Inventory Description API Specification

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Purpose

This API proposal has a dual purpose:
- To allow SSPs to describe and represent publisher inventory across all buying channels.
- To allow DSPs and buyers to buy SSP inventory more efficiently by using detailed inventory information

This is an offline API, not a real-time bid-level API.

Design Philosophy

A common friction in APIs is arguments: requirements, passing, etc. Here the API should be fully linkable. One can start at a top level simple API and find links within the returned objects to drill down.

Use Cases

Basic Discovery of Inventory by Publisher
- **As a** buyer using a DSP
- **I can** see full list of publishers available through each exchange or SSP, including metadata and descriptions
- **So that** I can approximate how much inventory I can get and on what kinds of sources

Find/Target specific Publishers or "Private Exchanges" (these are identified by publisher)
- **As** a buyer or agency using a DSP
- **I can** find and target specific publishers (or sites within publishers) on a specific SSP
- **So that** I can better execute a "direct deal"

Estimate inventory availability, including size breakout
- **As a** buyer or agency using a DSP
- **I can** estimate the approximate impressions available for pubilshers & sites, broken out by sizes
- **So that** I can plan delivery of the campaign

Check if this inventory is allowed for this DSP?

- *See appendix for open questions and notes.*
- As a DSP
- I can see what publishers are live on an exchange or SSP that are not enabled for the current DSP
- So that I can petition to have myself unblocked on that publisher
- Suggested values are "blocked", "partially allowed", "allowed".
- NOTE: This one is the least clear use case of all of them. Thoughts?
-

Authentication

Authentication will use HTTP Digest authentication. Access to the API is authorized through the use of an API Key and cryptographic signature which is required for each request. Each request should set the HTTP Authorization header using the standard Digest authentication scheme where the username is the API Key and the secret is a shared secret known only to the SSP and you.

See the OpenRTB advertiser blocklist specification for details.

Object Hierarchy

The API returns objects within an industry standard hierarchy.
1. Publisher
2. Site

At each level it is possible to make a separate API request to get basic inventory report for availability and impressions.

Publisher List Request

This request retrieves a top level list of all publishers available on the supply source. Example URL request (may differ for different DSPs).
Example:

      http://ssp.com/pubs

Note - the response will typically be paginated via the next_link but in this version the size is not controllable by the client.

Request parameters:
      None

List of data fields in the response:

Field	Description	Availability

id	Publisher ID	Always
name	Publisher Name	Always
description	Publisher Description	Always
categories	Publisher tags or categories	Optional
sites_link	Link to API call to get all sites	Always
updated	ISO 8601 Date String with timezone. Last updated time of object.	Optional
blocklist_link	Link to Blocklist API call for this publisher. **NOTE:** This will be DSP specific as this API hasn't been standardized.	Optional
report_link	Link to Report data API call **NOTE: See "Report Data Request" below.**	Optional
next_link	Link to next frame of data	Optional

Sample

```
{
   "publishers": [
      {
         "id": 123,
         "name": "abc pub",
         "description": "acme pub description",
         "categories": [
            "sports",
            "news"
         ],
         "updated": "2012-08-12T12:30:00Z",
         "sites_link": "http://ssp.com/pub/123/sites",
         "blocklist_link": "http://ssp.com/pub/123/blocklist",
         "report_link": "http://ssp.com/pub/123/report"
      }
   ]
   /* Retrieves the next N publisher objects */
   "next_link" : "http://ssp.com/pubs?uid=23423534wdrw3453e"
}
```

Site List Request

This request gets the list of sites for a given publisher (required).

Example:
    http://ssp.com/pub/123/sites

Request parameters:
    None

List of data fields in the response:

Field	Description	Availability
id	Site ID	Always
name	Site Name	Always
description	Site Description	Always
sites_urls	List of top level URLs associated with site. See notes below.	Always
updated	SO 8601 Date String with timezone. Last updated time of object.	Optional
categories	Site tags or categories	Optional
deal_types	**PROPOSAL/PLACEHOLDER** Possible values: "standard" "private_marketplace" "private_deal" **NOTE:** This may not be standardized across all SSPs.	Optional
blocklist_link	Link to Blocklist Info	Optional
report_link	Link to Report data **NOTE:** See "Report Data Request" below.	Optional
next_link	Link to next frame of data	Optional

Notes:
- The "site_urls" list can be a list of URLs, TLDs, etc that point to the main landing/index page of the site. The consumer of the data is expected to normalize it as needed. The OpenRTB blocklist API is similar in practice.
- A future version may have a site_link to provide a URL to retrieve data for a single site.

Sample

```
{
    "sites":[
```

```
      {
          "id": ABC,
          "name": "sports site",
          "description": "sports site section & buying details",
          "categories": [
              "sports"
          ],
          "site_urls": [
              "http://abc.com", "http://def.com"
          ],
          "updated": "2012-08-12T12:30:00Z",
          "blocklist_link": "http://ssp.com/pub/123/blocklist",
          "report_link": "http://ssp.com/pub/123/report",
          "next_link": "http://ssp.com/pubs/123/sites?uid=23423534wdrw3453e",
          "deal_types" : ["private_marketplace", "private_deal"]
      }
    ]
}
```

Report Data Request

For each publisher and/or site a user can get basic summary inventory estimates. The estimates will be provided per-size to help targeting.

http://ssp.com/pub/123/report?[site_id=ABC]

Request parameters:

Parameter	Description	Required?
site_id	Limits returned objects to belong only to a specific site_id.	Optional

The estimates are for **daily** impressions/uniques, averaged over 7 days.

List of data fields in the response:

Field	Description	Availability
publisher_id		Always
site_id		Always
impressions	Total number of impressions available on this site daily (Integer)	Always

uniques	Total number of uniques available on this site daily (Integer)	Optional
cpm	Average CPM on this site (Float)	Optional
available	Is this inventory available to the DSP that's querying for the inventory. This helps determine permissions on the specific publisher or site.	Optional

Sample

```
{
   "publisher_id": 123,
   "site_id": 232,
   "sizes":[
      {
         "size": "728x90",
         "impressions": 1233423,
         "uniques": 133423,
         "cpm": 1.50,
         "available": 1
      },
      {
         "size": "300x250",
         "impressions": 2342323,
         "uniques": 133423,
         "cpm": 1.50,
         "available": 1
      }
   ]
}
```

Appendix:

Should we support the following use case?

Check if this inventory is allowed for this DSP:
- As a DSP, I can see what publishers are live on an exchange or SSP that are not enabled for the current DSP
- So that I can petition to have myself unblocked on that publisher
- Suggested values are "blocked", "partially allowed", "allowed".

Implementation ideas:

- Use a custom URL for each DSP. Needs all DSPs to be assigned and know their 'ids'. Benefit is that it doesn't change the nature of the above API and remains RESTful friendly.