specification.	2
plcmtcnt*	integer	The number of identical placements in this Layout.	1
seq*	integer	0 for the first ad, 1 for the second ad, and so on. This	0

		is not the sequence number of the content in the stream.	
assets	array of object	An array of Asset Objects. Any bid must comply with this array of elements.	

* Fields marked with asterisk are optional and may not be sent in each request.

Native Asset Object

Field	Type	Description	Example
id	integer	Unique asset id.	2
required*	integer	Set to 1 if asset is required (exchange will not accept a bid without it), default is 0.	1
title**	object	Title object for a title asset.	
img**	object	Image object for an image asset.	
video**	object	Video object for a video asset.	
data**	object	Data object for a data asset.	

* Fields marked with asterisk are optional and may not be sent in each request.
** There may be exactly one of the fields marked with asterisk in one asset object.

Native Asset Title Object

Field	Type	Description	Example
len	integer	Maximum length of the text in the title element.	30

Native Asset Image Object

The image asset object may contain exact image size, minimal image size or both. If only exact image size is specified then the image in bid response should have the corresponding size. If minimal size is specified then the image asset in bid response should comply with the following restrictions:
- the size of the image should be equal or larger than the minimum;
- the aspect ratio of the image should be close to the one specified by the exact size (if available) or by the minimal size; allowed aspect ratio deviation is from 0.8 * (w/h) to 1.25 * (w/h);
- image asset in the bid response should contain w and h fields.

Field	Type	Description	Example
type*	integer	Image asset type: 1: Icon, 2: Logo (Logo image for the brand/app), 3: Main (Large image preview for the ad)	3
w*	integer	Width of the image in pixels.	300
wmin*	integer	The minimum requested width of the image in pixels.	100
h*	integer	Height of the image in pixels.	250
hmin*	integer	The minimum requested height of the image in pixels.	100

* Fields marked with asterisk are optional and may not be sent in each request.

Native Asset Video Object

Field	Type	Description	Example
mimes	array of string	Content MIME types supported.	["video/mpeg", "video/mp4"]
minduration	integer	Minimum video ad duration in seconds	2
maxduration	integer	Maximum video ad duration in seconds	15
protocols	array of integer	Accepted video bid response protocols as defined in OpenRTB.	[2,5]

Native Asset Data Object

Field	Type	Description	Example
type	integer	Data asset type as described in OpenRTB Native specification.	1
len*	integer	Maximum length of the text in the element's response.	25

* Fields marked with asterisk are optional and may not be sent in each request.

Device Object

Field	Type	Description	Example
ip*	string	IPv4 address closest to the device. Bids containing invalid IP addresses will be discarded. The field is optional for in-app traffic.	87.224.77.0
geo	object	Geo Object as derived from the device's location services or supplied by the SSP if device IP is missing.	
ua*	string	Browser or application user agent string.	"Mozilla/5.0 (Windows NT 6.3; WOW64; rv:35.0) Gecko/20100101 Firefox/35.0"
language*	string	Alpha-2/ISO 639-1 code of browser language.	"en"
carrier*	string	Carrier or ISP derived from the IP address.	"WIFI"
connectiontype*	integer	Connection type as defined in OpenRTB.	2
didsha1*	string	SHA1 hashed device ID.	"CCF6DC12B98AEB2346AFE1BEE7860DF01FDE158B"
didmd5*	string	MD5 hashed device ID.	"93D05D4D69DEE2BC6645D9F0A0C1938C"
dpidsha1*	string	SHA1 hashed platform-specific ID.	"CCF6DC12B98AEB2346AFE1BEE7860DF01FDE158B"
dpidmd5*	string	MD5 hashed platform-specific ID.	"93D05D4D69DEE2BC6645D9F0A0C1938C"
ifa*	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, Android's Advertising ID, etc).	"035911ea-467d-4056-903b-65cf44f5633b"
make*	string	Device make.	"Apple"
model*	string	Device mode.	"iPhone"
os*	string	Device operating system.	"iOS"
osv*	string	Device operating system version.	"3.1.2"

dnt*	integer	If "0", then do not track Is set to false, if "1", then do no track is set to true in browser.	0
devicetype*	integer	Device type as defined by OpenRTB.	4
ipv6*	string	IP address in IPv6.	"fe80:0:0:0:200 :f8ff:fe21:67cf"
js*	integer	"1" if the device supports JavaScript; else "0".	1
flashver*	string	Flash version detected.	"10.1"

* Fields marked with asterisk are optional and may not be sent in each request.

Geo Object

The information provided in Geo Object is based on MaxMind database, except lat and lon values.

Field	Type	Description	Example
lat*	float	Latitude from -90 to 90. South is negative.	52.35
lon*	float	Longitude from -180 to 180. West is negative.	4.9167
type*	integer	Source of location data as defined by OpenRTB.	1
country*	string	Country using ISO-3166-1 Alpha-2.	"NL"
region*	string	Region using ISO-3166-2 or FIPS region codes.	"07"
city*	string	City name as provided by MaxMind.	"Alkmaar "
zip*	string	Zip/postal code.	"1824"

* Fields marked with asterisk are optional and may not be sent in each request.

User Object

Field	Type	Description	Example
id*	string	Unique customer ID of this user on the exchange. It may not be present if DSP opted for unknown users.	"252eb154-b3e5-473f-bad8-9b6d7f8646e5"
buyeruid*	string	DSP user ID for this user as mapped by BidSwitch for the DSP.	"38f72eaf-5d6f-4143-824f-deaf753d7239"

* Fields marked with asterisk are optional and may not be sent in each request.

Site Object

Field	Type	Description	Example
id*	string	Site ID on the exchange prefixed with exchange name followed by underscore. E.g. if Rubicon SSP sends bid request for site ID "123", the field becomes "rubicon_123".	"rubicon_123"
name*	string	Site name (may be masked by publisher request).	"Test Site"
domain*	string	Domain of the site, used for advertiser side blocking. For example, "foo.com".	"testsite.com"
cat*	array of strings	Array of IAB content categories for the publisher site.	["IAB1", "IAB2-3"]
page*	string	URL of the page where the impression will be shown.	"http://testsite.com/main.asp"
publisher	object	Publisher Object.	
mobile*	integer	Mobile-optimized signal, where 0 = no, 1 = yes.	1
ext*	object	Site Ext Object	

* Fields marked with asterisk are optional and may not be sent in each request.

Site Ext Object

Field	Type	Description	Example
mobile_site*	integer	A value of 1 in this field indicates the user is accessing a mobile-optimized site. DEPRECATED: use site.mobile instead.	1

* Fields marked with asterisk are optional and may not be sent in each request.

App Object

Field	Type	Description	Example
id*	string	Application ID on the exchange prefixed with exchange name followed by underscore. E.g. if Rubicon SSP sends bid request for site ID "123", the field becomes "rubicon_123".	"rubicon_123"
name*	string	Application name.	"Test App"
domain*	string	Domain of the application.	"mygame.foo.com"
cat*	array of string	Array of IAB content categories for the application.	["IAB1", "IAB2-3"]
bundle*	string	Application bundle or package name.	"com.foo.mygame"
publisher	object	Publisher Object.	
storeurl*	string	App store's URL for the mobile application.	"http://media-apps.cc/android"
ver*	string	Application version.	"1.1"

* Fields marked with asterisk are optional and may not be sent in each request.

Private Marketplace Object

Field	Type	Description	Example
private_auction	integer	A value of 1 indicates that only bids submitted inside pmp.deals will take part in the auction. A value of 0 indicates that bids without deal information may also be considered for serving.	1
deals	array of object	Array of Deal objects.	

Deal Object

Field	Type	Description	Example
id	string	Deal id.	"AA-1234"
wseat*	array of string	Array of buyer seats allowed to bid on this Direct Deal. Seats are an optional feature of an exchange. For example,	["4","34","82","45"]

Field	Type	Description	Example
		["4","34","82","45"] indicates that only advertisers using these exchange seats are allowed to bid on this direct deal.	
bidfloor *	float	Deal price in CPM. If deal.at = 3 then this is the exact price of the deal, otherwise this is the bid floor of the deal. The currency is the same as specified in cur field.	1.3
at*	integer	Auction type. '1' for first price auction, '2' for second price auction, '3' for fixed price deal.	2

* Fields marked with asterisk are optional and may not be sent in each request.

Publisher Object

Field	Type	Description	Example
id	string	Publisher ID prefixed with SSP name followed by underscore, e.g. if Rubicon passes publisher ID 25, then the present field will be equal to "rubicon_25". For Google AdX bid requests the Google seller network ID is used.	"rubicon_25"
name*	string	Publisher name.	"AAP"

* Fields marked with asterisk are optional and may not be sent in each request.

Ext Object

Field	Type	Description	Example
ssp	string	SSP identification string.	"rubicon"
is_secure*	integer	0 for non-secure pages; 1 for secure pages. Creatives for secure pages should be SSL-compliant. DEPRECATED: use imp.secure instead.	1
google*	object	Google object. This field is optional and is used only for integrations with Google AdX.	
adtruth*	object	Adtruth object. This field is optional and is present if the corresponding data is provided by the SSP.	
ghostery*	object	Ghostery object. This field is optional and is present if the feature is enabled for the trading partner. DEPRECATED: use data object instead.	
creative_params*	array of object	SSP-specific parameters indicating which creatives are valid for bidding in correspondence with creative approval feedback data.	

* Fields marked with asterisk are optional and may not be sent in each request.

Google Object

Field	Type	Description
detected_vertical*	array of objects	List of detected vertical values as defined by Google.

* Fields marked with asterisk are optional and may not be sent in each request.

Detected_vertical Object

Field	Type	Description	Example
id	integer	The vertical id as defined by AdX docs.	1014
weight	float	Weight for this vertical, in the (0.0, 1.0] range. More relevant verticals have higher weights.	1

Adtruth Object

Field	Type	Description	
tdl_millis*	int64	Time Difference Linking, which allows for differentiation between similarly configured devices that might share a DeviceInsight identifier.	19534993
RECIPE VERSION_x	string	The specific AdTruth device identification recipe version and the corresponding DeviceInsight identifier. There might be multiple AdTruth recipe versions.	"WEB_APP_BRIDGE _4_0":"4FD87B977 51E9C305FD5314A 665D2AF1C8FAA2D 3"

Ghostery Object

Field	Type	Description	Example
status	string	Indicates whether the bid request is associated with a single detected domain. Possible values are: "verified" : the publisher domain of the bid request is verified by Ghostery;	"verified"

		“unverified” : there is more than one domain associated with the bid request; “masked” : the detected domains do not match those provided in the bid request; “unknown” : there is not enough data available for the current bid request.	
domain*	string	True publisher domain as detected by Ghostery.	“bbc.com”

* Fields marked with asterisk are optional and may not be sent in each request.

Creative Parameters Object

Field	Type	Description	Example
type	string	Possible values: - “whitelist”: only creatives with at least one of the listed parameter values are allowed; - “blacklist”: creatives with at least one of the listed parameter values are not allowed	“blacklist”
name	string	Parameter name as defined by the SSP	“site”
value	array of string	Parameter values eligible for bid current request.	“bbc.com”

* Fields marked with asterisk are optional and may not be sent in each request.

Regulations Object

Field	Type	Description	Example
coppa	integer	Flag indicating whether or not this request falls under the COPPA regulations established by the USA FTC, where 0 = no, 1 = yes.	0

Data Object

Field	Type	Description	Example
name	string	Exchange-specific name for the data provider.	“domain-origin”
segment	array of object	Array of Segment objects that contain the actual data values.	

Segment Object

Field	Type	Description	Example
name	string	Name of the data segment specific to the data provider.	"status"
value	string	String representation of the data segment value.	"verified"

Examples

Simple Banner Ad

Following is a basic example of a bid request for a banner ad.

```
{
        "id": "1234534625253",
        "imp": [ {
                "id" : "1",
                "banner" : {
                        "w": 300,
                        "h": 250,
                        "pos": 1,
                        "topframe": 0,
                        "mimes": ["text/html", "application/x-shockwave-flash"],
                        "ext": {
                                "extra_sizes": [{
                                        "h":50,
                                        "w":300
                                }]
                        }
                },
                "ext": {
                        "rubicon": {
                                "site_size_session_count": 5
                        },
                        "viewability": 40
                }
        }],
        "site": {
                "id": "234563",
                "domain": "siteabcd.com",
                "page" : "http://siteabcd.com/page.htm",
```

```
                "mobile" : 1,
                "publisher": {
                        "id": "rubicon_25"
                }
        },
        "device": {
                "ip": "64.124.253.1",
                "geo": {
                        "lat": 33.94940185546875,
                        "lon": -116.97750091552734,
                        "type": 1,
                        "country": "US",
                        "region": "NY",
                        "city": "White Plains",
                        "zip": "10601"
                },
                "ua": "Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10.6; en-US; rv:1.9.2.16)
                Gecko/20110319 Firefox/3.6.16",
                "language": "en"
        },
        "user" : {
                "id": "45asdf987656789adfad4678rew656789",
                "buyeruid": "1234567890"
        },
        "cur": ["USD"],
        "at": 2,
        "ext": {
                "ssp": "rubicon",
                "adtruth": {
                        "tdl_millis":19534993,
                        "WEB_APP_BRIDGE_3_2":"FD5314A665D2AF1C8FAA2D34FD87B97751E9C30
                        5",
                        "WEB_APP_BRIDGE_4_0":"4FD87B97751E9C305FD5314A665D2AF1C8FAA2D
                        3"
                },
        "data": [ {
                "name": "domain-origin",
                "segment":[
                        {"name":"status","value":"verified"},
                        {"name":"domain","value":"abcd.com"}
                } ]
}
```

Private Deal and Creative Parameters

Following is a basic example of bid request for private auction.

```
{
        "id": "1234534625254",
        "imp": [ {
                "id" : "1",
                "bidfloor" : 0.426,
                "banner" : {
                        "w": 300,
                        "h": 250,
                        "pos": 1,
                        "topframe": 0,
                        "expdir": [1, 3]
                },
                "pmp": {
                        "private_auction: 0
                        "deals": [
                                {
                                        "id": "deal-1",
                                        "wseat": ["4" , "15"],
                                        "bidfloor": 2.5
                                        "at": 1
                                },
                                {
                                        "id": "deal-2",
                                        "bidfloor": 2.0
                                        "at": 2
                                }
                        ]
                }
        }],
        "site": {
                "id": "234563",
                "domain": "siteabcd.com",
                "page" : "https://siteabcd.com/page.htm",
                "publisher": {
                        "id": "rubicon_25"
                }
        },
        "device": {
                "ip": "64.124.253.1",
                "geo": {
```

```
                      "country": "US",
                      "region": "NY",
                      "city": "White Plains",
                      "zip": "10601"
              },
              "ua": "Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10.6; en-US; rv:1.9.2.16)
              Gecko/20110319 Firefox/3.6.16",
              "language": "en"
      },
      "user" : {
              "id": "45asdf987656789adfad4678rew656789"
      },
      "cur": ["USD"],
      "ext": {
              "ssp": "rubicon",
              "creative_params": [{
                      "type": "blacklist",
                      "name": "ad_type",
                      "value": ["14011", "14006"]
              }]
      }
}
```

Video Ad

Following is a basic example of a bid request for a video ad.

```
{
      "id": "1234534625253",
      "imp": [ {
              "id" : "1",
              "video" : {
                      "mimes" : [
                              "video/x-flv",
                              "video/mp4",
                              "application/x-shockwave-flash",
                              "application/javascript"
                      ],
                      "linearity" : 1,
                      "minduration" : 5,
                      "maxduration" : 30,
                      "protocols" : [2, 3, 5, 6],
```

```
                    "w": 640,
                    "h": 480,
                    "startdelay" : 0,
                    "battr": [13,14],
                    "minbitrate" : 300,
                    "maxbitrate" : 1500,
                    "api" : [1],
                     "companionad": [{
                        "w": 300,
                        "h": 250,
                        "id": 1
                     }],
                     "companiontype": [1, 2, 3],
                    "ext": {
                            "skippable" : 1
                    }
            }
    }],
    "site": {
            "id": "234563",
            "domain": "siteabcd.com",
            "page" : "http://siteabcd.com/page.htm",
            "publisher": {
                    "id": "google_25"
            }
    },
    "device": {
            "ip": "64.124.253.1",
            "geo": {
                    "country": "US",
                    "region": "NY",
                    "city": "White Plains",
                    "zip": "10601"
            },
            "ua": "Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10.6; en-US; rv:1.9.2.16)
            Gecko/20110319 Firefox/3.6.16",
            "language": "en"
    },
    "user" : {
            "id": "45asdf987656789adfad4678rew656789",
            "buyeruid": "1234567890"
    },
    "cur": ["USD"],
    "ext": {
```

```
            "ssp": "google"
        }
}
```

In-App Ad

Following is an example of a bid request for a mobile application banner ad.

```
{
  "app": {
        "bundle": "302324249",
        "cat": [
                "IAB14",
                "IAB24"
        ],
        "id": "mopub_af8f72a9eaae43d6b1330cada08f86f6",
        "publisher": {
                "id": "mopub_agltb3B1Yi1pbmNyEAsSB0FjY291bnQY7cCnEgw"
        },
        "ver": "4.2"
  },
  "at": 2,
  "badv": [
        "badsite.com"
  ],
  "bcat": [
        "IAB7-39",
        "IAB8-18",
        "IAB14-1",
        "IAB25",
        "IAB26",
        "BSW3"
  ],
  "cur": [
        "USD"
  ],
  "device": {
        "carrier": "234-30",
        "connectiontype": 3,
        "dpidmd5": "c43fba88be23abcc348227dd1d7c044a",
        "dpidsha1": "a17b984e3431e967230c1fc27cb3fa4029bcf4de",
        "geo": {
                "city": "",
```

```
                "country": "GB",
                "region": "",
                "zip": ""
            },
        "ifa": "3F6F224C-5F05-4269-B0A3-81637B860A2A",
        "ip": "31.121.161.211",
        "language": "en",
        "make": "samsung",
        "model": "GT-I9505",
        "os": "Android",
        "osv": "4.4.2",
        "ua": "Mozilla/5.0 (Linux; Android 4.4.2; GT-I9505 Build/KOT49H) AppleWebKit/537.36
(KHTML, like Gecko) Version/4.0 Chrome/30.0.0.0 Mobile Safari/537.36"
    },
    "ext": {
        "ssp": "mopub"
    },
    "id": "bc9b529e-511a-41c2-a768-dcb139ad4a6a",
    "imp": [{
        "banner": {
        "battr": [
                9,
                10,
                14,
                6
        ],
        "btype": [
                4
        ],
        "h": 50,
        "w": 320
        },
        "bidfloor": 0.70,
        "id": "1"
}],
    "user": {
    },
    "wseat": [
        "18"
    ]
}
```

Native Ad

Following is an example of a bid request for a native ad, a content wall layout type with required title and main image and an optional icon image.

```
{
  "id":"1234534625253",
  "imp":[
   {
     "id":"1",
     "native":{
       "request":{
         "ver":1,
         "layout":1,
         "adunit":4,
         "assets":[
           {
             "id":1,
             "required":1,
             "title":{
               "len":15
             }
           },
           {
             "id":2,
             "required":0,
             "img":{
               "type":1,
               "w":15,
               "h":15
             }
           },
           {
             "id":3,
             "required":1,
             "img":{
               "type":2,
               "wmin":200,
               "hmin":200
             }
           }
         ]
       }
     }
   }
```

```
    }
  ],
  "site":{
    "id":"234563",
    "domain":"siteabcd.com",
    "page":"http://siteabcd.com/page.htm",
    "publisher":{
      "id":"rubicon_25"
    }
  },
  "device":{
    "ip":"64.124.253.1",
    "geo":{
      "country":"US",
      "region":"NY",
      "city":"White Plains",
      "zip":"10601"
    },
    "ua":"Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10.6; en-US; rv:1.9.2.16) Gecko/20110319
Firefox/3.6.16",
    "language":"en"
  },
  "user":{
    "id":"45asdf987656789adfad4678rew656789",
    "buyeruid":"1234567890"
  },
  "cur":[
    "USD"
  ],
  "at":2,
  "ext":{
    "ssp":"rubicon"
  }
}
```

Bid Response

Top Level Bid Response Object

Field	Type	Description	Example
id	string	ID of the bid request.	"d7d1e107-fe7c-4a57-9592-d1d41fa702d9"
seatbid	array of object	Array of Seat Bid objects. The length of the array can be either 1+ (for yes-bid) or 0 (for no-bid).	
cur*	string	Bid currency using ISO-4217 alphabetic codes. If not provided USD is assumed.	"USD"
ext	object	Ext Object. This field may be omitted in nobid response.	

* Fields marked with asterisk are optional and may not be present in each response.

Ext Object

Field	Type	Description	Example
protocol	string	The latest BidSwitch protocol version this bid response is compliant with.	"4.0"

Seat Bid Object

Field	Type	Description	Example
bid	array of object	Array of Bid Objects. The maximum number of bid objects per single bid request ad slot is two.	
seat	string	ID of the bidder seat on whose behalf this bid is made. The field is REQUIRED if the wseat field is present in the bid request.	"34"

Formally there can be multiple bids within Seat Bid for two reasons. The first one is that there can be several slots in request. The second one is when there are more than one bid for a single slot. The BidSwitch allows no more than **two** bids for a single ad slot.

Bid Object

Field	Type	Description	Example
id	string	ID for the bid object chosen by the bidder for tracking and debugging purposes.	3
impid	string	ID of the impression object from bid request to which this bid applies.	"1"
price	float	Price as a float value, CPM. All prices assumed to be in USD, if cur parameter is omitted.	1.23
adm*	string	Creative markup for banner ads. Note that this field should NOT contain win price macro. The field is ignored in case of video or native bid responses. Note that adm field is supported starting from protocol 4.0, so bid responses containing adm and NOT containing the ext.protocol value of 4.0+ would be deemed invalid.	"
nurl	string	Win notice URL. The url should contain win price macro, see Macros section below. Note that for TripleLift and Taboola this url is called by a server to server call.	"http://adserver.com/winnotice?impid=102&winprice=${AUCTION_PRICE}"
iurl*	string	Sample image URL (without cache busting) for content checking. REQUIRED for banner ads.	"http://adserver.com/preview?impid=102"
adid	string	ID that references the ad to be served if the bid wins.	"3021"
adomain	array of string	Advertiser's primary or top-level domain for advertiser checking. This can be a list of domains if there is a rotating creative. Note that some SSPs allow only one domain. To such SSPs we only send the first domain from the list.	["adveriser.com"]
cid*	string	Campaign ID or similar that is used by the bidder to track and organize their campaigns. The field is REQUIRED for Nexage and MoPub.	"102"
attr*	array of integer	Creative attributes as defined in OpenRTB.	[1,3]
dealid*	string	Reference to the deal.id from the bid request if this bid pertains to a private marketplace direct deal.	"AA-1234"

h*	integer	Height of the impression in case when alternative ad size is used.	250
w*	integer	Width of the impression in case when alternative ad size is used.	300
cat*	string	IAB category of the creative. Required in bid responses to RMX and YieldOne bids.	"IAB1"
ext*	object	Ext Object. This field may be required under certain circumstances. See below.	

* Fields marked with asterisk are optional and may not be present in each response.

Bid Ext Object

Field	Type	Description	
deal*	string	This is the ID of the deal between a publisher and a seat. It is used only if an exchange supports private auctions. If the bid is assosiated with a direct deal then this field is required and its value should be equal to one of the elements in pmp.deals field in the bid request object. DEPRECATED: use seatbid.bid.dealid instead.	"AA-1234"
advertiser_name*	string	The name of the advertiser serving the creative. Required in bids responses to AdScale, Centro, BRX, Improve Digital and YieldOne bids.	"Coca-Cola"
agency_name*	string	The name of the agency representing the advertiser. Required in bids responses to AdScale bids.	"CCA"
lpdomain*	array of string	The actual landing page domain of the creative if different from adomain value. Recommended for mobile application ads, e.g. "adomain":["angrybirds.com"] and "lpdomain":["play.google.com","itunes.apple.com"]	["play.google.com","itunes.apple.com"]
language*	string	Alpha-2/ISO 639-1 code of creative language. Required in bid responses to RMX and OpenX Japan bids.	"jp"
cat*	string	IAB category of the creative. Required in bid responses to RMX and YieldOne bids. DEPRECATED: use seatbid.bid.cat instead.	"IAB1"
google*	object	Contains additional information for Google bids.	

		The field is recommended.	
yieldone*	object	Contains additional information for YieldOne bids. The field is required for YieldOne bids.	
vast_url*	string	The url pointing to the location the VAST document for the bid response. Required for bid responses to video traffic. Note that the VAST document should NOT contain impression tracking urls with win price macros.	"http://ads erver.com/v ast?impid=1 02"
duration*	integer	Video ad duration in seconds. Required in bid responses to BRX.	13
native*	object	Contains the details of the native response.	

* Fields marked with asterisk are optional and may not be present in each response.

NB: some of the fields are required by certain SSPs; responses to bid requests from these SSPs with these fields missing will be discarded.

Native Object

Field	Type	Description	Example
ver*	integer	Version of the Native Markup version in use.	1
assets	array of object	List of native ad assets.	
link	object	Destination Link. This is default link object for the ad. Individual assets can also have a link object which applies if the asset is activated(clicked). If the asset doesn't have a link object, the parent link object applies.	
imptrackers**	array of string	Array of impression tracking URLs, expected to return a 1x1 image or 204 response. This field should NOT contain win price macro.	[http://ads erver.com/ native?impi d=102]

* Fields marked with asterisk are optional and may not be present in each response.

** imptrackers array should be used with following constraints:

- For Taboola, this property is always ignored

- For Rubicon, only one element is guaranteed to be triggered. Place trackers in the order of importance

- Otherwise this array is optional and may not be present in each response

Native Asset Object

Field	Type	Description	Example
id	integer	Unique asset ID, must match one of the asset IDs in request.	1
required *	integer	Set to 1 if asset is required (bidder requires it to be displayed), default is 0.	1
title*	object	Title object for a title asset.	
img*	object	Image object for an image asset.	
video*	object	Video object for a video asset.	
data*	object	Data object for a data asset.	
link**	object	Link object for call to actions. The link object applies if the asset item is activated (clicked). If there is no link object on the asset, the parent link object on the bid response applies.	

* There may be exactly one of the fields marked with asterisk in one asset object.

** Link object is optional and may not be present in each response.

Native Asset Title Object

Field	Type	Description	Example
text	string	The text associated with the title element.	"Our product is the best!"

Native Asset Image Object

Field	Type	Description	Example
url	string	URL of the image asset.	"http://adserver.com/image?impid=102"
h*	integer	Height of the image in pixels.	250
w*	integer	Width of the image in pixels.	300

Native Asset Video Object

Field	Type	Description	Example
vasttag	string	VAST XML.	"<?xml version="1.0" encoding="UTF-8"?> <VAST version="2.0"><Ad id="12345"><InLine><AdSystem version="1.0">SpotXchange</AdSystem><AdTitle><![CDATA[Sample VAST]]></AdTitle><Impression>http://sample.com</Impression><Description><![CDATA[A sample VAST feed]]></Description><Creatives><Creative sequence="1" id="1"><Linear><Duration>00:00:30</Duration><TrackingEvents /><VideoClicks><ClickThrough><![CDATA[http://sample.com/openrtbtest]]></ClickThrough></VideoClicks><MediaFiles><MediaFile delivery="progressive" bitrate="256" width="640" height="480" type="video/mp4"><![CDATA[http://sample.com/video.mp4]]></MediaFile></MediaFiles></Linear></Creative></Creatives></InLine></Ad></VAST>"

Native Asset Data Object

Field	Type	Description	Example
value	string	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".	"3.4 stars out of 5"

Native Link Object

Field	Type	Description	Example
url	string	Landing URL of the clickable link.	"http://advertiser.com/"
clicktrackers*	array of string	Click tracker URLs to be fired on click of the URL.	["http://adserver.com/click?impid=102"]

* Fields marked with asterisk are optional and may not be present in each response.

SSP Specific Fields

Google Object

Field	Type	Description	Example
attribute*	array of integer	List of creative attributes as defined by Google.	[32,22]
vendor_type*	array of integer	List of creative vendor types as defined by Google.	[42,43]

* Fields marked with asterisk are optional and may not be present in each response.

Yieldone Object

Field	Type	Description	Example
creative_type	string	Creative type as defined by YieldOne.	"HTML"
creative_category_id*	integer	Creative category as defined by YieldOne. The field is recommended for YieldOne bids.	79

Nobid Response

If the DSP opts to pass on the bid request, it should respond with HTTP 204. The BidSwitch also accepts bid responses with an empty array of seatbid objects as valid nobid responses.

Examples

Simple Bid Response

Following is an example of a bid response with the ad served via adm field. The bid for this impression is a $9.43 CPM.

```
{
       "id": "1234567890",
       "ext" : {
               "protocol":"4.0"
       },
       "seatbid": [{
               "bid" : [{
                       "id": "1",
```

```
                    "impid" : "102",
                    "price": 9.43,
                    "adid" : "314",
                    "cid" : "42",
                    "cat": "IAB12",
                    "adm": "<a
href=\"http://adserver.com/click?adid=12345&tracker=${CLICK_URL:URLENCODE}\"><img
src=\"http://image1.cdn.com/impid=102\"/></a>",
                    "nurl": "http://adserver.com/winnotice?impid=102&winprice=
${AUCTION_PRICE}",
                    "iurl": "http://adserver.com/preview?crid=314",
                    "adomain" : ["advertiserdomain.com"]
                    "ext": {
                            "advertiser_name": "Coca-Cola",
                            "language": "en",
                            "agency_name": "CC-advertising"
                    }
            }],
            "seat":"1"
    }]
}
```

Multi-Bid Response

The following bid response example contains two bids, for $9.43 and for $5.50. Both bids target the same ad slot, both would take part in the auction and if the first one is discarded due to publisher-side blocklist then the second one would be able to win the auction.

```
{
    "id": "1234567890",
    "ext" : {
            "protocol":"4.0"
    },
    "seatbid": [{
            "bid" : [{
                    "id": "1",
                    "impid" : "102",
                    "price": 9.43,
                    "adid" : "314",
                    "cid" : "42",
                    "cat": "IAB12",
                    "adm": "<a
```

```
href=\"http://adserver.com/click?adid=12345&tracker=${CLICK_URL:URLENCODE}\"><img
src=\"http://image1.cdn.com/impid=102\"/></a>",
                        "nurl":  "http://adserver.com/winnotice?impid=102&winprice=
${AUCTION_PRICE}",
                        "iurl": "http://adserver.com/preview?crid=314",
                        "adomain" : ["advertiserdomain.com"]
                        "ext": {
                                "advertiser_name": "Coca-Cola",
                                "language": "en",
                                "agency_name": "CC-advertising"
                        }
                },{
                        "id": "2",
                        "impid" : "102",
                        "price": 5.5,
                        "adid" : "413",
                        "cid" : "43",
                        "cat": "IAB12",
                        "adm": "<a
href=\"http://adserver.com/click?adid=12345&tracker=${CLICK_URL:URLENCODE}\"><img
src=\"http://image1.cdn.com/impid=102\"/></a>"
                        "nurl":  "http://adserver.com/winnotice?impid=413&winprice=
${AUCTION_PRICE}",
                        "iurl": "http://adserver.com/preview?crid=413",
                        "adomain" : ["advertiserdomain.com"]
                        "ext": {
                                "advertiser_name": "Coca-Cola",
                                "language": "en",
                                "agency_name": "CC-advertising"
                        }
                }],
                "seat":"1"
        }]
}
```

Video Bid Example

```
{
        "cur" :"USD",
        "ext" : {
                "protocol":"4.0"
        },
        "id" :"e9c3e120-ffcb-4300-9c98-644cb26f95df",
```

```
        "seatbid": [{
                "bid": [{
                        "adid": "3",
                        "nurl": "http://adserver.com/winnotice?impid=102&winprice=
                ${AUCTION_PRICE}",
                        "adomain": ["nokia.com"],
                        "cid": "11",
                        "ext": {
                                "vast_url": "http://adserver.com/vast?impid=102",
                                "duration": 15,
                                "advertiser_name": "Nokia"
                                },
                        "id": "1c3ff810-3623-4b04-8396-9e7ca071cb72",
                        "impid": "1",
                        "price": 4.079077199308326
                }],
                "seat":"1"
        }]
}
```

Native Bid Example

Following is an example of a native bid response. The bid contains a title and an image assets.

```
{
  "id": "1234567890",
  "ext": {
   "protocol": "4.0"
  },
  "seatbid": [
   {
    "bid": [
     {
       "id": "1",
       "impid": "102",
       "price": 9.43,
       "adid": "314",
       "cid": "42",
       "cat": "IAB12",
       "nurl": "http://adserver.com/winnotice?impid=102&winprice=
${AUCTION_PRICE}&click_url=${CLICK_URL:URLENCODE}",
       "adomain": [
```

```
          "advertiserdomain.com"
        ],
        "ext": {
          "advertiser_name": "Coca-Cola",
          "language": "en",
          "agency_name": "CC-advertising",
          "native": {
            "ver": 1,
            "link": {
              "url": "http://adserver.com/click?impid=102"
            },
            "assets": [
              {
                "id": 1,
                "required": 1,
                "title": {
                  "text": "A test Native Ad"
                }
              },
              {
                "id": 3,
                "required": 1,
                "img": {
                  "url": "http://adserver.com/image?crid=314"
                }
              }
            ]
          }
        }
      }
    ],
    "seat": "1"
  }
 ]
}
```

No Bid Example

Following is an example of sending no-bid response to the bid. Note that the preferred nobid response format is an empty HTTP 204 response.

```json
{
        "id": "1234567891",
        "ext" : {
                "protocol":"4.0"
        },
        "seatbid": []
}
```

Response to Private Bid Request

```json
{
        "id": "1234567892",
        "ext" : {
                "protocol":"4.0"
        },
        "cur": "USD",
        "seatbid": [{
                "bid" : [{
                        "id": "1114125-afaff2f-af2251",
                        "impid" : "1",
                        "price": 9.43,
                        "adid" : "314",
                        "dealid": "deal-1",
                        "adm": "<a
href=\"http://adserver.com/click?adid=12345&tracker=${CLICK_URL:URLENCODE}\"><img
src=\"http://image1.cdn.com/impid=102\"/></a>",
                        "nurl": "http://adserver.com/winnotice?impid=102&winprice=
${AUCTION_PRICE}",
                        "adomain" : ["advertiserdomain.com"]
                }],
                "seat": "5070296159"
        }]
}
```

Macros

Win price macro should be used in nurl field. Click tracking macro may be used adm field.

Win price macro

In order for the exchange to convey certain information to the winning bidder (e.g., the settlement price), some substitution macros can be inserted into the win notice URL definition. Prior to calling a win notice URL, the exchange will search the specified URL for any of the defined macros and replace them with the appropriate data. Note that the substitution is simple in the sense that wherever a legal macro is found, it will be replaced without regard for syntax correctness.

Macros	Description
${AUCTION_PRICE}	Settlement price for the auction. The substituted value will be defined as CPM.

SSP click tracking url macro

Some SSPs require the DSP to add an SSP click url macro in all creatives for click reporting. Some SSPs require the DSP to add an SSP click url macro in all creatives for click reporting. **This is a strict requirement for Google AdX, Pubmatic and OpenX** and is strongly recommended by several other SSPs. DSPs wishing to trade with such SSPs should add the click tracking macro to the creative markup in adm field. The SSP will replace the macro with the SSP click tracking url. If the SSP doesn't support click tracking macros then the tracking macro will be replaced by an empty string.

Macros	Description
${CLICK_URL:URLENCODE}	A placeholder for the SSP click tracking url in urlencoded form. Required for bids to SSPs that support click tracking.

The SSP click url (if present) should be inserted before the landing page in the creative. The landing page url should be single-escaped.

BidSwitch Categories

For the better coverage of sensitive categories BidSwitch extends the standard IAB list with additional categories. These categories may be used in bcat, site.cat, app.cat fields in bid requests and seatbid.bid.cat field in bid response.

ID	Creative Category
BSW1	Alcohol
BSW2	Gambling

BSW3	Tobacco and smoking
BSW4	Firearms and weapons
BSW5	Sexual & Reproductive Health
BSW6	Ringtones & Downloadable
BSW7	Drugs & Supplements
BSW8	Get Rich Quick
BSW9	Free Gifts, Quizzes, & Surveys
BSW10	Nudity
BSW11	Cosmetic Procedures & Body Modification

Supported Rich Media Frameworks

Description	Value
Any framework is accepted	ALL
Adcentric	ac
Adinterax	ad
Adform	af
Atlas	at
Apivid	av
DoubleClick	dc
Eyeblaster	eb
EyeReturn	er
EyeWonder	ew
Flashtalking	ft
Klipmart	km
Kpsule	ks
MediaMind	mm
Mediaplex	mp
Piximedia	pm
PointRoll	pr
Pictela	pt
Rockabox	rb
Smart Adserver	sa
Silence Media	sm
Unicast	ui
Undertone	ut
Viewpoint	vp
Weborama	wo