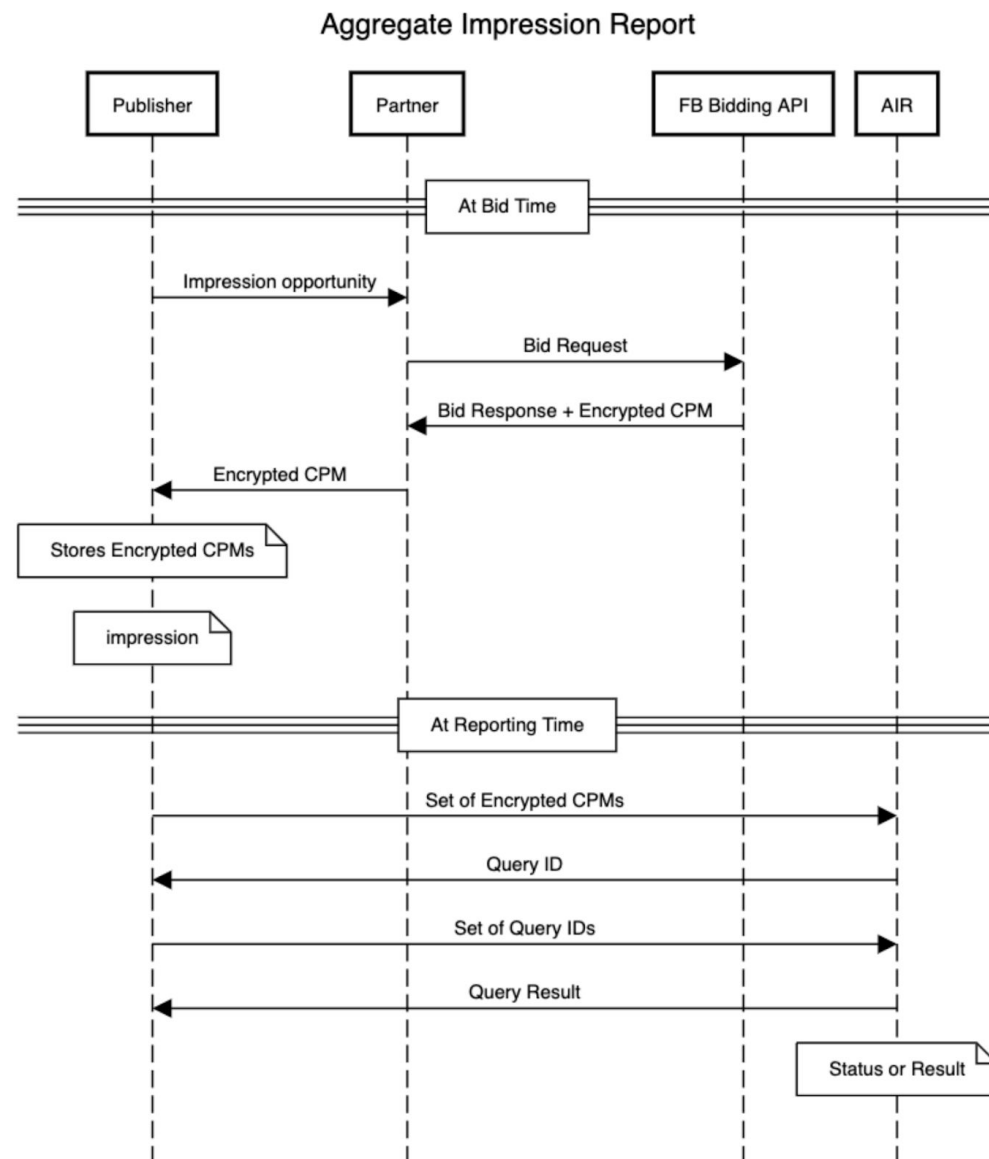


## What is AIR?

- It is an easy-to-use solution that will provide publishers with aggregate data on impression performance allowing them to understand cohorts of users.
- It provides data that publishers need to measure ROAS.

## How does it work?

- Audience Network will provide a new field-encrypted CPM in the bid response that mediation partners will need to share with publishers
- Publisher stores this data against chosen identifier - this can be any identifier the publisher can create or access
- Once the encrypted CPMs are aggregated, the AIR API is called. This step requires a minimum of 500 different valid impressions to protect user privacy.
- Audience network will send back a query ID that the publisher can use to get the results of the query



## API Overview (Will be consumed directly by publishers, ETA 30th September)

- Name: Aggregated Impression Revenue (AIR)
- Supports batch
- Async processing
- Thresholds as defined in the terms of the beta
- 2 operations
  - **Request for aggregation:**  
The publishers should call this API with a list of valid encrypted ECPMs which resulted in an impression

Endpoint: [https://graph.facebook.com/<app\\_id>/aggregate\\_revenue](https://graph.facebook.com/<app_id>/aggregate_revenue)

### Request Params

Parameters	Description
request_id	Request id generated by publisher
ecpms	List of ecpms for aggregation
access_token	System user token of the app

### Response

Parameter	Description
request_id	Query id generated at FB which will be used by pub to query the result
query_id	Query id generated at FB which will be used by pub to query the result

### Constraints

- Minimum 500 encrypted CPMs which resulted in impressions
- Maximum 2000 encrypted CPMs which resulted in impressions
- A single encrypted CPM can only be queried 10 times in total
- All encrypted CPMs in a request must be within “one 24 hour” window (doesnt have to be the last 24 hours though)

### Errors

- too\_many\_ecpms: The number of encrypted cpms passed in the request were greater than the specified limit.
- too\_few\_ecpms: The number of encrypted cpms passed in the request were smaller than the specified limit
- both\_ecpms\_and\_queries\_passed\_in\_request: Only pass list of encrypted CPMS or list of query\_ids in a single request. We do not support both operations in the same API call

- **neither\_ecpms\_nor\_queries\_passed\_in\_request:** Pass at least one of encrypted CPMs or list of query\_ids in a request.
- **forbidden:** The requesting entity is not authorized to get data for the app. Please check your SystemUserToken and app\_id to ensure the SystemUserToken has required access

○ **Request for query**

Endpoint: [https://graph.facebook.com/<app\\_id>/aggregate\\_revenue](https://graph.facebook.com/<app_id>/aggregate_revenue)

Request Params

Parameters	Description
query_ids	List of query_ids for aggregation
access_token	System user token of the app

Response

Parameter	Description
query_ids	Map of query_ids with their status  <pre>{...,   "query_ids": {     "query_id_1": "processing",     "query_id_2": 5075.98,     "query_id_3": "too few distinct impressions",     ...,   }   ..., }</pre>

- Publisher will ask for the query results corresponding to the query\_id received in the first API
- Publishers may batch query\_ids together. Max limit of 20 query\_ids in a single batch request
- Query\_ids will be available for query for the next X(7) days from generation

Errors

- **both\_ecpms\_and\_queries\_passed\_in\_request:** Only pass list of encrypted CPMS or list of query\_ids in a single request. We do not support both operations in the same API call
- **neither\_ecpms\_nor\_queries\_passed\_in\_request:** Pass at least one of encrypted CPMs or list of query\_ids in a request.
- **forbidden:** The requesting entity is not authorized to get data for the app. Please check your SystemUserToken and app\_id to ensure the SystemUserToken has required access
- **no\_valid\_query\_ids\_passed\_in\_request:** The request does not have any valid query\_ids to give results for

- `too_many_query_ids`: The number of `query_ids` passed in the request were greater than the specified limit.

Possible values for `query_id_results`

- `submitted`: The query has been submitted but has not been processed yet.
- `processing`: The query is being processed. Result is not obtained yet.
- `<Value is USD>`: The query has been processed. The float value represents aggregated revenue corresponding to the encrypted CPMs in USD with an additional noise added.
- `internal_error`: Something unexpected happened during query processing. Please reach out to us with `query_id` and `request_id`
- `too_few_ecpms`: While the request had more than the required encrypted CPMs, some of the encrypted CPMs turned out to be invalid during processing(expired, did not result in an impression, etc) and the overall number of distinct encrypted CPMs was smaller than the specified limit

## Sample Bid Response with Encrypted CPM

```
{
  "id": "request_id",
  "seatbid": [{
    "bid": [{
      "id": "5952435798315929514",
      "impid": "request_imp_id",
      "price": 0.45860661,
      "adm": "bid_payload",
      "nurl": "https://www.facebook.com/audiencenetwork/nurl/*.*",
      "lurl": "https://www.facebook.com/audiencenetwork/nurl/*.*",
      "burl": "https://www.facebook.com/audiencenetwork/burl/*.*",
      "ext": {
        "encrypted_cpm":
"ARE0CnURMoKOIi1TFEjZGBxCofGJAFkLp-6jdkYDt7iwigbmhnNb9GEa9hIPwaqf_KautmhenM0xTDHJ4J5
Qjrx_hZT0kzUIQ1TEmkGt_KK0og"
      }
    }]
  }],
  "bidid": "5971462766981738161",
  "cur": "USD"
}
```

## Sample AIR Requests

- Aggregation

```
curl -XPOST 'https://graph.facebook.com/<app_id>/aggregate_revenue/' -d
'{"request_id" : "request_id_1", "ecpms" : ["ecpm1", "ecpm2", ... "ecpm600"],
"access_token" : "<your_access_token>" }'
```

- Query

```
curl -XPOST 'https://graph.facebook.com/<app_id>/aggregate_revenue/' -d '{query_ids : ['query_id_1', 'query_id_2'], 'access_token' : '<your_access_token>' }'
```

## FAQ

- **Question:** Why must the CPMs returned be aggregated? I want the data at the individual impression-level.
- **Answer:** minimum of 500 different valid impressions is required to protect user privacy
- **Question:** Are there any limits on the number of API calls publishers can make for an app?
- **Answer:** No there are no limits on the number of times an API can be called by a publisher for an app. However, there is a limit(10) on the number of times an encrypted CPM can be successfully queried for data.
- **Question:** What does the number in the API response correspond to. Is it an average/aggregation etc?
- **Answer:** The revenue number in the API response is total aggregated revenue corresponding to the list of encrypted CPMs passed in the API in USD with an additional differential privacy noise added on top of the aggregation
- **Question:** What does an encrypted CPM look like?
- **Answer:** Encrypted CPM is blob of string which does not contain any meaningful information on its own. An example  
AREPIFkDtqBSO61qLfXZ84PS7C2Xa1p8tdKLGQue4X0Ri-gM0W146mWBLkMXUyDOolNZk1lxhtKQGDe\_CaDIsmb45E7OYMvSTsDwsCzDZfVtz37HMPNDug
- **Question:** How can publishers get access to encrypted CPM field in the bid response
- **Answer:** Encrypted CPM will be surfaced by the corresponding partner. The mechanism may vary from partner to partner. The changes in bid response are live and partners are working on integration.
- **Question:** What is the difference between the Reporting API and the AIR API?
- **Answer:** The major difference between Reporting API and AIR API is that Reporting API only works on aggregations/breakdowns pre defined by FB like country, platform, placement etc and does not allow for custom aggregations. AIR API allows for publishers to choose their aggregation criteria.

	Revenue metric for a day	Revenue metric for greater than a day	Non revenue metric
Default Aggregation (Country, platform, placement etc)	Reporting API	Reporting API	Reporting API

<b>Custom aggregation (campaign_id etc)</b>	<b>AIR</b>	Split the aggregation in 24 hour window buckets.	X
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