

# VAST bidders in OpenWrap

## Why use VAST bidders in OpenWrap?

OpenWrap supports VAST bidders, which enables most demand sources to participate in OpenWrap auctions. And if VAST tags support the price extension, then VAST tag demand competes on real-time pricing just like any other bidder.

VAST bidders in OpenWrap provides a server-to-server integration that enables OpenWrap publishers to easily integrate with VAST bidders just by mapping a VAST bidder partner in an OpenWrap profile.

Common use cases for adding VAST bidders in your OpenWrap OTT profile:

- OpenWrap OTT profiles with multiple VAST tags can function as a backfill demand source within your ad server
- Enable a bidder partner that supports VAST tags but doesn't support a standard OpenWrap integration
- Support dynamic bidding for any partner that's set up as a static tag within your ad server



### Learn more

For more information, take a look at [IAB's VAST Standards](#).

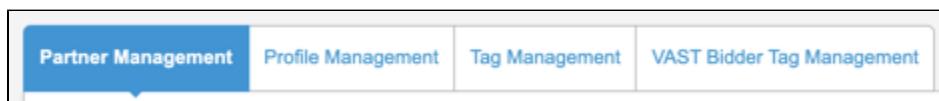
## Click to view a glossary of key OpenWrap terms

<b>OpenWrap</b>	OpenWrap provides a transparent enterprise wrapper solution for Prebid to publishers who want to increase monetization with access to the broadest set of exchanges and unique demand.
<b>VAST tag</b>	VAST stands for Video Ad Serving Template. A VAST tag is a third-party video ad tag generated by an ad server, which then enables video players to sync with ad servers.
<b>Client-side</b>	The user's web browser (the client) sends ad requests directly to partners. Client-side request processing has the highest user match rate but can slow web page loading.
<b>Partner</b>	SSP/exchange whose header tag is included in the wrapper.
<b>Profile</b>	Defines inventory for the wrapper. Includes configuration settings for the OpenWrap.
<b>Server-side</b>	Ad requests go first to an OpenWrap server, which then sends them to partners. Server-side request processing can speed video ad loading but can reduce user-match rate compared to client-side processing.
<b>Profile version</b>	Refers to the settings included in the profile. One profile can include multiple versions, but only one can be the live version in production.

## VAST bidder setup in OpenWrap

Follow the steps below to set up a VAST bidder in OpenWrap.

OpenWrap UI screens:



**Partner Management:** Add a new partner or view and edit an existing partners.

**Profile Management:** Create a new profile or manage an existing profile.

**Tag Management:** Retrieve a wrapper tag for a profile.


**Vast Bidder Tag Management:** Add a new VAST tag or view/edit/delete existing tags.

### Step 1: Add a VAST bidder partner.


It's unlikely you don't have a Partner profile set up. If you do, you can skip to step 2.

You must have a VAST bidder partner set up in your PubMatic account before you can create a VAST bidder profile and generate tags. Complete these steps to create a VAST bidder partner:

1. From the main navigation, select **Inventory > OpenWrap**.
2. In the **Partner Management** tab, click **Add Partner > VAST Bidder**.
3. Enter an **Account Name**. If you have multiple accounts with a partner, use a naming convention that will help you identify each partner account.
4. Enter a **Bidder Code**. Key points to keep in mind:
  - A bidder codes uniquely identifies a demand source in OpenWrap auctions and when bids are passed to ad servers.
  - You can create multiple bidders for the same bidder code, but you can't use more than one bidder code per OpenWrap profile.
  - You can't change a bidder code once you've created a new partner.
5. Click **Save**.

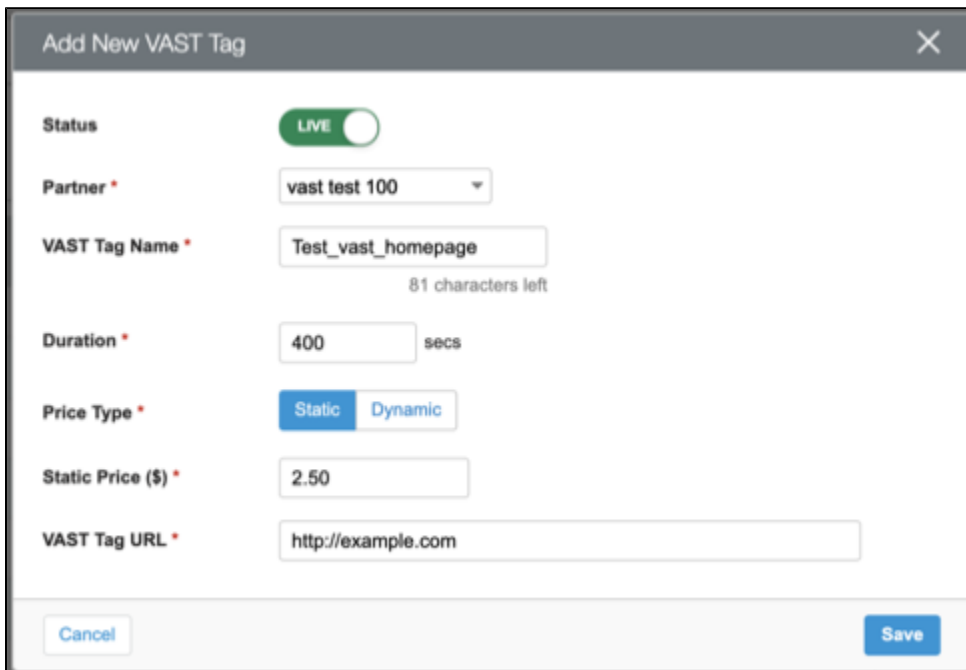
 **To edit or delete a VAST bidder partner:**  
Go to [VAST bidder tag management](#) for these instructions.

## Step 2: Add VAST tags

 **VAST price currency**  
Vast Price is always considered as USD regardless of account-level currency.

Complete these steps to add a VAST tag in OpenWrap.

1. Select the **VAST Bidder Tag Management** tab.
2. Click **Add VAST Tag**.
3. Complete the form. Refer to the table below for a description of each field.
4. Save the form.



Field	Description
<b>Status</b>	<b>Live:</b> This is the default setting. The tag will be ready to use immediately. <b>Paused:</b> Set the tag to pause if it's not going to be used right away. You can change it to live when you're ready.
<b>Partner</b>	This list will show only bidders, because a VAST tag can only be created for a VAST Bidders.
<b>VAST Tag Name</b>	For reporting and searching purposes. Best practice is to name the tag something relevant.
<b>Duration</b>	Expected length of the video ad.
<b>Price Type</b>	<b>Static:</b> Uses the exact price you enter. <b>Dynamic:</b> Uses the price returned by the VAST bidder in the VAST tag.

<b>VAST Tag URL</b>	Used to communicate with the vast bidder. It can contain OpenWrap macros. OpenWrap replaces them with appropriate values.
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### Step 3: Map Video Inventory with VAST Tags

Once you've added the VAST tags, it's time to create and upload a mapping file for each partner. The mapping file provides OpenWrap with a partner-specific identifier that allows the partner to track with ad unit is generating the impression.

For example, PubMatic requires a site ID and ad tag ID in the the ad call. Partners use this information to apply various settings in their own platform, such as floor price, demand sources, etc.

**i Mapping file size**

It's best practice to keep the file size to 500kb or less. If the file size does exceed this threshold, a warning ! may appear to indicate that the size may cause latency. Monetization is not impacted by latency, but if you want to reduce the file size you can split partner mappings across multiple profiles

Follow these steps to map video inventory with the VAST tag.

1. Go to the **Profile Management** tab.
2. **Select a profile** from the list.
3. Click the actions button next to the draft version and select **Map Ad Units**. The **Upload Mappings** form will display.
4. Select the **Template Type** for the partner(s) and then download the template from the **Actions** menu.
5. Use the column descriptions below to complete the template.

Ad Unit	Domain/BundleID	VAST Tag ID	Param 1	Param 2	Param 3	Param 4	Param 5	Active (0/1)

template column	Description
<b>Ad Unit</b>	Place where the Video Ad is expected on your Webpage or Application. Note: Don't use the '@' character in this column, it can adversely affect OpenWrap.
<b>Domain /Bundle ID</b>	Either your web domain (for example, pubmatic.com) or application bundle ID (for example, com.app.myapp). Note: Don't use the '@' character in this column, it can adversely affect OpenWrap.
<b>VAST Tag ID</b>	ID of an active or paused VAST tag mapped to the partner.
<b>Params 1 - 5</b>	<ul style="list-style-type: none"> <li>• These columns are optional and represent VAST bidder level parameters.</li> <li>• The values in these columns will be sent to VAST bidders.</li> <li>• VAST tag URLs contain corresponding macros for each parameter.</li> <li>• If macros are present in the VAST tag URL, the values provided in these columns will be used by OpenWrap to replace these corresponding macros.</li> </ul>
<b>Active (0/1)</b>	0 - Not active, which means the VAST tag can't be used for a given ad unit or domain/bundle ID. 1 - Active, which means the VAST tag can be used for a given ad unit or domain/bundle ID.

6. Click **Upload Mapping** in the Actions menu.

**i For more information.**

See [VAST bidder tag management](#).

### Step 4: Create Profile with mapped VAST bidder

Profiles define groups of inventory that use the same configuration settings. View the steps for [adding a profile](#).

**! Note**

The **Advanced** and **Append Custom Scripts to OpenWrap Library (PWT.js)** sections are currently disabled for OpenWrap VAST bidders. They will be enabled in a future release.

## Step 5: Test your first run with OpenWrap S2S integration

Follow these steps to test your first run.

1. From the main navigation, select **Actions > Debug URL**. Append your page URL where the new version is expected to run.

A debug URL looks like this:

```
?pwtv=1&pwtvc=1
```

For example: a publisher who is running version 1 on [yourdomain.com](#), would test Version 2 using this URL:

```
yourdomain.com/?pwtv=1&pwtvc=1
```

2. Once testing is complete, select **Actions > Push to Production**. This replaces the active version (previous production version), with the new version.  
No on-page changes are required when you create a new version for the same profile.



### Important

An OpenWrap profile can have only **one active version** in production. It may take 5-10 minutes for the change to appear.

### Sample Request

```
http://10.172.141.11:7878/video/openrtb?debug=1&owLoggerDebug=1
```

### Sample Response

```
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  "id": "1559039248176",
  "seatbid": [
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      "bid": [
        {
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```
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```

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3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A16%7D%2C%22pn%22%3A%
22vastbidder%22%2C%22bc%22%3A%22test_vastbidder%22%2C%22kpv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.
openbid.app%4011478%22%2C%22kpsv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%40%22%2C%22ps%22%3A%
220x0v%22%2C%22af%22%3A%22video%22%2C%22eg%22%3A10%2C%22en%22%3A%22%2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%
2C%22wb%22%3A0%2C%22bid%22%3A%22939654487274491138%22%2C%22di%22%3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%
2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A16%7D%2C%22pn%22%3A%22vastbidder%22%2C%22bc%22%3A%
22test_vastbidder%22%2C%22kpv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%4011468%22%2C%22kpsv%
22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%40%22%2C%22ps%22%3A%220x0v%22%2C%22af%22%3A%22video%22%
2C%22eg%22%3A10%2C%22en%22%3A%22%2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%2C%22wb%22%3A0%2C%22bid%22%3A%
225764358974467686311%22%2C%22di%22%3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%2C%22ss%22%3A1%2C%22mi%22%3A0%
2C%22dur%22%3A16%7D%2C%22pn%22%3A%22vastbidder%22%2C%22bc%22%3A%22test_vastbidder%22%2C%22kpv%22%3A%22%
2F15671365%2FMDemo%40com.pubmatic.openbid.app%4011462%22%2C%22kpsv%22%3A%22%2F15671365%2FMDemo%40com.
pubmatic.openbid.app%40%22%2C%22ps%22%3A%220x0v%22%2C%22af%22%3A%22video%22%2C%22eg%22%3A10%2C%22en%22%3A%22%
2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%2C%22wb%22%3A0%2C%22bid%22%3A%228746288500125592822%22%2C%22di%22%
3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A16%7D%2C%22pn%22%3A%
22vastbidder%22%2C%22bc%22%3A%22test_vastbidder%22%2C%22kpv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.
openbid.app%4011466%22%2C%22kpsv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%40%22%2C%22ps%22%3A%
220x0v%22%2C%22af%22%3A%22video%22%2C%22eg%22%3A10%2C%22en%22%3A%22%2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%
2C%22wb%22%3A0%2C%22bid%22%3A%226960036152309510556%22%2C%22di%22%3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%
2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A16%7D%2C%22pn%22%3A%22vastbidder%22%2C%22bc%22%3A%
22test_vastbidder%22%2C%22kpv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%4011474%22%2C%22kpsv%
22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%40%22%2C%22ps%22%3A%220x0v%22%2C%22af%22%3A%22video%22%
2C%22eg%22%3A10%2C%22en%22%3A%22%2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%2C%22wb%22%3A0%2C%22bid%22%3A%
223288889849269881824%22%2C%22di%22%3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%2C%22ss%22%3A1%2C%22mi%22%3A0%
2C%22dur%22%3A16%7D%2C%22pn%22%3A%22vastbidder%22%2C%22bc%22%3A%22test_vastbidder%22%2C%22kpv%22%3A%22%
2F15671365%2FMDemo%40com.pubmatic.openbid.app%4011458%22%2C%22kpsv%22%3A%22%2F15671365%2FMDemo%40com.
pubmatic.openbid.app%40%22%2C%22ps%22%3A%220x0v%22%2C%22af%22%3A%22video%22%2C%22eg%22%3A10%2C%22en%22%3A%22%
2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%2C%22wb%22%3A0%2C%22bid%22%3A%227841626944608820381%22%2C%22di%22%
3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A16%7D%2C%22pn%22%3A%
22vastbidder%22%2C%22bc%22%3A%22test_vastbidder%22%2C%22kpv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.
openbid.app%4011471%22%2C%22kpsv%22%3A%22%2F15671365%2FMDemo%40com.pubmatic.openbid.app%40%22%2C%22ps%22%3A%
220x0v%22%2C%22af%22%3A%22video%22%2C%22eg%22%3A10%2C%22en%22%3A%22%2211%22%3A60%2C%22l%22%3A0%2C%22t%22%3A0%
2C%22wb%22%3A1%2C%22bid%22%3A%227897566863906128938%22%2C%22di%22%3A%22%22%2C%22dc%22%3A%22%22%2C%22db%22%3A0%
2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A16%7D%2C%22pn%22%3A%22pubmatic%22%2C%22bc%22%3A%22pubmatic%22%2C%
22kpv%22%3A%22%2F15671365%2FMDemo%40x0%22%2C%22kpsv%22%3A%22%2F15671365%2FMDemo%40x0%22%2C%22ps%22%3A%
220x0v%22%2C%22af%22%3A%22video%22%2C%22eg%22%3A5%2C%22en%22%3A4.5%2C%22l%22%3A6%2C%22l%22%3A0%2C%22t%22%3A0%
2C%22wb%22%3A0%2C%22bid%22%3A%22VIDEO12-89A1-41F1-8708-978FD3C0912A%22%2C%22di%22%3A%22PUBDEAL1%22%2C%22dc%22%
3A%22PMP%22%2C%22db%22%3A0%2C%22ss%22%3A1%2C%22mi%22%3A0%2C%22dur%22%3A30%2C%22adv%22%3A%22ae.com%22%7D%5D%7D%
5D%2C%22orig%22%3A%22com.pubmatic.openbid.app%22%2C%22dvc%22%3A%7B%22plt%22%3A4%7D%2C%22ct%22%3A%7B%22id%22%3A%
22381d2e0b-548d-4f27-bfdd-e6e66f4357e%22%2C%22eps%22%3A1%2C%22ttl%22%3A%22StarWars%22%2C%22srs%22%3A%
22StarWars%22%2C%22ssn%22%3A%22Season3%22%2C%22cat%22%3A%5B%22IAB1-1%22%2C%22IAB1-2%22%5D%7D%7D&pubid=5890",
  "prebid": {
    "auctiontimestamp": 1627363054314
  },
  "responsetimemillis": {
    "pubmatic": 62,
    "test_vastbidder2": 60
  },
  "tmaxrequest": 277
}
```

## Debugging VAST bidder tags

1. Checking Alias Entry in debug response ext.prebid.aliases, The test\_vast\_bidder must be an alias of vastbidder.

```
"ext": {
  "prebid": {
    "aliases": {
      "pubmatic2": "pubmatic",
      "test_vast_bidder": "vastbidder"
    },
  },
}
```

2. Checking test\_vast\_bidder tags passed to prebid server, Here we can see list of vast tags with duration, slot level custom parameters, price, tag details and URL of vast tag. Each respective vast tags are selected only if vast tag duration is eligible for requested video durations.

```
"imp": [{
  "ext": {
    "pubmatic": {
      "adSlot": "/15671365/DMDemo@0x0",
      "publisherId": "5890",
      "wrapper": {
        "profile": 5092,
        "version": 1
      }
    },
    "test_vast_bidder": {
      "tags": [
        {
          "dur": 10,
          "params": {
            "param1": "85394"
          },
          "price": 0,
          "tagid": "/15671365/DMDemo@ebay.com@2",
          "url": "http://10.172.141.11:3141/vastbidder/{param1}?VPI=MP4&app[bundle]={bundle}&app[name]={appname}&app[cat]={cat}&app[domain]={domain}&app[privacypolicy]={privacypolicy}&app[storeurl]={storeurl_ESC}&app[ver]={appver}&cb={cachebuster}&device[devicetype]={devicetype}&device[ifa]={ifa}&device[make]={make}&device[model]={model}&device[dnt]={dnt}&player_height={playerheight}&player_width={playerwidth}&ip_addr={ip}&device[ua]={useragent_ESC}&price=10"
        },
      ],
    },
  },
}
```

```

        {
            "dur": 20,
            "params": {
                "param1": "85394"
            },
            "price": 0,
            "tagid": "/15671365/DMDemo@ebay.com@3",
            "url": "http://10.172.141.11:3141/vastbidder/{param1}?VPI=MP4&app[bundle]={bundle}
&app[name]={appname}&app[cat]={cat}&app[domain]={domain}&app[privacypolicy]={privacypolicy}&app[storeurl]
={storeurl_ESC}&app[ver]={appver}&cb={cachebuster}&device[devicetype]={devicetype}&device[ifa]={ifa}
&device[make]={make}&device[model]={model}&device[dnt]={dnt}&player_height={playerheight}&player_width=
{playerwidth}&ip_addr={ip}&device[ua]={useragent_ESC}&price=10"
        }
    ]
}
},

```

### 3. Validating Sample HTTPCalls of VAST Tags.

```

"test_vast_bidder": [
    {
        "params": {
            "ImpIndex": 0,
            "VASTTagIndex": 0
        },
        "requestbody": "",
        "requestheaders": {
            "User-Agent": [
                "PostmanRuntime/7.28.2"
            ],
            "X-Device-Ip": [
                "49.36.218.143"
            ],
            "X-Device-User-Agent": [
                "PostmanRuntime/7.28.2"
            ],
            "X-Forwarded-For": [
                "49.36.218.143"
            ]
        }
    }
]

```



```

    ]
  },
  "responsebody": "<VAST version=\"3.0\" xmlns:xs=\"http://www.w3.org/2001/XMLSchema\"><Ad id=\"20001\"><InLine><AdSystem version=\"4.0\">iabtechlab</AdSystem><AdTitle>iabtechlab video ad</AdTitle><Pricing model=\"cpm\" currency=\"USD\"><![CDATA[10]]></Pricing><Error>http://example.com/error</Error><Impression id=\"Impression-ID\">http://example.com/track/impression</Impression><Creatives><Creative id=\"5480\" sequence=\"1\"><Linear><Duration>00:00:16</Duration><TrackingEvents><Tracking event=\"start\">http://example.com/tracking/start</Tracking><Tracking event=\"firstQuartile\">http://example.com/tracking/firstQuartile</Tracking><Tracking event=\"midpoint\">http://example.com/tracking/midpoint</Tracking><Tracking event=\"thirdQuartile\">http://example.com/tracking/thirdQuartile</Tracking><Tracking event=\"complete\">http://example.com/tracking/complete</Tracking><Tracking event=\"progress\" offset=\"00:00:10\">http://example.com/tracking/progress-10</Tracking></TrackingEvents><VideoClicks><ClickTracking id=\"blog\"><![CDATA[https://iabtechlab.com]]></ClickTracking><CustomClick>http://iabtechlab.com</CustomClick></VideoClicks><MediaFiles><MediaFile id=\"5241\" delivery=\"progressive\" type=\"video/mp4\" bitrate=\"500\" width=\"400\" height=\"300\" minBitrate=\"360\" maxBitrate=\"1080\" scalable=\"1\" maintainAspectRatio=\"1\" codec=\"0\"><![CDATA[https://iab-publicfiles.s3.amazonaws.com/vast/VAST-4.0-Short-Intro.mp4]]></MediaFile></MediaFiles></Linear></Creative><Creatives><Extensions><Extension type=\"iab-Count\"><total_available><![CDATA[2]]></total_available></Extensions></InLine></Ad></VAST>",
  "status": 200,
  "uri": "http://10.172.141.11:3141/vastbidder/85394?ip_addr=49.36.218.143&device[ua]=PostmanRuntime%252F7.28.2&VPI=MP4&app[bundle]=ebay.com&app[storeurl]=https%253A%252F%252Fitunes.apple.com%252Fus%252Fapp%252Fpubmatic-sdk-app%252Fid1175273098%253Fvideobid%253D8%2526appnexus_video_fixedbid%253D4&app[ver]=1.0&price=10&app[name]=OpenWrapperSample&cb=1627976197055498271"
},
{
  "params": {
    "ImpIndex": 0,
    "VASTTagIndex": 1
  },
  "requestbody": "",
  "requestheaders": {
    "User-Agent": [
      "PostmanRuntime/7.28.2"
    ],
    "X-Device-Ip": [
      "49.36.218.143"
    ],
    "X-Device-User-Agent": [
      "PostmanRuntime/7.28.2"
    ],
    "X-Forwarded-For": [
      "49.36.218.143"
    ]
  }
},
}

```

```

    "responsebody": "<VAST version=\"3.0\" xmlns:xs=\"http://www.w3.org/2001/XMLSchema\"><Ad id=\"
20001\"><InLine><AdSystem version=\"4.0\">iabtechlab</AdSystem><AdTitle>iabtechlab video ad<
/AdTitle><Pricing model=\"cpm\" currency=\"USD\"><![CDATA[10]]></Pricing><Error>http://example.com/error<
/Error><Impression id=\"Impression-ID\">http://example.com/track/impression<
/Impression><Creatives><Creative id=\"5480\" sequence=\"1\"><Linear><Duration>00:00:16<
/Duration><TrackingEvents><Tracking event=\"start\">http://example.com/tracking/start<
/Tracking><Tracking event=\"firstQuartile\">http://example.com/tracking/firstQuartile<
/Tracking><Tracking event=\"midpoint\">http://example.com/tracking/midpoint</Tracking><Tracking event=\"
thirdQuartile\">http://example.com/tracking/thirdQuartile</Tracking><Tracking event=\"complete\"
>http://example.com/tracking/complete</Tracking><Tracking event=\"progress\" offset=\"00:00:10\"
>http://example.com/tracking/progress-10</Tracking></TrackingEvents><VideoClicks><ClickTracking id=\"
blog\"><![CDATA[https://iabtechlab.com]]></ClickTracking><CustomClick>http://iabtechlab.com<
/CustomClick></VideoClicks><MediaFiles><MediaFile id=\"5241\" delivery=\"progressive\" type=\"video
/mp4\" bitrate=\"500\" width=\"400\" height=\"300\" minBitrate=\"360\" maxBitrate=\"1080\" scalable=\"
1\" maintainAspectRatio=\"1\" codec=\"0\"><![CDATA[https://iab-publicfiles.s3.amazonaws.com/vast/VAST-
4.0-Short-Intro.mp4]]></MediaFile></MediaFiles></Linear></Creative></Creatives><Extensions><Extension
type=\"iab-Count\"><total_available><![CDATA[2]]></total_available></Extension></Extensions></InLine><
/Ad></VAST> ",

    "status": 200,

    "uri": "http://10.172.141.11:3141/vastbidder/85394?VPI=MP4&device[ua]=PostmanRuntime%252F7.28.2
&price=10&app[storeurl]=https%253A%252F%252Fitunes.apple.com%252Fus%252Fapp%252Fpubmatic-sdk-app%
252Fid1175273098%253Fvideobid%253D8%2526appnexus_video_fixedbid%253D4&app[bundle]=ebay.com&app[name]
=OpenWrapperSample&ip_addr=49.36.218.143&app[ver]=1.0&cb=1627976197055545192"

  }

```

#### 4. Request Headers for Each VAST Tags

```

"requestheaders": {

  "User-Agent": [

    "PostmanRuntime/7.28.2"

  ],

  "X-Device-IP": [

    "49.36.218.143"

  ],

  "X-Device-User-Agent": [

    "PostmanRuntime/7.28.2"

  ],

  "X-Forwarded-For": [

    "49.36.218.143"

  ]

}

```

5. All macros are replaced with values from the bid request. Parameters no present in the bid request are removed.

VAST bidder-configured VAST tag URL before the macro is replaced:

[http://10.172.141.11:3141/vastbidder/{param1}?VPI=MP4&app\[bundle\]={bundle}&app\[name\]={appname}&app\[cat\]={cat}&app\[domain\]={domain}&app\[privacypolicy\]={privacypolicy}&app\[storeurl\]={storeurl\\_ESC}&app\[ver\]={appver}&cb={cachebuster}&device\[devicetype\]={devicetype}&device\[ifa\]={ifa}&device\[make\]={make}&device\[model\]={model}&device\[dnrt\]={dnrt}&player\\_height={playerheight}&player\\_width={playerwidth}&ip\\_addr={ip}&device\[ua\]={useragent\\_ESC}&price=10](http://10.172.141.11:3141/vastbidder/{param1}?VPI=MP4&app[bundle]={bundle}&app[name]={appname}&app[cat]={cat}&app[domain]={domain}&app[privacypolicy]={privacypolicy}&app[storeurl]={storeurl_ESC}&app[ver]={appver}&cb={cachebuster}&device[devicetype]={devicetype}&device[ifa]={ifa}&device[make]={make}&device[model]={model}&device[dnrt]={dnrt}&player_height={playerheight}&player_width={playerwidth}&ip_addr={ip}&device[ua]={useragent_ESC}&price=10)

After the macro is replaced:

[http://10.172.141.11:3141/vastbidder/85394?ip\\_addr=49.36.218.143&device\[ua\]=PostmanRuntime%252F7.28.2&VPI=MP4&app\[bundle\]=ebay.com&app\[storeurl\]=https%253A%252F%252Fitunes.apple.com%252Fus%252Fapp%252Fpubmatic-sdk-app%252Fid1175273098%253Fvideobid%253D8%2526appnexus\\_video\\_fixedbid%253D4&app\[ver\]=1.0&price=10&app\[name\]=OpenWrapperSample&cb=1627976197055498271](http://10.172.141.11:3141/vastbidder/85394?ip_addr=49.36.218.143&device[ua]=PostmanRuntime%252F7.28.2&VPI=MP4&app[bundle]=ebay.com&app[storeurl]=https%253A%252F%252Fitunes.apple.com%252Fus%252Fapp%252Fpubmatic-sdk-app%252Fid1175273098%253Fvideobid%253D8%2526appnexus_video_fixedbid%253D4&app[ver]=1.0&price=10&app[name]=OpenWrapperSample&cb=1627976197055498271)

## VAST bidder FAQs

### VAST bidders:

Q: How is a VAST bidder different from an OpenWrap bidder?

- VAST bidder responses are VAST XML. OpenWrap bidder responses are standard OpenRTB.
- VAST doesn't offer a blacklist feature and OpenWrap does.

Q: What is an aliased VAST bidder?

- Aliased bidders allow you to add more than one instance of a bidder in a single profile.
- For detailed information, see [Aliased Bidders in OpenWrap](#).

Q: Can I map an OpenWrap bidder and VAST bidder in the same profile?

Yes. OpenWrap and VAST bidders require their own mapping template.

### VAST tags:

Q: What is a dynamic price?

The price returned by the VAST bidder as a part of VAST XML.

Q: Can I delete a VAST tag?

Yes; however, the PubMatic system doesn't hard-delete the tag, it archives it for auditing purposes. A VAST tag that's been deleted still appears in reporting. For detailed instructions, see [Delete a VAST ad tag](#).

Q: Can I create a VAST tag with the same name as a deleted VAST tag?

No. The PubMatic system doesn't hard delete tags, it archives them for auditing purposes.

Q: How long does it take for a mapped VAST tag modification to take effect?

It takes a maximum of 30 minutes for changes to take effect.

### Mapping ad units:

Q: How many VAST tags can I map for a single profile?

There isn't a limit to number of VAST tags per profile, as long as they follow these constraints:

- A maximum of ten active mappings can be mapped to a given slot group. For example:
  - Ad Unit = myadunit
  - Site/app = myapp
  - Slot Group = myadunit@myapp
  - There isn't a limit to the number of slot groups in a mapping file, and each slot group can have multiple mappings
  - A mapping can be either active (1) or inactive (0)
  - You can have a maximum of ten active mappings per slot group
  - You can upload an unlimited number of inactive mappings per slot group

Q: What happens if a mapped VAST tag is deleted?

- The deleted tag will not be considered by OpenWrap. This takes 30 minutes or less once you delete the VAST tag.
- The PubMatic system will return an error if you try to upload a deleted VAST tag.

Q: What happens if a mapped VAST tag is paused?

- The paused VAST tag will not be considered by OpenWrap. This takes 30 minutes or less once you pause a VAST tag.
- A mapping will accept a paused VAST tag.

Q: What happens when I change a VAST tag to live?

- The live VAST tag will be consumed by OpenWrap in 30 minutes or less.
- A mapping will always accept a live VAST tag

Q: What do the Param1 to Param5 columns represent in the mapping template?

- These columns are optional and represent VAST bidder level parameters.
- The values in these columns will be sent to VAST bidders.
- VAST tag URLs contain corresponding macros for each parameter.
- If macros are present in the VAST tag URL, the values provided in these columns will be used by OpenWrap to replace these corresponding macros.

Q: How much time does it take to consume a modified mapping file?

Less than 30 minutes.

Q: Can I upload a template that contains only inactive mappings?

Yes. The UI will not show the file as uploaded, it will still have a status of not uploaded. We are working to improving this feature.