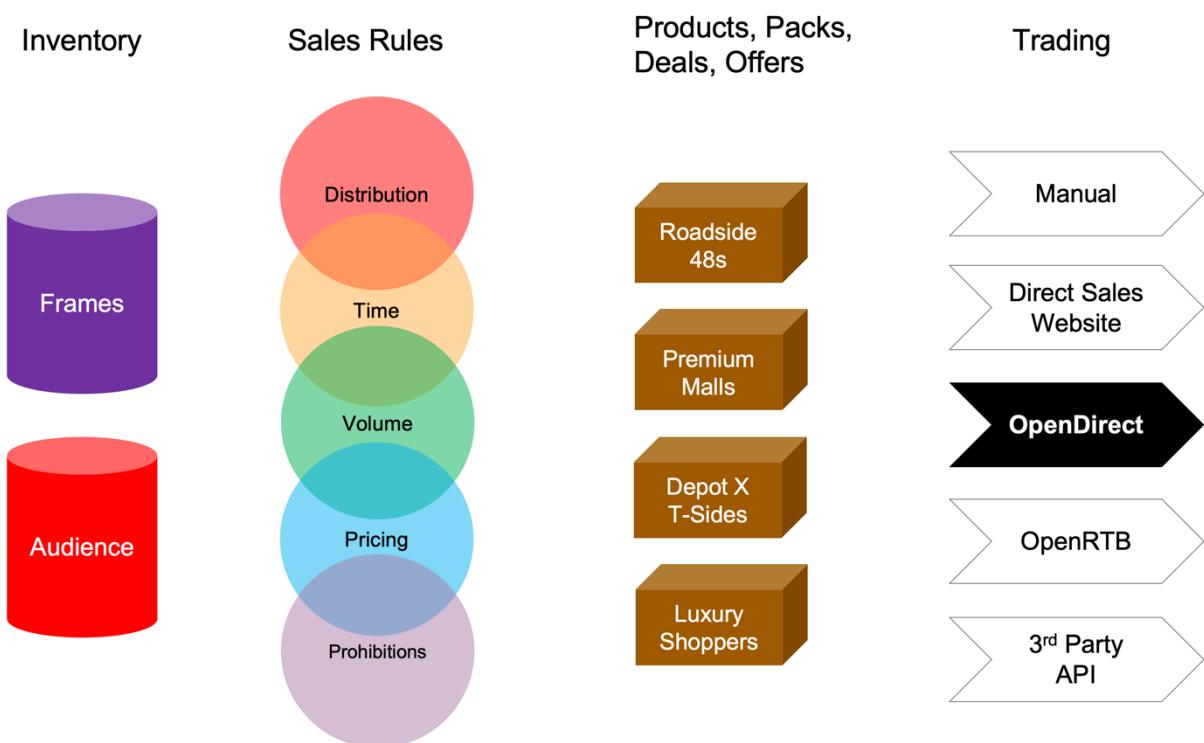


OOHpenDirect 1.5.1 v1.0

An OpenDirect 1.5.1 Implementation for the Out-Of-Home Industry



OpenDirect 1.5.1

The OpenDirect Working Group is a working group within the IAB Technology Lab. Further details about the IAB Technology Lab can be found at: <https://iabtechlab.com/working-groups/opendirect-working-group/>

OOHopenDirect 1.5.1

About Outsmart

Outsmart is the UK trade body for the Out of Home advertising industry. Members include the biggest sellers of OOH advertising in the UK: Clear Channel UK, Global, JCDecaux and Ocean Outdoor.

About the UK OOH Industry Standards Committee

The OOH Standards Committee has representation from both Outsmart and IPAO. The IPAO represents the biggest buyers of Out of Home advertising. The committee consults, develops and agrees upon standards which are required to improve the efficiency and effectiveness of the operation of Out of Home Buying and Selling

About the Technical Sub-Group

The Technical sub-group is a part of the OOH Industry Standards Committee. This group of experts sourced from Media Owners, Agencies and Specialists from the OOH Industry, were challenged to create a standard way for Media Owners/Publishers to make their inventory discoverable in a OpenDirect-compliant interface where agencies and advertisers can programmatically trade OOH inventory directly.

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Executive Summary

OpenDirect

OpenDirect enables publishers to offer premium inventory using a programmatic interface that partners and vendors build according to the OpenDirect specifications.

Every organization in the industry uses some kind of interface (or a combination thereof) to manage inventory throughout the buying and selling of premium, reserved inventory. Each system is different, which means if one partner wants to integrate their system with another system, the integration is customized to that system. Further integrations all require customization, each instance consuming valuable overhead. While the overhead enables more business, cutting down on the cost of these integrations allows resources to be diverted to more important ad operations tasks.

OpenDirect provides a standard way for publishers to make their inventory available in any OpenDirect-compliant interface where agencies and advertisers can reserve and purchase inventory.

For publishers, this means that in a programmatic marketplace, publishers can make premium guaranteed inventory available to more buyers. Tech providers can offer a greater variety of premium inventory to their customers. For the industry, a marketplace that uses OpenDirect means more fluid movement of inventory while greatly reducing the overhead involved when integrating with partners.

Adoption of OpenDirect also opens the doorway to controlled access and improved tracking of inventory across systems, providing early visibility reporting and potentially reducing discrepancies down the road. While OpenDirect does not directly enable improved impression counting between parties, it does lay the foundation for opportunities to improve impression reporting between systems.

Publishers can begin using OpenDirect by modifying their systems to log Organizational IDs and accounts consistent with the specs in this document. They also need to be able to respond to API requests for inventory details as well as manage inventory in response to API requests.

Tech providers who want to use OpenDirect need to make use of the API in this spec as they design and build their interfaces for offering automated guaranteed inventory.

As OpenDirect becomes widely adopted in the marketplace, the movement of premium inventory becomes more fluid.

OOHopenDirect

OOHopenDirect is an extension of the OpenDirect schema, particularly around the ‘Product Target’ function, to accommodate the unique aspects of the ‘real world’ OOH inventory in the dimensions of location, delivery, distribution, investment and display prohibitions.

OpenDirect (and OpenRTB) trades with real time Audience impressions, whereas Out-Of-Home media can be sold in the wider dimensions of predefined time, share of time, physical locations as well as audience impressions.

OOH Media manifests itself as display of the advert on a frame at a defined location and time which then gives an audience in the vicinity of that advert an opportunity to see the advertising.

OOHopenDirect 1.5.1 uses the concept of ‘OOHbjects’ which are used to discover and target the multidimensional aspect of OOH media. An OOH media owner/ publisher can use one or more OOHbjects to translate their sales policy into DealIDs or Products that can then be discovered, targeted and traded programmatically.

Creative Assignment has been omitted from the OOHopenDirect 1.5.1 document as this will be addressed in OOHopenDirect 2.0 using the AdCom model as described in the IAB OpenDirect 2.0 documentation for Video and OOH media support.

OpenDirect 1.5.1 & OOHopenDirect 1.5.1 Comparison

A summary of the additions and extensions to OpenDirect 1.5.1 are summarised in red below and highlighted where relevant in this document in the same red text.

The extensions were created to cover five key areas

Buying Types

The OOH Industry in the UK has three main types of organizations known as Advertiser, Agency and Specialist agency who may all be involved in the campaign

Brand Identification

The OOH industry has Prohibitions around certain types of products running in certain physical locations which requires a more detailed level of granularity around Advertiser and Brand

OOH ProviderData

OOH Provider Data is used for Buyers to detail information that may be used to identify their order in a Seller's system using specific IDs or references. This would be mainly used for manually identifying orders in the event of the automated process needing manual intervention.

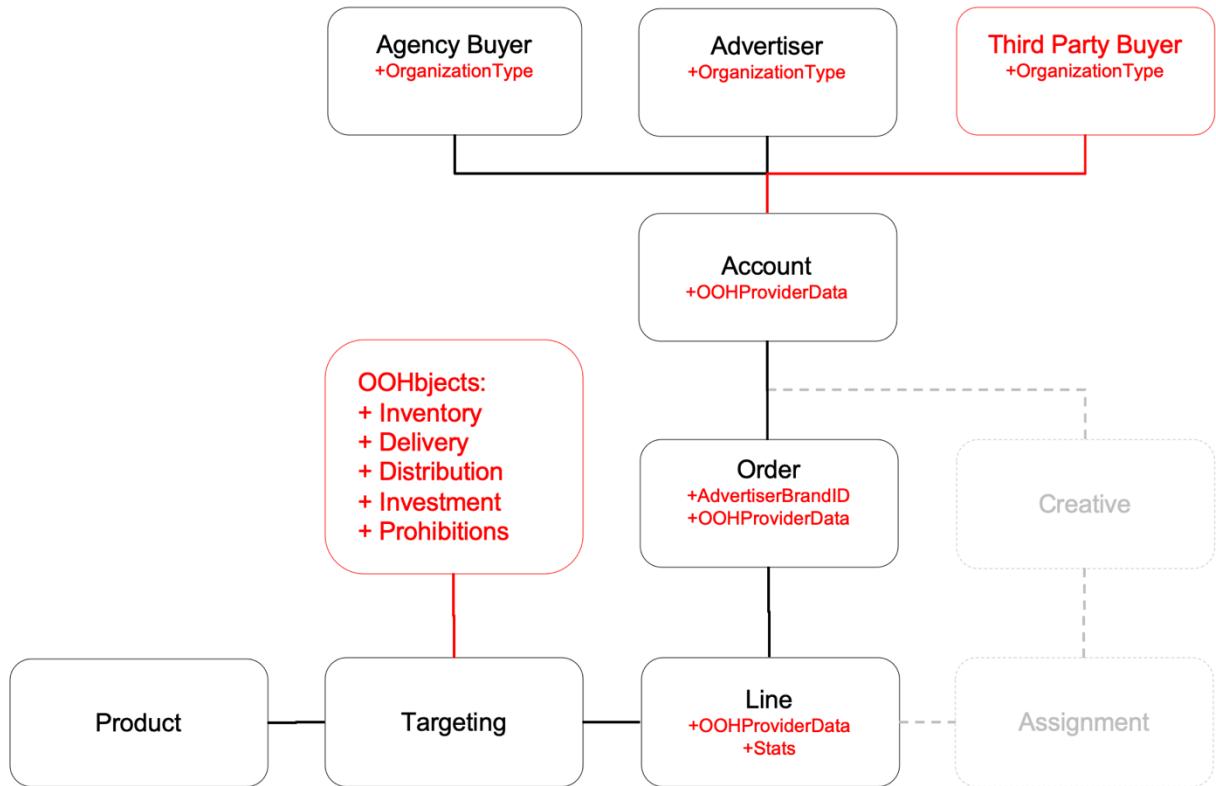
Stats

A method to publish the OOH display schedule generated to fulfil the campaign targeting requirements (pre-flight) and the performance of the schedule when the campaign is in flight and/or completed.

Targeting OOHbjects

A collection of targeting criteria used to discover and target the digital and physical presentation aspects of OOH media. This includes:

- Inventory: What a media owner / publisher sells in terms of Audience or Frames.
- Delivery: How adverts are displayed from a start and end time, and the share of that display time.
- Distribution: How the adverts are distributed across the times and locations booked by audience and/or investment.
- Investment: How the campaign is quantified for trading purposes (Fixed price, Cost Per Thousand Audience, Cost Per Frame).
- Prohibitions: Information about any brand safety prohibitions that will affect the playout of certain brand types in certain locations e.g. fast food prohibitions on certain locations.



Version Control

Version	Author	Date	Page	Description
0.2	Tim Harvey	16/03/20	All	First Draft of OOHopenDirect 1.5.1
1.0	Tim Harvey	24/04/20	All	Published Version of OOHopenDirect 1.5.1

Audience

Buy and Sell Side Tech providers can use the specifications in this document to build a system for accessing and booking OOH publisher/media-owner inventory. Tech providers may include the technical staff or partners who work with agencies, networks, exchanges, or specialty vendors that offer inventory purchasing services.

Publishers/Media-Owners also need to use this spec to make their inventory available to API requests from Tech Providers.

1. Introduction/Overview

The OpenDirect API provides a standard way for publishers to integrate with tech provider partners so that they can offer premium guaranteed inventory programmatically. Using the API, buyers can build one system that can access inventory from multiple publishers without custom integrations for each one.

Some of the features supported in OpenDirect are:

- Searching product inventory
- Determining price and availability
- Applying targeting and frequency constraints
- Creating orders and adding lines
- Uploading creative and assigning creative to lines
- Reserving and booking inventory

Additional features are added with each new update to further enable wider adoption and support the needs of the industry.

1.1 How it works

At a high level, the workflow involves establishing a relationship between buyer and publisher, setting up accounts, and placing orders on the buyer side while publisher systems respond to API requests for order placement. The following table outlines general steps for using the API: Buy

Buy Side	Sell Side
1. Establish a relationship In order to buy inventory with publishers using OpenDirect systems, buyers must first obtain an ID from the publisher that can be used in any OpenDirect system for as long as you do business with the publisher.	1. Establish a relationship To protect your inventory, buyers must first obtain an ID from you. This ID can be used in any OpenDirect compliant system for as long as you maintain a business relationship with the buyer.
2. Set up Buyers use with their publisher-obtained IDs and create accounts to begin browsing inventory and placing orders.	2. Set up Publishers create organization accounts for buyers to access in any OpenDirect system which the publisher has a working relationship.
3. Place Orders After establishing accounts in the system, buyers can begin browsing publisher inventory and adding lines to orders.	3. Respond to API Requests Once buyers are set up in their OpenDirect system(s), they can begin browsing and booking inventory. On the publisher side, this is received as API requests that publisher systems must respond to.
4. Validate Delivery of Orders Buyers can check the delivery status of In-flight and completed orders	4. Report on Order Delivery Request for order delivery progress and completion, based on the targeted metrics of the booked order, is received as API requests that publisher systems must respond to.

1.2 Authorisation

The OpenDirect API is a RESTful API that supports paging query parameters and uses OAuth to authenticate users. A publisher must support at least one "full access" user account (API credentials) per buying organization. Non-buying organizations may have optional user accounts. A publisher may support flexible permission schemes for additional user accounts.

OpenDirect users include:

Organization: All organizations that work with the publisher must obtain an Organization ID, whether they are a buyer, or a brand advertiser.

Buyer: The buyer is the organization that places orders and usually represents an agency or OOH 'Specialist' agency acting on behalf of the advertiser, or the advertiser that places orders directly. If the buyer represents advertisers, the buyer must obtain formal consent for acting on behalf of the advertiser and provide proof of that consent to the publisher.

Advertisers: Advertisers represent the brands that purchase publisher inventory for advertising their brands. An advertiser may also be a buyer, but if the advertiser works with a buyer, the advertiser must provide formal consent to allow the buyer to act on its behalf. The Advertiser ID can be used to set up advertiser accounts in an agency or publisher's OpenDirect system.

1.3 Programming Elements

For details about the programming elements that this specification defines, see the following sections.

Resources: The key objects, such as Account, Order, Line, Creative, etc. that define the OpenDirect API.

Common Objects: Defines the objects that supply field values used in one or more resources, such as Address and Contact.

Collection Objects: A list of objects that return an array of values for a field, typically provided by the publisher. For example, publisher-defined target fields (Target) and their values (TargetValue) are provided as collection objects, where Target might be 'Age' and the TargetValue would be a list of the publisher-defined age groups (18-24, 25-32, 33-39, etc.)

URIs and General Request/Response Rules: Defines the URI supported HTTP verbs (GET, POST, etc.) for each resource.

Authentication: Defines the authentication scheme that publishers must use.

Versioning: Defines the versioning scheme that publishers must use.

HTTP Error CodesError Handling: Defines the error objects that publishers must return for 400 Bad Request errors.

Reporting: Defines the reporting URIs and objects.

OpenDirect Workflow: Outlines the process for establishing an account and the calls required to create and process an order.

2. Resources

The OpenDirect API is a RESTful API that supports JSON. This section defines the JSON resource objects used by the API. For a diagram that shows the relationships between these resources, see Resource Model.

The table illustrations below use the following colour scheme to highlight the changes/additions the OOHopenDirect 1.5.1 specification has made to OpenDirect 1.5.1

Grey = This property has been omitted from the OpenDirect 1.5.1 standard.

Red = This property is an addition or amendment to the OpenDirect 1.5.1 standard.

For a list of URLs that use these resources, see the URLs section.

2.1 Account

An account defines a buyer-advertiser relationship. A buyer is typically an agency that places orders on behalf of several advertisers. Each account associates a buyer with one advertiser and is used to manage orders for one publisher. An advertiser may also work with several buyers, and therefore, advertisers have a separate account for each buyer they work with. If an advertiser represents itself, the account identifies the advertiser as both the buyer and the advertiser.

Before an agency may create accounts and perform buys on behalf of the advertiser, the advertiser must give permissions to the agency. The process of giving or removing permissions is publisher-defined. Creating an account must fail if the advertiser has not given the agency permissions.

The Account owns the order.

Property	Source	Description	Type	Constraints	Add	Update	OOH Supply Side Requirement
AdvertiserId	OD	An ID that identifies the organization that is acting as the advertiser. Advertiser ID may be generated by the buyer (agency) or by the publisher if the advertiser is also the buyer. An advertiser that is representing itself must have an AdvertiserId and BuyerId that match.	String	Max 36 char	Required	Read-only	Must support
BuyerId	OD	An ID that identifies the organization that is acting as the buyer. The Publisher generates the BuyerId. If the advertiser is performing their own buys, AdvertiserId and BuyerId must be the same.	String	Max 36 char	Required	Read-only	Must support
ThirdPartyId	OOHD	An ID that identifies the organization upon who's behalf an Order is being placed (e.g. a group media agency).	String	Max 36 char	Required	Read-only	Must support
Id	OD	A system-generated opaque ID that uniquely identifies the account.	String	Max 36 char	Read-only	Read-only	Must support
Name	OD	The name of the account. Used for display purposes.	String	Max 36 char	Required	Optional	Must support
ProviderData	OD	An opaque CLOB of provider-defined data. Providers may use this field as needed (for example, to store an ID that correlates this object with resources within their system). Note that any provider that edits this object may override the data in this field. The data should include a marker that you can identify to ensure the data is yours.	CLOB	Max 1000 Char	Optional	Optional	May support

2.2 Assignment

Creative assignment not in scope for OOHopenDirect 1.5.1

2.3 Creative

Creative specification is not in scope for OOHopenDirect 1.5.1

2.4 Line

Line resources are included in an order and provide details about the product being booked, status, start and end dates, and other settings for the order item.

Notes: The user may update a line only if it's in the Draft state. If the line is in the Reserved or Declined state, the user may call Reset to move the line back to the Draft state in order to update the line.

Property	Source	Description	Type	Constraints	Add	Update	OOH Supply Side Requirement
BookingStatus	OD	A value that determines whether the line is booked and is capable of delivering ads. For a states , see Booking Status Values.	String	See description for accepted values	Read-only	Read-only	Must support
Comment	OD	User notes related to this line.	String	Max 255 char	Optional	Optional	May support
Cost	OD	The projected cost of the line is based on the specified targeting.	Decimal	Value in currency for the order	Read-only	Read-only	Must support
EndDate	OD	The date and time that the line will stop. The date and time must be specified in UTC and conform to ISO 8601. If the time is missing, 11:59 PM is assumed. The line end date must be later than the line start date and should be less than or equal to the order's end date. If the line end date is later than the order's end date, the order's end date should be extended to match the line's end date.	String	Max 26 char ISO-8601	Required	Optional	Must support
FrequencyCount	OD	The maximum number of times that a unique user must see ads from this line during the specified interval (see FrequencyInterval).	Byte		N/A	N/A	Moved to Targeting OOHbjects
FrequencyInterval	OD	The interval that FrequencyCount applies to. For example, per day or per week.	String	Max 5 char	N/A	N/A	Moved to Targeting OOHbjects
Id	OD	A system-generated opaque ID that uniquely identifies this resource.	String	Max 36 char	Read-only	Read-only	Must support
Quantity	OD	The quantity requested for the specified date range. This value will differ based on various cost types. For CPM, for examples, the value would be impressions. The line must contain a quantity before the user may reserve or book it. If the requested quantity is not available, reserving or booking the line must fail and bookingStatus must be set to Declined.	(Big) Integer		N/A	N/A	Moved to Targeting OOHbjects
Name	OD	The line's display name. Should be unique.	String	Max 200 char	Required	Optional	Must support
OrderId	OD	The ID of the order that this line belongs to.	String	Max 36 char	Read-only	Read-only	Must support
ProductId	OD	The ID of the product where the creatives run.	String	Max 36 char	Required	Read-only	Must support
ProviderData	OD	An opaque CLOB of provider-defined data. Providers may use this field as needed (for example, to store an ID that correlates this object with resources within their system). Note that any provider that edits this object may override the data in this field. The data should include a marker that you can identify to ensure the data is yours.	CLOB	Max 1000 Char	Optional	Optional	May support
OOHProviderData	OOHD	The OOHProviderData object is used for Buyers to detail structured information that may be used to identify their order in a Seller's system using their own IDs or references.	Object	See OOHProviderData object	Optional	Optional	May support
Rate	OD	The price per unit of impressions. For example, \$10 per 1,000 impressions (CPM). The rate is determined each time the line is saved (added, updated, booked, or reserved).	Decimal	Value in currency for the order	N/A	N/A	Moved to Targeting OOHbjects
RateType	OD	The unit of measure for the Rate property. Values are provided using RATE TYPE reference data. The rate type is determined at the time the line is saved (added, updated, booked, or reserved).	Object	See description for accepted values	Read-only	Read-only	Moved to Targeting OOHbjects
ReservedExpiryDate	OD	The date and time that the reserved inventory will expire. If the line is reserved, the expiry date must be set.	String	Max 26 char ISO-8601	Read-only	Read-only	Should support
StartDate	OD	The date and time that the line will start. The date and time must be specified in UTC and conform to ISO 8601. If the time is missing, 12:00 AM is assumed. The date and time must be greater than or equal to now and should be greater than or equal to the order's start date. If the line start date is earlier than the order's start date, the order's start date should be moved to match the line's start date. Both dates must be later than the present day. Start dates that are in the past may not be updated.	String	Max 26 char ISO-8601	Required	Optional	Must support
StateChangeReason	OD	The reason why the state was changed by the publisher. The reason must be specified if: The publisher declined the booking or reservation, The publisher or user canceled the flight.	String		Read-only	Read-only	May support
Stats	OOHD	Reports on the schedule generated to fulfill the targeting requirements detailed in the Order Line (pre-flight stage), and the performance of the schedule when the campaign is in flight and/or completed.	Object		Read-only	Read-only	Must Support
Targeting	OD	The segments used to target users and determine product availability.	Object	Values from SEGMENT object	Required	Required	Must Support the OOHject targeting
UsesExpandables	OD	A Boolean value that indicates whether the line will be assigned expandable creatives. Used to determine availability. The default is false.	Boolean		Optional	Optional	Unsupported

2.4.1 Booking Status Values

- **Draft** – Indicates that a draft of the line has been saved. The line may be updated only in this state. The line remains in this state until the user deletes, reserves, or books the line.
- **PendingReservation** – Indicates that the reservation is in progress. If approved, the state moves to Reserved; otherwise, it moves to Declined. Any user action requested in this state must fail.
- **Reserved** – Indicates that the inventory for the line has been reserved. Remains in this state until the user cancels, books, resets the line or the reservation expires. The ability to reserve inventory is optional. Each publisher determines the length of time that inventory may be reserved without booking before it's released. If the line is reserved, the ReservedExpiryDate must be set to the date and time that the reserved inventory will expire.
- **PendingBooking** – Indicates that the booking is in progress. If approved, the state moves to Booked; otherwise, it moves to Declined. Any user action requested in this state must fail.
- **Booked** – Indicates that the line is booked and the buyer is obligated to the terms. The line stays in this state until the user cancels the line or the line reaches its delivery window. After the line reaches its delivery window, the line moves to the InFlight state.
- **InFlight** – Indicates that the line is in its delivery window. The line stays in this state until the user cancels the line or the line reaches the end of its delivery window. If the line reaches the end of its delivery window, then it moves to the Finished state; otherwise, it moves to the Stopped state.
- **Finished** – Indicates that the line successfully completed its flight. The line remains in this state.
- **Stopped** – Indicates that the user or publisher cancelled the line while it was in-flight. The StateChangeReason field must specify the reason why the flight was cancelled. The line remains in this state.
- **Cancelled** – Indicates that the user cancelled the line while it was in the Reserved or Booked state. The line remains in this state.
- **Paused** – Indicates that all creative for the line have been temporarily stopped while in Inflight status. Line may return to Inflight status or be updated to the Stopped status if creative is to be cancelled.
- **Expired** – Indicates that the reservation expired. The line remains in this state unless the user resets the line, which moves it back to the Draft state
- **Declined** – Indicates that booking or reservation was declined by the publisher or failed. The line remains in this state unless the user resets the line, which moves it back to the Draft state. The StateChangeReason field must specify the reason why the booking or reservation was declined or failed.
- **PendingChange** – this status is to be used for all asynchronous changes other than reservation and booking.

2.5 Order

The Order resource specifies the plan's start and end dates, estimated budget, currency, and preferred billing method for all line items in the order.

To specify the individual line item details of the order, use the LINE resource specified in section 2.5

Property	Source	Description	Type	Constraints	Add	Update	OOH Supply Side Requirement
AccountId	OD	The ID of the account that identifies the advertiser and buyer that own the order.	String	Max 36 char	Read-only	Read-only	Must support
Brand	OD	A descriptive name for the brand being advertised.	String	Max 25 char	N/A	N/A	Unsupported
AdvertiserBrandId	OOHD	The id of the AdvertiserBrand being advertised	String	Max 25 char	Optional	Optional	Must support
Budget	OD	The order's estimated budget. The budget is directional; it is not used to limit the amount of money that the order spends. To determine the projected spend based on quantity, aggregate the Cost property for each line of the order.	Decimal		N/A	N/A	See Investment OOHobject
Contacts	OD	The list of contacts to use for this order. This list of contacts is in addition to the buyer's and advertiser's list of contacts.	Object	No duplicate contact types	Optional	Optional	Should support
Currency	OD	The currency that all monetary properties of the order and lines are specified in. The currency is also used for billing and reporting. Values are provided using the CURRENCY reference data as specified in section 4.5.	String	Max 3 char ISO-4217	Required	Optional	Must support
EndDate	OD	The date and time that the order will end. The end date is directional and may be updated by the publisher to match the latest end date found in the order's lines. The date and time must be specified in UTC and conform to ISO 8601. If the time is missing, 11:59 PM is assumed. The end date must be later than the start date. End dates that have past cannot be updated.	Date	Max 26 char ISO-8601	Optional	Optional	Should support
OrderExpiryDate	OD	The date and time using the ISO 8601 format for when the order expires. Publisher will only hold inventory up until the date and time indicated.	Date	Max 26 char [ISO-8601]	Read-only	Read-only	Should support
Id	OD	A system-generated opaque ID that uniquely identifies this resource.	String	Max 36 char	Read-only	Read-only	Must support
Industry	OD	The industry associated with the order. This industry may differ from the industry specified on the advertiser's Organization object.	Object	Values provided using INDUSTRY object	Optional	Optional	May support
Name	OD	The order's display name. Must be unique within the account's list of orders.	String	Max 100 char	Required	Optional	Must support
OrderStatus	OD	Specifies the Status of the Order **PENDING** – The Order has not yet been approved/rejected **APPROVED** – The Order has been approved **REJECTED** – The Order has been rejected	String	See description for returned values	Read-only	Read-only	Must support
PackageOnly	OD	Identifies whether the order is only available as a package or if specific items can be separated from the inventory. A value of TRUE means the inventory is only available as a package. A value of FALSE allows the buyer to select specific items from inventory.	Boolean		N/A	N/A	Moved to Targeting OOHobjects
PreferredBillingMethod	OD	Electronic (Default) or Postal	String	Max 10 char	Optional	Optional	May Support
ProviderData	OD	An opaque CLOB of provider-defined data. Providers may use this field as needed (for example, to store an ID that correlates this object with resources within their system). Note that any provider that edits this object may override the data in this field. The data should include a marker that you can identify to ensure the data is yours.	CLOB	Max 1000 Char	Optional	Optional	May support
OOHProviderData	OOHD	The OOHProviderData object is used for Buyers to detail structured information that may be used to identify their order in a Seller's system using their own IDs or references.	Object	See OOHProviderData object	Optional	Optional	May support
StartDate	OD	The date and time that the order will start. The start date is directional and	Date	Max 26 char ISO 8601	Optional	Optional	Should support

2.6 Organisation

The organization resource may represent an advertiser or agency (buyer). The Account determines the role that the organization plays by using the organization ID in place of the BuyerId or AdvertiserId. The organization's role may vary by account. For example, the organization may be an advertiser in one account and a buyer in another. An advertiser may create one or more organizations to meet their business needs. For example, they may create a single organization and then create accounts for each brand, subsidiary, or division. Or, they may create an organization for each brand. It is up to the advertiser to determine how they use Organization and Account to meet their organizational needs.

Property	Source	Description	Type	Constraints	Add	Update	OOH Supply Side Requirement
Address	OD	The organization's corporate headquarters address.	Object	Values provided using ADDRESS object	Optional	Optional	Should support
AdvertiserBrands	OOHD	Defines the Brand IDs associated with an organisation	Array	Array of Advertiser Brand IDs	Required	Required	Must Support
Contacts	OD	A list of one or more contacts within the organization. Available contacts are provided using the CONTACT common object as specified in section 3.2. The list must contain unique contact types (for example, only one billing contact) and at least one billing contact is required.	Object array	No duplicate contact types. Values provided using CONTACT object.	Required	Optional	Must support
Disapproval Reason	OD	The reason why the organization was not registered. Must be specified if Status is Disapproved.	String	Max 255 char	Read-only	Read-only	Must support
Fax	OD	The organization's fax number.	String	Max 20 char	Optional	Optional	May support
Id	OD	A system-generated opaque ID that uniquely identifies this resource.	String	Max 36 char	Read-only	Read-only	Must support
Industry	OD	An industry label for the organization. Only required for advertiser organization.	Object	Values provided using INDUSTRY reference data	Optional	Optional	May support
OrganizationType	OOHD	The core activity that an organisation undertakes as a business e.g. advertiser, OOH Specialist or Media Agency	String	Accepted Values are: 'Advertiser', 'Specialist' or 'Agency'	Required	Optional	Must Support
Name	OD	The organization's display name.	String	Max 128 char. Cannot be an empty string. Must be unique.	Required	Optional	Must support
Phone	OD	The organization's phone number.	String	Max 20 char	Optional	Optional	Should support
ProviderData	OD	An opaque CLOB of provider-defined data. Providers may use this field as needed (for example, to store an ID that correlates this object with resources within their system). Note that any provider that edits this object may override the data in this field. The data should include a marker that you can identify to ensure the data is yours.	CLOB	Max 1000 Char	Optional	Optional	May support
OOHProviderData	OOHD	The OOHProviderData object is used for Buyers to detail structured information that may be used to identify their order in a Seller's system using their own IDs or references.	Object	See OOHProviderData object	Optional	Optional	May support
Status	OD	A value that indicates the current state of the approval process. The approval process confirms the organization's identity. The following are the possible values. • Pending – The organization is under review. • Approved – The organization is approved and can create and book orders. • Disapproved – The organization's identity could not be verified. The organization may not create and book orders. The DisapprovalReason property must specify the reason why the organization was not approved. • Limited – The organization's identity could not be verified; however, they may create and book orders. This state may affect the products and pricing offered to the organization. The organization may create orders in any state (except where noted); however, they may search for available inventory or reserve and book inventory only in the Approved and Limited states.	String	Max 15 char See description for accepted values	Read-only	Read-only	Must support
Url	OS	A URL to the organization's website.	String	Max 1,024 char	Optional	Optional	Should support

2.7 Product

A Product resource identifies anything from an ad placement to a Run of Network product in the publisher's product catalogue. Values for all supported fields are provided by the publisher.

Property	Source	Description	Type	Constraints	Add	Update	OOH Supply Side Requirement
ActiveDate	OD	The date and time, in UTC, that the product may become part of the bookable inventory. Use ISO-8601 format for time and date.	String	Max 26 char ISO-8601	Required	Required	Should support
AdFormatTypes	OD	A list of ad types that the product supports.	Array	Values provided using AD FORMAT TYPES reference data	Optional	Optional	Should support
AllowNoCreative	OD	A Boolean value that indicates whether line items assigned to this order may be booked before creative is assigned. A value of TRUE allows lines to be booked without creative assigned. Default value is TRUE for OOH	Boolean		Optional	Optional	May support
AdvertiserIdAccess	OOHD	List of AdvertiserIDs with access to this Product. NULL = all accounts can access this product.	Array	Array of existing AdvertiserID's	Required	Read-only	Must support
BuyerIdAccess	OOHD	List of BuyerIDs with access to this Product. NULL = all accounts can access this product.	Array	Array of existing BuyerID's	Required	Read-only	Must support
ThirdPartyIdAccess	OOHD	List of ThirdPartyIDs with access to this Product. NULL = all accounts can access this product.	Array	Array of existing ThirdPartyID's	Required	Read-only	Must support
BasePrice	OD	The product's base retail price; this is not the rate card price. The actual price may be more if targeting is specified.	Decimal		Optional	Optional	Should support
Currency	OD	Identifies the currency for BasePrice and MinSpend. Values provided	Max 3 char [ISO-4217]	Values provided using CURRENCY reference data	Required	Required	Must support
DeliveryType	OD	The type of delivery. For example, exclusive, guaranteed or non-guaranteed. Values provided using DELIVERY TYPES reference data	Object	Max 10 char. Values provided using DELIVERY TYPE reference data	Optional	Optional	May Support
Description	OD	The product's description.	String	Max 255 char	Required	Read-Only	Must Support
Domain	OD	The product's domain. For example, yahoo.com.	Array	Max 255 char	N/A	N/A	Should support
EstimatedDailyAvails	OD	An estimated range of available daily impressions. The ranges should be of the form: Thousands, Tens of Thousands, Hundreds of Thousands, and so on.	String		N/A	NA	Should support
Geometry	OD	A list of ad format sizes that the product supports. Values provided us	Object	Values provided using SIZE common object	Optional	Read-Only	May Support
HttpsCompatible	OD	A Boolean value that determines whether the product supports creatives that can properly render on an HTML web page served over HTTPS.	Boolean		N/A	N/A	Should support
Icon	OD	URL to a thumbnail icon of the product. May be used to display next to the product in the product catalog.	String	Publishers should support icons that are 150x150 or less. The maximum size is 10 KB.	Optional	Optional	May support
Id	OD	A system-generated opaque ID that uniquely identifies this resource.	String	Max 36 char	Required	Read-Only	Must support
InventoryType	OD	A list of devices that the product may serve on. Values provided using INVENTORY TYPE reference data as specified in section 0. The default is Desktop.	Object	Values provided using INVENTORY TYPE reference data	N/A	N/A	Should support
Languages	OD	A list of creative languages that the product supports. Values provided using LANGUAGE reference data as specified in section 4.10.	Array	Values provided using LANGUAGE reference data	Optional	Optional	May support
LeadTime	OD	The time from the time of booking that a line that reference this product can begin running; the line's start date must be equal to or later than today + n .	String	Max 26 char ISO-8601	Required	Read-Only	MustSupport
Name	OD	The product's display name. The name must be unique.	String	Max 38 char	Required	Read-Only	Must support
MaturityLevel	OD	The maturity level of the publisher's content. Values provided using M	Object	Values provided using MATURITY LEVEL reference data	N/A	N/A	May support
MaxDuration	OD	The maximum number of days that the product may be booked for. The line must enforce the duration.	Integer		N/A	N/A	Moved to Targeting OOHbjects
MinDuration	OD	The minimum number of days that the product must be booked for. The line must enforce the duration.	Integer		N/A	N/A	Moved to Targeting OOHbjects
MinSpend	OD	The minimum amount of money that must be spent on this product in order to book it.	Decimal		N/A	N/A	Moved to Targeting OOHbjects
Position	OD	The position of the ad as a relative measure of visibility or prominence. Values provided using AD POSITION reference data as specified in section 4.2.	Byte	Values provided using AD POSITION reference data	N/A	N/A	
ProductTags	OD	List of tags used for searching the product catalog.	Array	Max 500 tags. Max 100 characters each	N/A	N/A	Moved to Targeting OOHbjects
RateType	OD	The unit of measure that BasePrice is expressed in. Values provided using RATE TYPE reference data as specified in section 4.12.	Object	Values provided using RATE TYPE reference data	N/A	N/A	Moved to Targeting OOHbjects
ReservedExpiryTime	OOHD	Defines the day of the week and time of day that represents the cut off point for expiry of a Line for the Product when it is "reserved".	Date	Max 26 char ISO-8601	Required	Read-Only	Must Support
RetirementDate	OD	The date and time, in UTC, that the product may be removed from the bookable inventory. Use ISO-8601 format for time and date	Date	Max 26 char ISO-8601	Optional	Read-Only	Should support
TargetTypes	OD	A list of IDs that identify the types of targeting that the product supports. See OOHbjects Targeting	Object	Values provided using TARGET OOH Object reference data	Required	Required	Must Support
TimeZone	OD	The time zone that the product runs in.	String		Optional	Optional	Should support
Url	OD	A URL to the specification that describes the creative requirements.	String		Optional	Optional	May Support

2.8 Change Request

When an order has already been placed and a change is needed, the ChangeRequest resource can be used to request a change and subsequently modify the order pending the approval of the change request.

The Order filter request specified in section 7.6.3 can be used to find orders that have a booking status of "PendingChange."

Property	Source	Description	Type	Constraints	Add	Update	OOH Supply Side Requirement
AccountId	OD	The ID of the account that identifies the advertiser and buyer that own the Change. This must be the same as the AccountId for the Order.	String	Max 36 characters.	Required	Read-only	May Support
Comments	OD	Optional comments as to why the Change is being requested/proposed.	String	Max 1,000 characters	Optional	Optional	May Support
Contacts	OD	The list of contacts to use for this change. This list of contacts is in addition to the buyer's and advertiser's list of contacts.	Contact[]	The list must contain unique contact types (for example, only one billing contact).	Optional	Optional	May Support
Id	OD	A system-generated opaque ID that uniquely identifies this resource.	String	Max 36 characters.	Read-only	Read-only	May Support
OrderId	OD	The ID of the Order that the Change is Requested for.	String	Max 36 characters.	Required	Read-only	May Support
LineId	OD	The ID of the Line in the Order that the Change is Requested for (if at line level)	String	Max 36 characters.	Required	Read-only	May Support
OOHProviderData	OOHD	The OOHProviderData object is used for Buyers to detail structured information that may be used to identify their order in a Seller's system using their own IDs or references.	Object	See OOHProviderData object	Optional	Optional	May Support
RequesterId	OD	The OrganisationID of the Change Requester usually the AgencyID if the change was requested by an Agency or the PublisherID if the change was requested by the Vendor.	String	Max 36 characters.	Required	Required	May Support
Status	OD	Specifies the Status of the Change Request: □ PENDING – The Change has not yet been approved/rejected, □ APPROVED – The Change has been approved, □ REJECTED – The Change has been rejected	String	Max 36 characters.	Read-only	Read-only	May Support
Webhook	OD	URI which is called when the change is approved, rejected or modified by the Seller. URI is called with a PUT request containing Change as a JSON object.	String	Max 1024 characters	Optional	Optional	May Support

3. Common Objects

The following objects are common to one or more resources. For example, the CONTACT common object is used to provide values for both the PRODUCT and ORGANIZATION resources.

3.1 Address

Defines address details for an Organization or Contact

Source	Property	Description	Mandatory?	Source	Type	Constraints
OD	AddressLine1	The first line of the address	Yes	OD	String	Max 255 alpha characters
	AddressLine2	The optional second line of the address	No	OD	String	Max 255 alpha characters
	City	The name of the city in which the address is located	Yes	OD	String	Max 35 alpha characters
	State	The name of the state/province/county in which the address is located	No	OD	String	Max 35 alpha characters
	Country	The name of the country in which the address is located	Yes	OD	String	Max 2 alpha characters (ISO 3166-1 country code)
	PostalCode	The postal or zip code for the address	No	OD	String	Max 15 alphanumeric characters. Can include a dash and space

3.2 AdvertiserBrand

Defines the details of a Brand associated with an organization

Source	Property	Description	Mandatory?	Source	Type	Constraints
OOHD	Id	A system-generated opaque ID that uniquely identifies the brand	Yes	OOHD	String	Max 36 char
	Name	The brand's display name	Yes	OOHD	String	Max 128 char
	OrganizationId	The ID of the organization that owns the brand	Yes	OOHD	String	Max 36 char
	ThirdPartyId	A Third Party ID for the AdvertiserBrand (e.g. Space)	No	OOHD	String	Max 36 char
	ThirdPartyDataSource	The Third Party Data Source for the Advertiser Brand ID	No	OOHD	String	Max 128 char

3.3 Contact

Defines details for an individual contact within an Organization

Source	Property	Description	Mandatory?	Source	Type	Constraints
OD	Honorific	The contact's honorific such as Mr, Mrs	No	OD	String	Max 20 characters
	Title	The contact's job title	No	OD	String	Max 30 characters
	FirstName	The contact's first name	Yes	OD	String	Max 20 characters
	LastName	The contact's last name	Yes	OD	String	Max 20 characters
	Email	The contact's email address	Yes	OD	String	Max 254 characters. Required if "type" is Billing and the preferred billing method for the organization or order is electronic
	Phone	The contact's phone number	No	OD	String	Max 20 characters
	Type	The type of contact that this resource represents (e.g. billing, creative)	Yes	OD	String	Max 10 characters. Values provided using Contact Type reference data
	Address	The contact's address	No	OD	Object	see Address (below) in Common Objects

3.4 ProductAvails

Defines the response to a request for product availability and pricing information at product Level

Source	Property	Description	Mandatory?	Source	Type	Constraints
OD	ProductId	ID that identifies the product for which availability and pricing information is provided	Yes	OD		
	Targeting	The OOHobject targeting criteria, quantities & distribution variables returned as specified from the availability request	Yes	OD	Array[String]	
	Currency	The currency used to specify Price. Currency is set for the PRODUCT resource specified in section 2.7 and uses CURRENCY reference data specified in section 4.5.	No	OD	Max 3 Char	
	availability	The quantity available for booking the product with any targeting OOHobject criteria and the specified date range	Yes	N/A	N/A	Handled in the targeting OOHobject
	Price	The product's price based on OOH Targeting	Yes	OD	Decimal	

3.5 ProductAvailsSearch

Defines search criteria used for requesting product availability and pricing within the given search criteria. This object is returned at OOHobject Level based on the OOHobject targeting criteria submitted.

Source						Constraints
OD	ProductIds	A list of IDs that identify the products on which to get availability and pricing information	Yes	OD	Array[String]	Array must contain IDs of defined products
	Targeting	The Inventory, Delivery, Investment and Distribution OOHobject variables to be targeted for the availability request	Yes	OD	Array[String]	
	AccountId	The ID of the account that identifies the buyer, advertiser and any other stakeholders	No	OD	String	Must be ID of a defined account
	Currency	The currency used to specify Price. Currency is set for the PRODUCT resource specified in section 2.7 and uses CURRENCY reference data specified in section 4.5.	No	OD	Max 3 Char	
	AdvertiserBrandId	An ID that uniquely identifies the Brand being advertised	No	OOHD	String	Must be ID of a defined brand
	AvailabilityFields	Defines the OOHobject metrics that availability is returned as	Yes	OOHD	Array	Array of values may include OOHobject values including Frame count, audience impacts, ShareOfTime but always includes Price
	Grouping	Defines the OOHobject metric that the availability output is grouped as	Yes	OOHD	Array	May be Frame, Audience, Location and/or Time OOHobjects
	FrequencyCount	The maximum number of times that a unique user may see ads during the interval specified within the FrequencyInterval setting for this object. If the product uses frequency capping, both FrequencyCount and FrequencyInterval must be set.	N/A	OD	Byte	Moved to Targeting OOHobjects
	FrequencyInterval	The interval within which the frequency count applies if frequency capping is used for the product. For example, if the frequency count is set to 3 and the interval set to a day, then ads for the product may be shown to a user no more than three times per day. If the product uses frequency capping, both FrequencyCount and FrequencyInterval must be set. Available frequency intervals are provided using the FREQUENCY CAP INTERVAL reference data specified in section 4.7.	N/A	OD	String	Moved to Targeting OOHobjects
	Quantity	The quantity of inventory units requested for the specified date range. This value will differ based on various cost types. For CPM, for example, the value would be in thousands of impressions. Leave field blank to return a product list with maximum availability for products specified. The publisher may set a maximum quantity limit.	N/A	OD	Integer	Moved to Targeting OOHobjects
	StartDate	The desired start date for inventory delivery	Yes	OD	String	Max 26 char ISO-8601
	EndDate	The desired end date for inventory delivery	Yes	OD	String	Max 26 char ISO-8601

3.6 ProductSearch

The ProductSearch object is used to generate a general list of products independent of their availability. For example, an agency might be interested in looking up all products that are available in Shopping Malls to get an idea for what the options are. Alternatively, the ProductAvailsSearch returns a list of products within specified search criteria with live availability and pricing.

Source	Property	Description	Mandatory?	Source	Type	Constraints
OD	AdFormatTypes	One or more ad types. Return products that support one or more of the specified formats.	No	OD	Array	
	Currency	The currency used to specify Price. Currency is set for the PRODUCT Resource specified in section 2.7 and uses CURRENCY reference data specified in section 4.5.	No	OD	Max 3 Char	
	DeliveryType	The delivery type (for example, Guaranteed). Available values are provided using DELIVERY TYPE reference data specified in section 4.6.	No	OD	String	
	Domain	The product's domain. For example, yahoo.com.	No	OD	String	
	Geometry	One or more ad sizes. Return products that support one or more of the specified sizes. Available values are provided using the SIZE common object specified in section 3.7.	No	OD	Object	
	Targeting	The OOHObject targeting criteria, quantities & distribution variables to be targeted for the availability request	Yes	OD	Array[String]	
	productTypes	One or more tags used to label products. Returns products that have product tags that exactly match one or more of the specified tags. A match occurs if the specified tag exactly matches the product's tag (using a case insensitive comparison). For example, the product is selected if the specified search tag is Travel and the product includes a Travel tag. However, if the product includes only a European Travel tag, the product is not selected.	N/A	N/A	N/A	Handled in the targeting OOHObject

3.7 OOHProviderData

The OOHProviderData object is used for Buyers to detail information that may be used to identify their order in a Seller's system using their own IDs or references. This would be mainly used for manually identifying orders in the event of the automated process needing manual intervention.

Source	Property	Description	Mandatory?	Source	Type	Constraints
OOHD	CampaignId	Provided by the Buyer to uniquely identify the Advertising Campaign for which the Order is being placed	No	OOHD	String	Max 255 char
	CampaignName	A descriptive name provided by the Buyer which is associated with the Advertising Campaign for which the Order is being placed	No	OOHD	String	Max 255 char
	PoNumber	Provided by Buyer as a reference to be used by Buyers for any offline contact related to the Order	No	OOHD	String	Max 255 char
	SalesOrderReference	Provided by the Media Owner as a reference to be used by Buyers for any offline contact related to the Order	No	OOHD	String	Max 255 char
	BarterOrganizationId	The OrganizationID of a Barter Company can be added here to flag a Barter transaction	No	OOHD	String	Max 36 char
	Other	An opaque CLOB of provider-defined data. Providers may use this field as needed (for example, to store an ID that correlates this object with resources within their system). Note that any provider that edits this object may override the data in this field. The data should include a marker that you can identify to ensure the data is yours.	No	OOHD	CLOB	Max 1000 char

3.8 Size

Defines the height and width (in pixels) that a publisher accepts for a given resource (e.g. Product, Creative)

Source	Property	Description	Mandatory?	Source	Type	Constraints
OD	Height	The height of accepted creative size in pixels	Yes	OD	Integer	
	Width	The width of accepted creative size in pixels.	Yes	OD	Integer	

3.9 Segment

Defines constraints related to TargetTypes of a Product OOHobject

Source	Property	Description	Mandatory?	Source	Type	Constraints
OD	TargetID	Defines the targeting category (e.g. weekpart, daypart, demographic) for which a constraint is being defined	Yes	OD	String	Must be a valid Target Type from reference data
	TargetValues	Defines the list of permitted values for the given targeting category	Yes	OD	Array[String]	Array must contain only allowed values for the given target
	Selectable	Defines whether a Buyer can select from the given list of targetValues or whether the targetValues are fixed	Yes	OOHD	Boolean	
	Minimum	Defines the minimum number of targetValues that must be selected	Yes	OOHD	Integer	
	Maximum	Defines the maximum number of targetValues that must be selected	Yes	OOHD	Integer	
	Increment	Defines the increments that are permitted for the targeting values	Yes	OOHD	Integer	
	Default	Defines the default number of targetValues that are selected if the Buyer does not specify any targetValues or the target is not selectable	Yes	OOHD	Integer	

3.10 Stats

Published the schedule generated to fulfil the targeting requirements detailed in the Order Line (pre-flight stage), and the performance of the schedule when the campaign is in flight and/or completed.

Source	Property	Description	Mandatory?	Source	Type	Constraints
OOHD	ReportDate	The data and time of the report. The date and time is reported in the order's time zone.	Yes	OOHD	String	Max 26 char ISO-8601
	Accountid	The ID of the account that identifies the advertiser and buyer that own the order.	Yes	OOHD	String	Max 36 char
	Orderid	The ID of the order that this line belongs to.	Yes	OOHD	String	Max 36 char
	LineID	The ID of this Line	Yes	OOHD	String	Max 36 char
	ReportDate	The data and time of the report. The date and time is reported in the order's time zone.	Yes	OOHD	String	Max 26 char ISO-8601
	StatsStartDate	The start date and time of the period requested. If left blank defaults to StartDate of the order line	No	OOHD	String	Max 26 char ISO-8602
	StatsEndDate	The end date and time of the period requested. If left blank defaults to EndDate of the order line	No	OOHD	String	Max 26 char ISO-8603
	Granularity	Defines if the reporting is summarised to Day, Hour or Spot level	Yes	OOHD	String	Accepted Values are: 'Day', 'Hour' or 'Spot'
	StatsScheduled	An array containing StartDate & EndDate of the Granularity requested and Arrays of the requested OOHObjects that describes the schedule that is created by the MediaOwner / Publisher to fulfill the line order requirements	Yes	OOHD	Array	
	StatsDelivered	An array containing StartDate & EndDate of the Granularity requested and Arrays of the requested OOHObjects that records the delivery of the schedule created by the MediaOwner / Publisher to fulfill the line order requirements	Yes	OOHD	Array	
	Webhook	URI which is called when the information is published by the Seller. URI is called with a PUT request containing Change as a JSON object.	No	OOHD	Array	Max 1024 characters

3.11 OOHobject

A collection of targeting criteria used to discover and target the digital and physical presentation aspects of OOH media.

Source	Property	Description	Mandatory?	Source	Type	Constraints
OOHD	Name	The key objects for describing OOH media campaigns and products are: • Inventory: What a media owner / publisher sells in terms of Audience or Frames. • Delivery: How adverts are displayed from a start and end time, and the share of that display time. • Distribution: How the adverts are distributed across the times and locations booked by audience and/or investment. • Investment: How the campaign is quantified for trading purposes (Fixes price, Cost Per Thousand Audience, Cost Per Frame). • Prohibitions: Information about any brand safety prohibitions that will affect the layout of certain brand types in certain locations e.g. fast food prohibitions on certain locations.	Yes	OOHD	String	Max 255 char
	Type	How the OOHobject is being quantified: • Frames • Audience • Investment	Yes	OOHD	String	Max 255 char
	DataSource	The identification and inclusion of third party data sources into the OOHopenDirect schema, which both buyside and sell side may use to describe and discover their available Inventory, location and audiences in accordance with the third party schema	Yes	OOHD	String	Max 255 char
	Target	Description of the OOHobject Metric	Yes	OOHD	String	Max 255 char
	TargetValues	Array of one or more values	Yes	OOHD	Array	
	Selectable	Defines whether a Buyer can select from the given list of TargetValues or whether the targetValues are fixed	Yes	OOHD	Boolean	
	Count	Count of TargetValues	Yes	OOHD	Integer	
	Minimum	Defines the minimum number of TargetValues that must be selected	Yes	OOHD	Integer	
	Maximum	Defines the maximum number of TargetValues that must be selected	Yes	OOHD	Integer	
	Increment	Defines the increments that are permitted for the targeting values	Yes	OOHD	Integer	
	Default	Defines the default number of TargetValues that are selected if the Buyer does not specify any TargetValues or the target is not selectable	Yes	OOHD	Integer	
	StatsValues	Used for reporting of Scheduled and Delivered Target values	Yes	OOHD	Integer	
	StatsCount	Used for counting of Scheduled and Delivered Target values	Yes	OOHD	Integer	
	StatsAverage	Used for averaging of Scheduled and Delivered Target values	Yes	OOHD	Integer	
	StatsCountServed	The number of times a creative (with a defined spot length) has started playing against Targeted values, but it may not have been fully played	Yes	OOHD	Integer	
	Creativeld	Used to record the ID of the creative that plays against Targeted OOHobjects	Yes	OOHD	String	Max 255 char

4 Reference Data

This section defines the reference data that an OpenDirect API must support. Reference data provides enumerated values for a resource property. The publisher must return only those values that they support. For example, a resource, such as Order, uses Currency reference data for the currency property to supply the list of currencies that the publisher supports.

4.1 AdFormatType

Defines the possible ad formats

Source	Property	Description	Mandatory	Type	Constraints
OD	HTML5		Yes	String	Max 20 characters
OD	Flash		Yes	String	Max 20 characters
OD	Image		Yes	String	Max 20 characters
OD	Video		Yes	String	Max 20 characters
OOHD	Print Poster		Yes	String	Max 20 characters

4.2 AdPosition

Not supported in the OOHopenDirect1.5.1 Schema

4.3 Availability

Defines the availability status of a Frame in association with an order, line or other targeted time.

Source	Property	Description	Mandatory	Type	Constraints
OOHD	Available	The asset is available for the requested in charge period and targeting criteria	Yes	String	Max 20 characters
OOHD	Invalid	The requested asset is not valid (e.g. decommissioned, not recognised)	Yes	String	Max 20 characters
OOHD	Optioned	The asset has been optioned for the requested in charge period and targeting criteria	Yes	String	Max 20 characters
OOHD	Booked	The asset has been booked for the requested in charge period and targeting criteria	Yes	String	Max 20 characters
OOHD	NotAvailable	The asset is not available for the requested in charge period and targeting criteria (potentially for a number of reasons)	Yes	String	Max 20 characters
OOHD	NotPermitted	The asset falls outside of the scope of the requested Product (including due to prohibitions, juxtas etc)	Yes	String	Max 20 characters

4.4 ContactType

Defines the possible types of roles that a Contact plays in an Order

Source	Property	Description	Mandatory	Type	Constraints
OD	Billing	The person to contact with billing inquiries	Yes	String	Max 20 characters
OD	Buyer	The person to contact with general questions about the order	Yes	String	Max 20 characters
OD	Creative	The person to contact if there is an issue with one of the order's creatives	Yes	String	Max 20 characters

4.5 Country

Not supported in the OOHopenDirect1.5.1 Schema

4.6 Currency

Defines the currency that the order is going to be transacted in to ISO 4217 currency codes e.g. GBP, USD, EUR

4.7 DeliveryType

Defines the possible types of delivery

Source	Property	Description	Mandatory	Type	Constraints
OD	Exclusive	100% share of voice.	No	String	Max 20 characters
OD	Guaranteed	Guaranteed delivery of all booked display and/or impressions	Yes	String	Max 20 characters
OOHD	Non-Guaranteed	Non-Guaranteed delivery of all booked display and/or impressions	No	String	Max 20 characters

4.8 FrequencyCapInterval

Not supported in the OOHopenDirect1.5.1 Schema

4.9 Industry

Not supported in the OOHopenDirect1.5.1 Schema

4.10 InventoryType

Not supported in the OOHopenDirect1.5.1 Schema

4.11 Language

Not supported in the OOHopenDirect1.5.1 Schema

4.12 MaturityLevel

Not supported in the OOHopenDirect1.5.1 Schema

4.13 RateType

Not supported in the OOHopenDirect1.5.1 Schema. See the Investment OOHobject

4.14 StatsScheduled

Arrays of the requested OOHobjects that describe the schedule that is created by the MediaOwner / Publisher to fullfill the line order requirements

Source	Property	Description	Mandatory	Type	Constraints
OOHD	StartDate	The start date and time of the period requested. If left blank defaults to StartDate of the order line	Yes	String	Max 26 char ISO-8602
OOHD	EndDate	The end date and time of the period requested. If left blank defaults to EndDate of the order line	Yes	String	Max 26 char ISO-8602
OOHD	Fields	OOHobjects that describes the schedule that is created by the MediaOwner / Publisher to fullfill the line order requirements	Yes	OOHobject Array	

4.15 StatsDelivered

Arrays of the requested OOHobjects that record the delivery of the schedule created by the MediaOwner / Publisher to fullfill the line order requirements

Source	Property	Description	Mandatory	Type	Constraints
OOHD	StartDate	The start date and time of the period requested. If left blank defaults to StartDate of the order line	Yes	String	Max 26 char ISO-8602
OOHD	EndDate	The end date and time of the period requested. If left blank defaults to EndDate of the order line	Yes	String	Max 26 char ISO-8602
OOHD	Fields	OOHobjects that records the delivery of the schedule created by the MediaOwner / Publisher to fullfill the line order requirements	Yes	OOHobject Array	

4.16 Targeting

The OpenDirect criteria for targeting.

OpenDirect (and OpenRTB) trades with real time Audience impressions, whereas Out-Of-Home media can be sold in the wider dimensions of time, share of time, location and audience.

OOH Media physically manifests itself as display of the advert on a frame at a defined location and time which then gives an audience in the vicinity of that event an opportunity to see the advertising.

OOHDirect1.5.1 uses the OOHopenDirect OOHobject object (see section 3.11) to discover and target the multidimensional aspect of OOH media.

The use of multiple objects to describe an OOH Product are at the discretion of the media owner/publisher. The simplest OOH product could be described as a single frame with the use of the Inventory OOHobject.

The core identification structure of an OOHobject is

- <Name>.<Type>.<DataSource>.<Target>

The key <Name> descriptions for OOH media targeting are:

- Inventory: What a media owner / publisher sells in terms of Audience or Frames.
- Delivery: How adverts are displayed from a start and end time, and the share of that display time.
- Distribution: How the adverts are distributed across the times and locations booked by audience and/or investment.
- Investment: How the campaign is quantified for trading purposes (Fixes price, Cost Per Thousand Audience, Cost Per Frame).
- Prohibitions: Information about any brand safety prohibitions that will affect the playout of certain brand types in certain locations e.g. fast food prohibitions on certain locations.

The use of the <DataSource> in the OOHobject structure allows the identification and inclusion of third party data sources into the OOHopenDirect schema, which both buy-side and sell side may use to describe and discover their available Inventory, location and audiences in accordance with the third party schema. The third party schema may also be published and made discoverable as a collection object as detailed in Section 5 of this document.

Examples of third-party DataSource include:

- SPACE (UK OOH Industry frame inventory registry)
- ROUTE (UK OOH Industry audience measurement JIC)
- Geopath (US OOH Industry audience measurement)
- Nielson Total Audience Framework
- Quivid /AdMobilize computer vision analytics segment

4.16.1 Inventory OOHbject

The Inventory OOHbject allows an OOH media owner to describe (and OOH media buyer to buy) their inventory in terms of 'Frames' and 'Audience' then define the audience metrics that are available to targeted.

Summary

Name	Type	DataSource	Target
Inventory	Frames	Space	frame_id format environment dimension frame_type illumination faces sales_code surface_area width height depot_id tv_area region conurbation town postal_sector lat/long
	Audience	Route	age sex affluence tv_area region conurbation town postal_sector
		Metrics	Impacts Cover Reach Frequency

Inventory.Frames.SPACE

As the initial implementation of OOHopenDirect1.5.1 is in the UK, this object uses the UK Outsmart industry bodies' SPACE register for the identification of Frame inventory.

SPACE has created a single source data point to coordinate and categorise the unique identification characteristics of all UK OOH inventory. This register identifies a frame with a common id and also allows media owners to attach frame details to the record in terms of dimension, media type, format and location.

Further information can be found at <https://www.outsmart.org.uk/news/welcome-space>

These classifications could be taken and used as a common format in countries/markets where no common standards currently exist.

Alternatively, the Inventory.Frames OOHobject can reference a Media Owner / Publisher's own description of inventory e.g. Inventory.Frames.<MediaOwnerName>.TramWraps

Inventory.Audience.ROUTE

As the initial implementation of OOHopenDirect1.5.1 is in the UK, this object uses the Route dataset to describe and segment OOH audiences.

Route produces audience estimates for out-of-home advertising in Britain. The data Route publishes tell subscribers how many and what type of people see an advertising campaign, and how often they do so. The information is used as the currency for planning, trading and valuing advertising investment in the medium at frame level.

The trade associations for the buyers and sellers of the medium underwrite Route jointly. The IPA0 represents the interests of the specialist OOH agencies (or planners & buyers) working on behalf of advertisers. Outsmart represents the interests of the media owners (or sellers).

The underwriting agencies are [Kinetic Worldwide](#), [Mediacom Outdoor](#), [Posterscope](#), [Rapport Worldwide](#) and [Talon Outdoor](#). The media owner guarantors are [Clear Channel Outdoor](#), [JCDecaux](#) and [Global](#).

Route has over 400 categories of audience classification and reports the audience metrics at both pedestrian and vehicular level as impacts, ratings, reach and cover.

Further information on route can be found at www.route.org.uk

Inventory.Audience.Metrics

Allows the Media Owner / Publisher to define the audience metrics that are available to targeted and allows the buyer to specify these metrics when performing an availability check or setting up an order line.

4.16.2 Delivery OOHobject

The Delivery OOHobject allows an OOH media owner to describe (and OOH media buyer to buy) how their campaign is delivered to selected inventory.

Summary

Name	Type	DataSource	Target
Delivery	Frames	Time	Days
			Hours
	ShareOfDisplay	ShareOfTime	Spot
			SpotBreakLength
			ShareofImpacts
	Audience	<DataSource>	

Delivery.Frames.Time.Days

If this is made available, this dynamic OOHobject details an array of numbered days that can be targeted within in the product. This dynamic array takes the form of the days available from the booking line start and end date

e.g.

Booking line date 08/11/20 to 17/11/20

Delivery.Frames.Time.Days = [1,2,3,4,5,6,7] based on ISO 8601

The OOHobject field 'Selectable' indicates if this array is further targetable e.g. the Days array of [1,2,3,4,5,6,7] is returned, and if the Days are flagged as 'Selectable', the buyer may select days [6,7].

Delivery.Frames.Time.Hours

If this is made available, this dynamic OOHobject details an array of numbered hours that can be targeted within in the product. This dynamic array takes the form of the hours available from the specified booking line start and end date

e.g.

Booking line date 08/11/20 00:00 to 17/11/20 00:00

Delivery.Frames.Time.Hours = [1,2,3,4,.....,24,25,26,.....48,.....,72,.....,96,.....120....144,145,....,168]

The OOHobject field 'Selectable' indicates if this array is further targetable e.g. the Hours array is returned, and if the Hours are flagged as' Selectable', the buyer may select Hours [6,7,8,9,30,31,32,33].

The example below shows how the hours of 10am to 2pm on Day 1 and Day 2 would be targeted as an array selection.

Hours[10,11,12,13,34,35,36,37]

LineStartTime
13/04/2020 00:00
LineEndTime
20/04/2020 00:00

Day	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1	2	3	4	5																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53

Practically, the booking UI should convert the days/hours selected from a calendar based UI into the hour array in the background.

Delivery.Frames.ShareOfDisplay.ShareOfTime

This OOHobject details the ‘ShareOfTime’ that can be targeted within the product. The ‘ShareOfTime’ can be described as the percentage of time the advert appears on screen vs the time the advert does not appear on screen over the flight of the campaign.

e.g.

A fixed 1 in 4 loop/scrolling billboard with have a ShareOfTime value of 25

A classic paper/vinyl billboard will have a ShareOfTime value of 100

Delivery.Frames.ShareOfDisplay.Spot

This OOHobject details the Spot Length (or array of lengths) in seconds that a digital advert can run for each time it appears on a frame. The Spot length will affect the frequency of play out within the campaign flight.

e.g. if the Campaign flight is 10 hours, the ShareOfTime value is 20(%) and the creative is 1 hour long, it will play out 2 times.

if the Campaign flight is 10 hours, the ShareOfTime value is 20(%) and the creative is 10s long, it will play out 720 times.

If the Campaign flight is 10 hours, the ShareOfTime value is 100(%) and the creative is 10s long, it will play 3600 times.

Delivery.Frames.ShareOfDisplay.SpotBreakLength (Optional)

If the product delivers the campaign within a fixed loop, this OOHobject details the length of time in seconds between the Spots being played.

e.g. in a 30 second loop where the Spot length is 5 Seconds:

Spot = 5

SpotBreakLength = 25

Delivery.Audience.<DataSource>.ShareOfImpacts

An average % share of viewed impacts across the targeted OOHbjects according to the Audience DataSource identified.

e.g. the campaign needs to be delivered to 30% of the available Affluent Female Shopper Audience over the flight of the campaign

4.16.3 Investment OOHbject

The Investment OOHbject allows an OOH media owner to describe (and OOH media buyer to buy) their inventory in terms of ‘Frames’ and ‘Audience’ Investment.

Summary

Name	Type	DataSource	Target
Investment	Total	<Local_Currency>	Fixed
	Frames	<Local_Currency>	CPF (cost per Frame)
	Audience	<Local_Currency>	CPT

<Local_Currency> is defined as the currency that the order is going to be transacted in to ISO 4217 currency codes e.g. GBP, USD, EUR

Investment.Total.<Local_Currency>.Fixed

If this is made available, this dynamic OOHbject details (in terms of the local currency) the requested total Product price or given total Product price based on the other OOHbject targeting values given.

Investment.Frames.<Local_Currency>.CPF

If this is made available, this dynamic OOHbject details (in terms of the local currency) the requested ‘cost per frame’ price or given ‘cost per frame’ price based on the other OOHbject Product targeting values given.

Investment.Audience.<Local_Currency>.CPT

If this is made available, this dynamic OOHbject details (in terms of the local currency) the requested ‘cost per thousand’ price or given ‘cost per thousand’ price based on the other OOHbject Product targeting values given.

4.16.4 Distribution OOHobject

The Distribution OOHobject allows an OOH media owner to describe (and OOH media buyer to understand and specify) if their campaign Delivery is Distributed evenly or flexibly across the Campaign flight in terms of Time, audience and/or investment.

Specific targets for Audience, Location & Display Time would be made using arrays of Inventory and Delivery OOHobjects, rather than the Distribution OOHobject itself.

Summary

Name	Type	DataSource	Target
Distribution	Frames	ShareOfDisplay	Day
			Hour
	Audience	Time	Impacts.Day
			Impacts.Hour
		<DataSource>	Impacts.frame_id
			Impacts.postal_sector
			Impacts.town
			Impacts.conurbation
	Investment	Time	Impacts.tv_area
			Impacts.region
		<DataSource>	Day
			Hour
			frame_id
			postal_sector
			town
			conurbation
			tv_area
			region

The segment array for every Distribution.x.x.x object gives a choice of an even ‘Fixed’ distribution or a ‘Flexible’ distribution that achieves the Campaign Inventory & Delivery targets over the campaign flight.

Distribution.Frames.ShareOfDisplay.x

This OOHobject describes how the delivery of the campaign share of display time is distributed over the campaign flight times.

The default setting for this Distribution OOHobject is ‘Flexible’ meaning that the targeted ‘ShareOfDisplay’ in terms of average ShareOfTime and total Spot frequency will be achieved in total over the campaign flight.

- Day = Fixed, the averaged ShareOfTime and total Spot Frequency will be delivered at an equal pace on each selected Day over the campaign flight
- Hour = Fixed, the averaged ShareOfTime and total Spot Frequency will be delivered at an equal pace on each selected Hour over the campaign flight

Distribution.Audience.Time.Impacts.x

This OOHobject describes how the delivery of the targeted campaign audience impact volume is distributed over the campaign flight time.

The default setting for this Distribution OOHobject is ‘Flexible’ meaning that the total targeted audience impact volume will be delivered over the campaign flight time, but different days or hours may have different audience delivery volumes.

- Day = Fixed, the same volume of audience impacts will be delivered on each day to achieve the total audience target
- Hour = Fixed, the same volume of audience impacts will be delivered on hour

This OOHobject can also be described as:

- Distribution.Audience.Time.Cover.x (e.g. percentage of the population that saw the advert)
- Distribution.Audience.Time.Reach.x (e.g. Unique Audience Count)
- Distribution.Audience.Time.Frequency.x (e.g. Number of times the Audience reached sees the Advert)

If the Media Owner/Buyer can support such campaign metrics & scheduling distribution

Distribution.Audience.<DataSource>.Impacts.x

This OOHobject describes how the delivery of the targeted campaign audience is distributed over the frame locations in the campaign flight.

The default setting for this Distribution OOHobject is ‘Flexible’ meaning that the targeted audience impact volume will be delivered over the campaign flight time, but different locations may have different audience delivery volumes.

A third party DataSource can be used to identify the distribution location categories. For illustrative purposes, the UK SPACE dataSource has been used below:

- frame_id = Fixed, the same volume of audience impacts will be delivered at each Frame location over the campaign flight.
- postal_sector = Fixed, the same volume of audience impacts will be delivered within each Postal Sector over the campaign flight.
- town = Fixed, the same volume of audience impacts will be delivered within each Town over the campaign flight.
- conurbation = Fixed, the same volume of audience impacts will be delivered within each Conurbation over the campaign flight.
- tv_area = Fixed, the same volume of audience impacts will be delivered within each TV Area over the campaign flight.

- region = Fixed, the same volume of audience impacts will be delivered within each TV Area over the campaign flight

If the dataSource can be used to quantify audience metrics other than ‘impacts’ the distribution object can also be used in the following way to reflect this:

- Distribution.Audience.<DataSource>.Cover.x
- Distribution.Audience..<DataSource>.Reach.x
- Distribution.Audience..<DataSource>.Frequency.x

Distribution.Investment.Time.x

This OOHobject describes how the delivery of the targeted campaign investment is distributed over time in the campaign flight.

The default setting for this Distribution OOHobject is ‘Flexible’ meaning that the targeted campaign investment will be delivered over the campaign flight time. Individual days or hours may have different investment pacing.

- Day = Fixed, the same investment will be delivered on each day to achieve the total investment target
- Hour = Fixed, the same investment will be delivered in each hour to achieve the same investment target

Distribution.Investment.<DataSource>.x

This OOHobject describes how the delivery of the targeted campaign investment is distributed over locations in the campaign flight.

The default setting for this Distribution OOHobject is ‘Flexible’ meaning that the targeted campaign investment will be delivered over total campaign locations. Individual frames and/or locations may have different investment pacing.

A third party DataSource can be used to identify the distribution location categories. For illustrative purposes, the UK SPACE DataSource has been used below:

- frame_id= Fixed, the same investment will be delivered at each Frame location over the campaign flight to achieve the campaign investment target.
- postal_sector = Fixed, the same investment will be delivered within each Postal Sector over the campaign flight to achieve the campaign investment target.
- town = Fixed, the same investment will be delivered within each Town over the campaign flight to achieve the campaign investment target.
- conurbation = Fixed, the same investment will be delivered within each Conurbation over the campaign flight to achieve the campaign investment target.
- tv_area = Fixed, the same investment will be delivered within each TV Area over the campaign flight to achieve the campaign investment target.
- region = Fixed, the same investment impacts will be delivered within each TV Area over the campaign flight to achieve the campaign investment target.

4.16.5 Prohibitions OOHobject

The Prohibitions OOHobject allows an OOH media owner to describe (and OOH media buyer to understand) their inventory in terms of frame prohibitions from a named DataSource that will affect if their brand or advert can be displayed at a certain product locations.

Summary

OOHobject	Oohbject Type	OOHobject Data Source	Target
Prohibitions	Frames	<DataSource>	Alcohol
			Gambling
			HFSS
			Politics
			BodyShaming

This object is attached to the Product Targeting Object to expose all FrameIDs (via the Segment) which may be affected by any of the prohibitions listed.

e.g. if the product contains the frame ids of

1234931339, 1235190735, 1234931338, 1235191547, 1234931569 and 1235202465

and the frames

1234931339, 1235190735

are prohibited from displaying alcohol brands,

this could be shown as:

Prohibitions.Frames.SPACE.Alcohol = [1234931339, 1235190735]

This is for descriptive purpose only and the master frame to prohibitions table may be managed elsewhere by the publisher/media owner.

5 Collection Objects

For GET calls that return a collection of resources, such as /accounts/{id}/orders, the response must be an object that contains an array of the requested resources. The array must be named according to the type of resource it contains. The following table identifies the property name that must be used for each collection call.

Call	Property Name	Resource
/organizations /organizations?\$filter	organizations	Organization
/advertiserbrands /advertiserbrands?\$filter	advertiserbrands	AdvertiserBrand
/accounts /accounts?\$filter	accounts	Account
/accounts/{id}/assignments /accounts/{id}/assignments?\$filter	assignments	Assignment
/accounts/{id}/orders /accounts/{id}/orders?\$filter	orders	Order Campaign Assignment
/accounts/{id}/orders/{id}/lines /accounts/{id}/orders/lines?\$filter	lines	Lines Assignment
/products /products/search (POST)	products	Product Assignment
/products/avails (POST)	avails	ProductAvails Assignment
/oohbjects/dataSources /oohbjects/dataSources?filter	dataSources	Data Sources

The following shows an example response for /accounts.

```
{  
  "Accounts": [  
    {  
      "AdvertiserId": "B7EBC7F3-FBB3-4250-99F1-8D001088434B", "BuyerId": "4AA837B7-1A27-421E-9DDD-CAEF1AE884B5", "Id": "9B0878BE-7254-  
49BE-AFD4-B0A67C7C3D26",  
    },  
    {  
      "AdvertiserId": "16B55667-37CF-4447-A79D-88E6DAC4D7C2", "BuyerId": "4AA837B7-1A27-421E-9DDD-CAEF1AE884B5", "Id": "EAC93F5D-F448-  
44D6-8333-4E530D14C9DA",  
    },  
  ]  
}
```

The collection object may include additional publisher-defined properties. If there are no resources to return, the array must be empty.

6 OpenDirect General Support Requirements

6.1 Authentication

Publishers must support authenticating advertiser and agency users. Publishers must use [OAuth 2.0](#) for user authentication. Publishers must support the implicit and authorization code grant flows.

Each request must include an AccessToken header that is set to the user's access token. If the token is not valid, the request must fail with HTTP status code 401 Unauthorized.

6.2 Versioning

Versioning occurs at the API level and is URI based. All services that make up the API must use the same version number. The version may fall anywhere in the path before the resource and must have the form vn[.n][.n], where n is a positive integer. For example, in the URI <https://<host>/api/v1.2.3/accounts/{id}>, v1.2.3 indicates version 1.2.3 of the API.

6.3 HTTP Error Codes/Error Handling

The publisher must support the following HTTP status codes.

Status Code	Description
200 Ok	Return for a successful GET, POST, or PATCH request.
400 Bad Request	Return for a POST, PATCH request that contains invalid data, or when the requested action (i.e. book) is not valid. The response must include the reasons for the error. For details, see Error Response .
401 Unauthorized	Return if the user is not authorized to make the request.
404 Not found	Return if the requested resource is not found.
500 Internal server error	Return for server-related errors.

The API may support the following HTTP status codes.

Status Code	Description
302 Found	Return if the resource has moved. The Location header must include the new URI.
304 Not modified	Return for requests that include the If-None-Match header (to support ETags) and the resource has not changed.
412 Precondition failed	Return for requests that include the If-Match header (to support ETags) and the resource has changed.

6.4 Error Response

If the request generates a 400 Bad Request status code, the response must contain a collection object; the collection object must contain a single field named **errors**. The value of **errors** is an array of one or more error objects. The following table defines the properties of the error object.

Property	Type	Required/Optional	Description
ErrorCode	String	Required	A symbolic string constant that identifies the error.
Context	Dictionary<string, object>	Optional	A list of Publisher-defined key/value pairs that provide additional context about the error. For example, an ID that identifies a log entry.
Link	String	Optional	A URL to additional help text that may help the caller solve the issue.
ErrorMessage	String	Required	A string that describes the error that occurred.

The following shows the body of an example error response.

```
{
  "Errors": [
    {
      "Context": {"logId": "123abc"},
      "Message": "The requested impressions are not available.", "errorCode": "ImpressionsNotAvailable",
      "Link": "https://<host>/help/impressions.aspx"
    }
  ]
}
```

```

"Context": {},
"Message": "",
"ErrorCode": "",
"Link": ""
},
]
}

```

6.5 Data Format

Supported mime type: application/json

6.6 Logical JSON operators

Logical AND, OR operators are supported within JSON requests as \$and, \$or operators. Further logical operators may be added if the Media Owner / Publisher has the capability to action such requests.

Operator	Description	Example
\$and	Performs an AND operation on an array with at least two expressions and returns the document that meets all the expressions.	{"\$and": [{"age":5}, {"name":"Joe"}]}
:	Performs as alternative syntax to the \$and operator.	{"name":"Joe", "age":5}
\$or	Performs an OR operation on an array with at least two expressions and returns the documents that meet at least one of the expressions.	{"\$or": [{"age":4}, {"name":"Joe"}]}

Reference:

https://www.ibm.com/support/knowledgecenter/SSEPGG_11.1.0/com.ibm.swg.im.dbclient.json.doc/doc/r0061295.html

<https://restdb.io/docs/querying-with-the-api>

6.7 OOH Schedule & Delivery Reporting

A method to publish the OOH display schedule generated to fulfil the campaign targeting requirements (pre-flight) and the performance of the schedule when the campaign is in flight and/or completed.

URI	Description
/accounts/{id}/orders/{id}/lines/stats	Aggregates the spot, impacts, time and spend for all lines in the order.
/accounts/{id}/orders/{id}/lines/{id}/stats	Aggregates the spot, impacts, time and spend for the specified line.

The 'Stats' Common Object enables the publishing of the schedule (StatsScheduled), and the delivery of the schedule (StatsDelivered) to the following fields, granularity & metrics:

6.7.1 Metrics

StatsScheduled

This Stats object stores the schedule of frames and times that are created to fulfil the booking line requirements as described in the Line Targeting object. This object is created at the time of the line reservation and booking and may be subject to change up until (and in some cases for the duration) of the campaign flight.

StatsDelivered

This Stats object stores the data that shows how the scheduled of frames and times was delivered on the OOH network.

6.7.2 Fields Published

Terms	Definitions	Stats Object	Targeting OOHject Description	OOHobject Value
Spot Length	The amount of time the advertiser has to play their creative in - If an advertisement is on screen for this length of time, this constitutes one play	StatsScheduled & StatsDelivered	Delivery.Frames.ShareOfDisplay.Spot	StatsValue
Served Plays	The number of times a creative (with a defined spot length) has started playing but it may not have been fully played	StatsDelivered	Delivery.Frames.ShareOfDisplay.Spot	StatsCountServed
Delivered Plays	The number of times a creative (with a defined spot length is fully played)	StatsScheduled & StatsDelivered	Delivery.Frames.ShareOfDisplay.Spot	StatsCount
Delivered Impacts	The number of times that a creative has been viewed - as defined by the 'audience DataSource' impact scores	StatsScheduled & StatsDelivered	Inventory.Audience.<DataSource>.Impacts	StatCount
Share of Time	An Average % share of total time across the dimensions reported on for the campaign (e.g. play, hour, panel, geography)	StatsScheduled & StatsDelivered	Delivery.Frames.ShareOfDisplay.ShareOfTime	StatsAverage
Share of Impacts	An average % share of viewed impacts across the dimensions reported on for the campaign (e.g. play, hour, panel, geography)	StatsScheduled & StatsDelivered	Delivery.Audience.<DataSource>.ShareOfAudience	StatsAverage
Reach	The number of individuals reached by a campaign	StatsScheduled & StatsDelivered	Inventory.Audience.<DataSource>.Reach	StatsValue
Frequency	The frequency of exposure by each unique individual	StatsScheduled & StatsDelivered	Inventory.Audience.<DataSource>.Reach	StatsValue
Creativeld	The ID of the creative file that is played out in the Spot	StatsScheduled & StatsDelivered	Delivery.Frames.ShareOfDisplay.Spot.Creativeld	StatsValue

6.7.3 Granularity

The Schedule and Delivery data can be requested and or served at Day, Hour and/or Spot level of granularity

6.8 Paging Query Parameters

For any resource that returns lists of data, these resources should support paging. Two resource parameters—count and offset—will be required in order to support paging. If the parameters aren't included, the total number of available data might not be returned.

count: Indicates the number of desired records to be returned in the response.

offset: Indicates the starting point from which the number of records should be returned in the response. If you wish to start with the first record, you must provide 0. Always use the number prior to the record position that is desired. For example, you have 100 records and wish to return 25 per page, you would specify it this way:

count= 25, offset 0

count= 25, offset 25

count= 25, offset 50

count= 25, offset 75 Recommended Count Limit: 250

6.8.1 Custom Headers

When using paging, the consumer may need to know how many total records there are so this should be part of the response. There are two options here. One would be to return the total count in an outer json object to the request. The other is to use a custom header. The custom header is preferable because it does not become part of the model represented by the json. The con is, many frown upon custom headers.

Header Name: X-Total-Count

7 URIs and General Request/Response Rules

URIs are what the API uses to communicate OpenDirect resource object details between publisher and provider systems. The following list of rules apply to all resources in general, but rules specific to each resource, along with examples for requests and responses, are described in more detail in the following sections. A summary of resource URIs is provided in section 7.1.

1. If the following is true for the request, the response must not include the property.

- The Value is NULL
- There is no default value
- Its type is numeric or a string

However, if the property is an array of any type and is NULL, the response must include the property and it must be set to an empty array.

2. All POST (add operations) and PATCH requests must include the resource in the response.

3. For POSTs (add operations), ignore properties that are set to NULL. However, for PATCH, if a property is set to NULL, remove the current value.

7.1 URI Summary Table

Resource	URI	Verbs	Required
Account	/accounts	GET, POST	Yes
	/accounts/{id}	GET	Yes
	/accounts?\$filter=	GET	Yes
Assignment	/accounts/{id}/assignments	GET, POST	Yes
	/accounts/{id}/assignments/{id}	GET, PATCH, DELETE	Yes
	/accounts/{id}/assignments/{id}?disable	PATCH	Yes
	/accounts/{id}/assignments?\$filter=	GET	No
	/accounts/{id}/creatives?\$filter=	GET	No
Order	/accounts/{id}/orders	GET, POST	Yes

		GET, PATCH, DELETE	Yes
	/accounts/{id}/orders/{id}	GET	No
	/accounts/{id}/orders?\$filter=	GET	YES
Line	/accounts/{id}/orders/{id}/lines	GET, POST	Yes
	/accounts/{id}/orders/{id}/lines/{id}	GET, PATCH, DELETE	Yes
	/accounts/{id}/orders/{id}/lines/{id}?book	PATCH	Yes
	/accounts/{id}/orders/{id}/lines/{id}?reserve	PATCH	Yes
	/accounts/{id}/orders/{id}/lines/{id}?cancel	PATCH	Yes
	/accounts/{id}/orders/{id}/lines/{id}?reset	PATCH	Yes
Organizations	/organizations	GET	Yes
	/organizations/{id}	GET	Yes
	/organizations?\$filter=	GET	No
Products	/products	GET	Yes
	/products/{id}	GET	Yes
	/products/search	POST	Yes
	/products/avails	POST	Yes
Change Request	/accounts/{id}/changerequest	GET, POST	No
	/accounts/{id}/changerequest/{id}	GET, PATCH, DELETE	No
	/accounts/{id}/changerequest?\$filter=	GET	No
	/accounts/{id}/changerequest/{id}/approve	PUT	No

	/accounts/{id}/changerequest/{id}/reject	PUT	No
Change Request Lines	/accounts/{id}/changerequest/{id}/lines	GET, POST	No
	/accounts/{id}/changerequest//lines/{id}	GET, PATCH	No
	/accounts/{id}/changerequest//lines?\$filter=	GET	No
Reporting	/accounts/{id}/orders/{id}/lines/stats	POST	No
	/accounts/{id}/orders/{id}/lines/{id}/stats	POST	No
Advertiser Brands	/advertiserbrands	GET	No
	/advertiserbrands/{id}	GET	No
	/advertiserbrands?\$filter=	GET	No
DataSources	/datasources	GET	No
	/datasources/datasource	GET	No
	/datasources?\$filter=	GET	No

7.2 Account

The account resource associates an organization ID for a buyer with an organization ID for an advertiser. Account URIs enable account creation and account search.

7.2.1 /accounts

Adds an Account or gets a list of accounts that the user has access to. The response must support pagination. See Paging Query Parameters.

Verbs

GET: Gets a list of all accounts.

POST: Adds an account.

Rules

An advertiser or agency may add accounts to only the organization they own; an agency may not add accounts to an advertiser's organization.

If an advertiser wants an agency to manage an account on their behalf, the advertiser must add the account and set the account's BuyerId to the agency's organization ID.

If an agency wishes to use a third-party buyer to manage an account on their behalf, the agency must add the account and set the account's ThirdPartyId to the agency's BuyerID.

An organization may add as many accounts as needed to create a buying structure that supports their needs. For example, the organization may create a single account, an account for each region, an account for each brand, and so on.

For an advertiser, the list of accounts will include only accounts that they own. However, for an agency and a third party, the list of accounts will include the accounts that they own and the accounts that they manage on behalf of advertisers.

Example POST Request

```
POST https://<host>/<path>/<version>/accounts HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
{
    "AdvertiserId": "1234987",
    "BuyerId": "34587",
    "ThirdPartyId": "98765",
    "Name": "Brand A",
    "ProviderData": []
}
```

Example POST Response

```
HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345
Content-Type: application/json
Content-Length: 379
{
    "AdvertiserId": "1234987",
    "BuyerId": "34587",
```

```
"ThirdPartyId": "98765",
"Id": "23873345",
"Name": "Brand A",
"ProviderData": []
}
```

Example GET Request

```
GET https://<host>/<path>/<version>/accounts HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 187 {
  "Accounts": [
    {
      "AdvertiserId": "1234987",
      "BuyerId": "1234987",
      "ThirdPartyId": "1234987",
      "Id": "9876542",
      "Name": "Brand B",
      "ProviderData": []
    },
    {
      "AdvertiserId": "1234987",
      "BuyerId": "34587",
      "ThirdPartyId": "98765",
      "Id": "23873345",
      "Name": "Brand A",
      "ProviderData": []
    }
  ]
}
```

7.2.2 /accounts/{id}

Gets the specified [Account](#).

Verb

GET: Gets the specified account.

Rules

The user must have permissions to perform the requested action. For example, advertisers and agencies may get the accounts that they own. In addition, an agency may get the accounts that they manage on behalf of advertisers.

Example GET Request

```
GET https://<host>/<path>/<version>/accounts/23873345 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token> Example
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 187
{
  "AdvertiserId": "1234987",
  "BuyerId": "34587",
```

```
        "ThirdPartyId": "98765",
        "Id": "23873345",
        "Name": "Brand A",
        "ProviderData": []
    }
```

7.2.3 /accounts?\$filter=

The response must support pagination. See Paging Query Parameters.

Verb

GET: Gets a list of accounts that match the specified filter criteria. The user may use OData expressions with the following Account properties:

- AdvertiserId
- BuyerId
- ThirdPartyId

May also support getting a list of IDs.

Rules

Only an advertiser or a buyer or third-party who own the accounts can issue the request. User should be able to filter the accounts by any of the fields or field values of the owned account. Logical AND/OR condition of the fields shall be allowed.

Example Request

```
GET https://<host>/<path>/<version>/accounts?buyerId=34587 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 187
{
    "Accounts": [
        {
            "AdvertiserId": "1234568",
            "BuyerId": "34587",
            "ThirdPartyId": "98765",
            "Id": "23873450",
            "Name": "Brand B",
            "ProviderData": []
        },
        {
            "AdvertiserId": "1234987",
            "BuyerId": "34587",
            "ThirdPartyId": "98765",
            "Id": "23873345",
            "Name": "Brand A",
            "ProviderData": []
        }
    ]
}
```

7.3 Account Assignments

Account assignments associate a creative with a line. This is not currently in scope for OOHopenDirect 1.5.1, with creative submission & assignment handled in the publisher/media-owner's own CMS systems.

7.4 Account Creative

Account creative holds all creative for the advertiser identified for an account. These creative can be assigned to one or more lines for one or more orders under the account using the assignment object. This is not currently in scope for OOHopenDirect 1.5.1, with creative submission & assignment handled in the publisher/media-owner's own CMS systems.

7.5 Account Orders

Adds an Order or gets a list of orders that the user has access to. The response must support pagination. See Paging Query Parameters.

7.5.1 /accounts/{id}/orders

Verbs

GET: (required) Gets a list of all orders that belong to the account.

POST: (required) Adds an order to the account.

Rules

An advertiser or agency may add orders to accounts that they own. In addition; an agency may add orders to accounts that they manage on behalf of advertisers.

For advertisers, the list will include only orders that they own. For agencies and third parties, the list will include the orders that they own and the orders that belong to accounts that they manage on behalf of advertisers.

Example POST Request

```
POST https://<host>/<path>/<version>/accounts/23873345/orders HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
{
    "AccountId": "23873345",
    "AdvertiserBrandId": "73",
    "Currency": "GBP",
    "EndDate": "2014-12-24T18:00:00.000Z",
    "Name": "My Order",
    "OOHProviderData": [
        {
            "CampaignId": "B007",
            "CampaignName": "BARTYTIME",
            "PoNumber": ,
            "SalesOrderReference": "SPEC123",
            "BarterOrganizationId": "BAR987",
            "Other": "
        }
    ],
    "StartDate": "2014-11-24T06:00:00.000Z"
}
```

Example POST Response

```
HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872
Content-Type: application/json
Content-Length: 108
{
    "AccountId": "23873345",
    "AdvertiserBrandId": "73",
    "Currency": "GBP",
    "EndDate": "2014-12-24T18:00:00.000Z",
    "Id": "1235872",
    "Name": "My Order",
    "OrderStatus": "Approved",
    "PreferredBillingMethod": "Electronic",
```

```

    "OOHProviderData": [
        {
            "CampaignId": "B007",
            "CampaignName": "BARTYTIME",
            "PoNumber": ,
            "SalesOrderReference": "SPEC123",
            "BarterOrganizationID": "BAR987",
            "Other": 
        }
    ],
    "StartDate": "2014-11-24T06:00:00.000Z"
}

```

Example GET Request

```

GET https://<host>/<path>/<version>/accounts/23873345/orders HTTP/1.1
Accept: application/json
AccessToken: <OAuth token> Example

```

Example GET Response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 187
{
    "Orders": [
        {
            "AccountId": "23873345",
            "AdvertiserBrandId": "73",
            "Currency": "GBP",
            "EndDate": "2014-12-24T18:00:00.000Z",
            "Id": "1235872",
            "Name": "My Order",
            "PreferredBillingMethod": "Electronic",
            "OOHProviderData": [
                {
                    "CampaignId": "B007",
                    "CampaignName": "BARTYTIME",
                    "PoNumber": ,
                    "SalesOrderReference": "SPEC123",
                    "BarterOrganizationID": "BAR987",
                    "Other": 
                }
            ],
            "StartDate": "2014-11-24T06:00:00.000Z"
        }
    ]
}

```

7.5.2 /accounts/{id}/orders/{id}

Gets, updates or deletes the specified Order.

Verbs

GET: (required) Gets the specified order.

PATCH: (required) Updates the specified order.

DELETE: (required) Deletes the specified order. May delete the order only if all lines in the order are in the Draft state. Must also delete assignments that reference the line.

Rules

The user must have permissions to perform the requested action. For example, advertisers and agencies may get, update, and delete the orders that they own. In addition, an agency may get, update, and delete the orders that belong to the accounts that they manage on behalf of advertisers.

Only orders in the Draft booking state may be deleted.

Example GET Request

```
GET https://<host>/<path>/<version>/accounts/23873345/orders/1235872 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 158
{
    "AccountId": "23873345",
    "AdvertiserBrandId": "73",
    "Currency": "GBP",
    "EndDate": "2014-12-24T18:00:00.000Z",
    "Id": "1235872",
    "Name": "My Order",
    "PreferredBillingMethod": "Electronic",
    "OOHProviderData": [
        {
            "CampaignId": "B007",
            "CampaignName": "BARTYTIME",
            "PoNumber": ,
            "SalesOrderReference": "SPEC123",
            "BarterOrganizationID": "BAR987",
            "Other": "
        }
    ],
    "StartDate": "2014-11-24T06:00:00.000Z"
}
```

Example PATCH Request

```
PATCH https://<host>/<path>/<version>/accounts/23873345/orders/1235872 HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
{
    "StartDate": "2014-12-05T18:00:00.000Z",
    "Name": "My Better Order Name"
}
```

Example PATCH Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 358
{
    "AccountId": "23873345",
    "AdvertiserBrandId": "73",
    "Currency": "GBP",
    "EndDate": "2014-12-24T18:00:00.000Z",
    "Id": "1235872",
    "Name": "My Better Order Name",
    "OrderStatus": "Approved",
    "PreferredBillingMethod": "Electronic",
    "OOHProviderData": [
        {
            "CampaignId": "B007",
            "CampaignName": "BARTYTIME",
            "PoNumber": ,
            "SalesOrderReference": "SPEC123",
            "BarterOrganizationID": "BAR987",
            "Other": "
        }
    ],
    "StartDate": "2014-12-05T18:00:00.000Z"
}
```

7.5.3 /accounts/{id}/orders?\$filter=

The response must support pagination. See Paging Query Parameters.

Verbs

GET: (optional) Gets a list of creatives that match the specified filter criteria.

- AdStatus

May support getting a list by IDs.

Rules

User should be either an advertiser or buyer who owns the orders.

Example Request (GET)

```
https://<host>/<path>/<version>/accounts/23873345/orders?AccountId=235634&currency=USD HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response (Get)

Returns a list of all the orders setup for the specified AccountId in USD currency.

7.6 Account Order Lines

Lines hold the product details that are added to an order for an account. Creative assignment not currently in scope for OOHopenDirect 1.5.1.

7.6.1 /accounts/{id}/orders/{id}/lines

Adds a Line to an order or gets a list of lines that the user has access to. The response must support pagination. See Paging Query Parameters.

Verbs

GET: (required) Gets a list of all lines in the order.

POST: (required) Adds a line to the order.

Rules

An advertiser or agency or third party may add lines to orders that they own. In addition; an agency or third party may add lines to orders that they manage on behalf of advertisers.

For advertisers, the list will include only lines that they own. For agencies or third parties, the list will include the lines that they own and the lines that belong to accounts that they manage on behalf of advertisers.

Example POST Request

```
https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
{
    "Comment": "Free form comment",
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Name": "My Line 1",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        }
    ]
}
```

```

        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 20
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 5
    }
]
}

```

Example POST Response

```

HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json
Content-Length: 778
{
    "BookingStatus": "Draft",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        }
    ],
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 20
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 5
    }
}

```

Example GET Request

```
GET https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 587
{
  "Lines": [
    {
      "BookingStatus": "Booked",
      "Comment": "Free form comment",
      "Cost": 8000,
      "EndDate": "2014-12-10T18:00:00.000Z",
      "Id": "345233",
      "Name": "My Line 1",
      "OrderId": "1235872",
      "ProductId": "456366",
      "OOHProviderData": [ { "PoNumber": "88873" } ],
      "StartDate": "2014-12-05T06:00:00.000Z",
      "Targeting": [
        {
          "Name": "Inventory",
          "Type": "Frames",
          "DataSource": "Space",
          "Target": "frame_id",
          "TargetValues": [
            1234931339,
            1235190735,
            1234931338,
            1235191547
          ]
        },
        {
          "Name": "Delivery",
          "Type": "Frames",
          "DataSource": "Time",
          "Target": "Days",
          "TargetValues": [ 5, 6 ]
        },
        {
          "Name": "Delivery",
          "Type": "Frames",
          "DataSource": "ShareOfDisplay",
          "Target": "ShareOfTime",
          "TargetValues": 20
        },
        {
          "Name": "Delivery",
          "Type": "Frames",
          "DataSource": "ShareOfDisplay",
          "Target": "Spot",
          "TargetValues": 5
        }
      ]
    }
  ]
}
```

7.6.2 /accounts/{id}/orders/{id}/lines/{id}

Gets, updates, or deletes the specified [Line](#).

Verbs

GET: (required) Gets the specified line from the order.

PATCH: (required) Updates the specified line. To update a line, the line must be in the Draft state.

DELETE: (required) Deletes the specified line. May delete a line only if it's in the Draft state. Must also delete assignments that reference the line.

Rules

The user must have permissions to perform the requested action. For example, advertisers, agencies and third parties may get, update, and delete the Lines that they own. In addition, an agency or third party may get, update, and delete the lines that belong to the accounts that they manage on behalf of advertisers.

A line may be deleted only if it's in the Draft state. In addition, all assignments that reference the line must be deleted.

Example GET Request

```
GET https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json Content-Length: 778 {
    "BookingStatus": "Draft",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        }
    ]
}
```

```

        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "TargetValues": 5
        }
    }
]
}

```

Example PATCH Request

```

https: //<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233 HTTP/1.1
Content-Type: application/json AccessToken: <OAuth token> {
    "Targeting": [
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 15
        }
    ]
}

```

Example PATCH Response

```

HTTP/1.1 200 OK Location: https: //<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json Content-Length: 778 {
    "BookingStatus": "Draft",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        }
    ]
}

```

```

        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 15

    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 5
    }
]
}

```

7.6.3 /accounts/{id}/orders/{id}/lines?\$filter=

Description

The response must support pagination. See Paging Query Parameters.

Verbs

GET: (required) Gets a list of lines that match the specified filter criteria. The user may use OData expressions and method calls with the following Line properties:

- Name
- BookingStatus
- StartDate
- EndDate

May also support getting a list by IDs.

7.6.4 accounts/{id}/orders/{id}/lines/{id}?book

Books the line.

Verbs

PATCH: (required) Begins the booking process for the line. The booking process may be asynchronous.

To book a line, the line must:

- Be in the Draft or Reserved State
- Have available inventory

If successfully booked, the line moves to the Booked state; otherwise, it moves to Declined and sets StateChangeReason.

Rules

The user must have permissions to book the line. For example, advertisers, agencies and third parties may book Lines that they own. In addition, an agency or third party may book lines that belong to the accounts that they manage on behalf of advertisers.

Only organizations that have an Approved or Limited status may book lines.

To book a line, the line must:

- Be in the Draft or Reserved State
- Have available inventory

The booking process may be asynchronous. If asynchronous, set the BookingStatus field to PendingBooking until the line is booked or declined. If successfully booked, set the BookingStatus field to Booked; otherwise, set the BookingStatus field to Declined and specify why the request was declined in the StateChangeReason field.

Example Request

```
PATCH https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233?book HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json Content-Length: 778
{
    "BookingStatus": "Booked",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        }
    ]
}
```

```

        "Target": "Spot",
        "TargetValues": 5
    }
}
}

```

7.6.5 /accounts/{id}/orders/{id}/lines/{id}?reserve

Reserves the line.

Verbs

PATCH: (required) Reserves the line. The reserve process may be asynchronous. To reserve a line, the line must be in the Draft state. If successfully reserved, the line moves to the Reserved state; otherwise, it moves to Declined and StateChangeReason is set.

Rules

The user must have permissions to reserve the line. For example, advertisers, agencies and third parties may reserve Lines that they own. In addition, an agency or third party may reserve lines that belong to the accounts that they manage on behalf of advertisers.

Only organizations that have an Approved or Limited status may reserve lines.

To reserve a line, the line must be in the Draft booking state.

The reservation process may be asynchronous. If asynchronous, set the BookingStatus field to PendingReservation until the line is reserved or declined. If successfully reserved, set the BookingStatus field to Reserved and the ReservedExpiryDate field to the date and time that the reservation expires. If the line was not reserved, set the BookingStatus field to Declined and specify why the request was declined in the StateChangeReason field.

Supporting reserve is optional.

Example Request

```

PATCH https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233?reserve HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>

```

Example Response

```

HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json
Content-Length: 778
{
    "BookingStatus": "Reserved",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",

```

```

        "Type": "Frames",
        "DataSource": "Space",
        "Target": "frame_id",
        "TargetValues": [
            1234931339,
            1235190735,
            1234931338,
            1235191547
        ]
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "Time",
        "Target": "Days",
        "TargetValues": [ 5, 6 ]
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 20
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 5
    }
]
}

```

7.6.6 /accounts/{id}/orders/{id}/lines/{id}?cancel

Cancels the line.

Verbs

PATCH: (required) Cancels the line. To cancel a line, the line must be in the Reserved, Booked, or InFlight state.

If successfully cancelled, the line moves to the Cancelled state with a StateChangeReason comment set. If the cancellation is not approved when in InFlight state, the line may be stopped or paused.

Rules

The user must have permissions to cancel the line. For example, advertisers, agencies and third parties may cancel Lines that they own. In addition, an agency or third party may cancel lines that belong to the accounts that they manage on behalf of advertisers.

To cancel a line, the line must be in the Reserved, Booked, or InFlight state. If successfully cancelled, set the BookingStatus field to Cancelled. If the previous status was InFlight, set the StateChangeReason comment field as appropriate (for example, “User canceled”).

Example Request

```

PATCH https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233?cancel HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>

```

Example Response (Approved)

```
HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json
Content-Length: 778
{
    "BookingStatus": "Cancelled",
    "StateChangeReason": "",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "TargetValues": 5
        }
    ]
}
```

Example Response (Not Approved)

```
HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json
Content-Length: 778
{
    "BookingStatus": "Booked", //Could also be flagged as "Stopped" or "Paused" if campaign in flight
    "StateChangeReason": "Cancellation not authorised due to contractual commercial obligations",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
```

```

{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "frame_id",
    "TargetValues": [
        1234931339,
        1235190735,
        1234931338,
        1235191547
    ]
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "Time",
    "Target": "Days",
    "TargetValues": [ 5, 6 ]
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "ShareOfTime",
    "TargetValues": 20
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "Spot",
    "TargetValues": 5
}
}
]
}

```

7.6.7 /accounts/{id}/orders/{id}/lines/{id}?reset

Moves the line back to the Draft state.

Verbs

PATCH: (required) Resets a line back to the Draft state. To reset a line, the line must be in the Reserved, Expired or Declined state.

Rules

The user must have permissions to reset the line. For example, advertisers, agencies and third parties may reset Lines that they own. In addition, an agency or third party may reset lines that belong to the accounts that they manage on behalf of advertisers.

To reset a line, the line must be in the Reserved, Declined, or Expired booking state. If successfully reset, set the BookingStatus field to Draft and reset the StateChangeReason field.

Example Request

```
PATCH https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233?reset HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/orders/1235872/lines/345233
Content-Type: application/json
Content-Length: 778
{
    "BookingStatus": "Draft",
    "StateChangeReason": "",
    "Comment": "Free form comment",
    "Cost": 8000,
    "EndDate": "2014-12-10T18:00:00.000Z",
    "Id": "345233",
    "Name": "My Line 1",
    "OrderId": "1235872",
    "ProductId": "456366",
    "OOHProviderData": [ { "PoNumber": "88873" } ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        }
    ]
}
```

```
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 20
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 5
    }
]
```

7.7 Organizations

Organizations are used to define a group of users. A unique ID is generated for each organization and organization IDs are used to identify the buyer and the advertiser for an account.

7.7.1 /organizations

Gets a list of [Organizations](#) that the user has access to. The response must support pagination. See Paging Query Parameters.

Verbs

GET: (required) Gets a list of all organizations that the user has access to. The list may contain both advertiser, agency and third-party organizations depending on the caller's access. For example, if the caller is an advertiser, the list might contain only the advertiser's organization objects; however, if the caller is an agency, the list will contain the agency's organization objects and the organization objects of the advertisers whose accounts that they manage.

Rules

The list will contain a single organization for advertisers; however, for agencies, the list will include the agency's organization and the organizations of the advertisers whose accounts they manage

Example Request

```
GET https://<host>/<path>/<version>/organizations HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 1879
{
    "Organizations": [
        {
            "Address": {
                "AddressLine1": "1234 Tiger Blvd",
                "City": "Redmond",
                "Country": "US",
                "PostalCode": "98123",
                "State": "WA"
            },
            "Contacts": [
                {
                    "Address": {
                        "AddressLine1": "1234 Tiger Blvd",
                        "City": "Redmond",
                        "Country": "US",
                        "PostalCode": "98123",
                        "State": "WA"
                    },
                    "Email": "jsilver@contoso.com",
                    "Honorific": "Ms",
                    "Fax": "2065551212",
                    "FirstName": "Janet",
                    "LastName": "Silver",
                    "MiddleName": "Jill"
                }
            ],
            "Name": "Silver Advertising"
        }
    ]
}
```

```

        "Phone": "2065550101",
        "Title": "Comptroller",
        "Type": "Billing"
    }
],
"Fax": "2065551212",
"Id": "12345678",
"Industry": ,
"Name": "Contoso",
"AdvertiserBrands": ,
"OrganizationType": "Specialist",
"Phone": "2065550100",
"OOHProviderData": ,
"Status": "Approved",
"Url": "http://contoso.com"
}
]
}

```

7.7.2 /organization/{id}

Gets or updates the specified organization.

Verbs

GET: (required) Gets the specified organization.

PATCH: (required) Updates the specified organization. The caller must have permissions to update the organization. For example, an advertiser, agency or third party may update their organization object but an agency may not update an advertiser's Organization object.

Rules

The user must have permissions to perform the requested action. For example, advertisers and agencies may get and update the Organization that they own; however, an agency may only get the organization of the advertisers whose accounts they manage.

An agency or third party may not update an advertiser's organization.

Example GET Request

```
GET https://<host>/<path>/<version>/organizations/12345677 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 1879
{
    "Address": {
        "AddressLine1": "221B Baker Street",
        "City": "London",
        "Country": "UK",
        "PostalCode": "NW1 6XE",
        "State": "NULL"
    },
    "Contacts": [
        {
            "Address": {
                "AddressLine1": "221B Baker Street",
                "City": "London",
                "Country": "UK",
                "PostalCode": "NW1 6XE",
                "State": "NULL"
            }
        }
    ]
}
```

```

        },
        "Email": "watson@idealholmes",
        "Honorific": "Mr",
        "Fax": "2065551212",
        "FirstName": "John",
        "LastName": "Watson",
        "Phone": "999-999-999",
        "Title": "Dr",
        "Type": "Billing"
    }
],
"Fax": "111111111",
"Id": "12345677",
"Industry": "Retail",
"Name": "IdealHolmes",
"AdvertiserBrands": [ "12", "67", "67", "45", "89", "99" ],
"OrganizationType": "Advertiser",
"Phone": "2065550100",
"OOHProviderData": ,
"Status": "Approved",
"Url": "http://www.idealholmes.com"
}

```

Example PATCH Request

```

PATCH https://<host>/<path>/<version>/organizations/12345678 HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
{
    "Id": "12345678",
    "Contacts": [
        {
            "Email": "bnicks@contoso.com",
            "Honorific": "Mr",
            "Fax": "2065551212",
            "FirstName": "Bill",
            "LastName": "Nicks",
            "Phone": "2065550105",
            "Title": "Comptroller",
            "Type": "Billing"
        }
    ]
}

```

Example PATCH Response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 1879
{
    "Address": {
        "AddressLine1": "1234 Tiger Blvd",
        "City": "Redmond",
        "Country": "US",
        "PostalCode": "98123",
        "State": "WA"
    },
    "Contacts": [
        {
            "Address": {
                "AddressLine1": "1234 Tiger Blvd",
                "City": "Redmond",
                "Country": "US",
                "PostalCode": "98123",
                "State": "WA"
            },
            "Email": "bnicks@contoso.com",
            "Honorific": "Mr",
            "Fax": "2065551212",
            "FirstName": "Bill",
            "LastName": "Nicks",
            "Phone": "2065550105",
            "Title": "Comptroller",
            "Type": "Billing"
        }
    ],
    "Fax": "2065551212",
    "Id": "12345678",
}

```

```
"Industry":  
"Name": "Contoso",  
"AdvertiserBrands": null,  
"OrganizationType": "Specialist",  
"Phone": "2065550100",  
"OOHProviderData":  
"Status": "Approved",  
"Url": "http://contoso.com"  
}
```

7.7.3 /organizations?\$filter=

The response must support pagination. See Paging Query Parameters.

Verbs

GET: (optional) Gets a list of organizations that match the specified filter criteria. The user may use OData expressions and method calls with the following Organization properties:

- Name
- Status
- One or more Organization IDs

7.8 Products

Products are defined by the publisher with details as specified in the Product object.

7.8.1 /products

Gets the list of Products from the product catalogue. The response must support pagination. See Paging Query Parameters.

Verbs

GET: (required) Gets a list of all products from the publisher's product catalog.

Rules

Only buyers/advertisers/third parties who have obtained an Organization ID and Account ID (Buyer ID/Advertiser ID) from the publisher shall issue this request. Requests from buyers, advertisers and third parties who do not have the publisher obtained IDs shall return an error (define error code and/or message).

Example Request

```
GET https://<host>/<path>/<version>/products HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK Content-Type: application/json Content-Length: 5899 {

    "Products": [
        {
            "ActiveDate": "2012-12-10T18:00:00.000Z",
            "AdFormatTypes": [
                "mp4",
                "jpg",
                "html5"
            ],
            "AllowNoCreative": "True",
            "BasePrice": 10000,
            "Currency": "GBP",
            "DeliveryType": "Guaranteed",
            "Description": "All Digital 6-sheets in Metropolis",
            "Icon": "http://<domain>/<path>/icon.jpg",
            "Id": "456366",
            "Languages": [
                "EN"
            ],
            "LeadTime": "T1H",
            "Name": "Metro",
            "ReservedExpiryTime": "P7D",
            "AdvertiserIdAccess": [],
            "BuyerIdAccess": [],
            "ThirdPartyIdAccess": [],
            "TargetTypes": [
                //Frames Description
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "frame_id",
                    "TargetValues": [

```

```

        1234931339,
        1235190735,
        1234931338,
        1235191547,
        1234931569,
        1235202465
    ],
    "Selectable": "Yes",
    "Minimum": 2,
    "Maximum": 6,
    "Increment": 2,
    "Default": 6
},
{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "frame_type",
    "TargetValues": [
        "digital moving image"
    ]
},
{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "format",
    "TargetValues": [
        "6 sheets"
    ]
},
{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "environment",
    "TargetValues": [
        "Rail Stations",
        "Roadside",
        "Underground"
    ]
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "Time",
    "Target": "Days",
    "TargetValues": [],
    "Selectable": "Yes",
    "Minimum": 1,
    "Maximum": 7,
    "Increment": 1,
    "Default": 7
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "ShareOfTime",
    "TargetValues": [],
    "Selectable": "Yes",
    "Minimum": 2,
    "Maximum": 100,
    "Increment": 1,
    "Default": 16.6
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "Spot",
    "TargetValues": ,
    "Selectable": "Yes",
    "Minimum": 5,
    "Maximum": 30,
    "Increment": 5,
    "Default": 5
},
{
    "Name": "Distribution",
    "

```

```

        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Hour",
        "TargetValues": "Fixed"
    },
    //Audience Description

    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "Target": "age",
        "TargetValues": [
            "15-17",
            "18-24",
            "25-29",
            "30-34",
            "35-39",
            "40-44",
            "45-49",
            "50-54",
            "55-59",
            "60-64"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "TargetValues": [
            "Male",
            "Female"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "Target": "affluence",
        "TargetValues": [
            "A",
            "B",
            "C1",
            "C2",
            "D",
            "E"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Metrics",
        "Target": "Impacts",
        "Selectable": "Yes"
    },
    //Prohibitions

    {
        "Name": "Prohibitions",
        "Type": "Frames",
        "DataSource": "SPACE",
        "Target": "Alcohol",
        "TargetValues": [
            1234931339,
            1235190735
        ]
    }
],
"TimeZone": "GMT",
"Url": "http://<domain>/<path>/creativespec.aspx"
}
]
}

```

7.8.2 /product/{id}

Gets the specified [Product](#) from the product catalog.

Verbs

GET: (required) Gets the specified product from the publisher's product catalogue.

Rules

Only the buyers/advertisers/third parties who have obtained an Organization ID and Buyer ID/Advertiser ID/Third Party ID from the publisher shall issue this request. The ID issued should be a valid product id previously retrieved from the publisher, for example, with /products. Invalid IDs should return an error (define error code/message)

Example Request

```
GET https://<host>/<path>/<version>/products/456366 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 5899
{
    "ActiveDate": "2012-12-10T18:00:00.000Z",
    "AdFormatTypes": [
        "mp4",
        "jpg",
        "html5"
    ],
    "AllowNoCreative": "True",
    "BasePrice": 10000,
    "Currency": "GBP",
    "DeliveryType": "Guaranteed",
    "Description": "All Digital 6-sheets in Metropolis",
    "Icon": "http://<domain>/<path>/icon.jpg",
    "Id": "456366",
    "Languages": [
        "EN"
    ],
    "LeadTime": "T1H",
    "Name": "Metro",
    "ReservedExpiryTime": "P7D",
    "AdvertiserIdAccess": [],
    "BuyerIdAccess": [],
    "ThirdPartyIdAccess": [],
    "TargetTypes": [
        //Frames
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547,
                1234931569,
                1235202465
            ],
            "Selectable": "Yes",
            "Minimum": 2,
            "Maximum": 6,
        }
    ]
}
```

```

        "Increment": 2,
        "Default": 6
    },
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "frame_type",
        "TargetValues": [
            "digital moving image"
        ]
    },
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "format",
        "TargetValues": [
            "6 sheets"
        ]
    },
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "environment",
        "TargetValues": [
            "Rail Stations",
            "Roadside",
            "Underground"
        ]
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "Time",
        "Target": "Days",
        "TargetValues": [],
        "Selectable": "Yes",
        "Minimum": 1,
        "Maximum": 7,
        "Increment": 1,
        "Default": 7
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": [],
        "Selectable": "Yes",
        "Minimum": 2,
        "Maximum": 100,
        "Increment": 1,
        "Default": 16.6
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": [],
        "Measurement": "seconds",
        "Selectable": "Yes",
        "Minimum": 5,
        "Maximum": 30,
        "Increment": 5,
        "Default": 5
    },
    {
        "Name": "Distribution",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Hour",
        "TargetValues": "Fixed"
    },
    //Audience
    {
        "Name": "Inventory",

```

```

        "Type": "Audience",
        "DataSource": "Route",
        "Target": "age",
        "TargetValues": [
            "15-17",
            "18-24",
            "25-29",
            "30-34",
            "35-39",
            "40-44",
            "45-49",
            "50-54",
            "55-59",
            "60-64"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "TargetValues": [
            "Male",
            "Female"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "Target": "affluence",
        "TargetValues": [
            "A",
            "B",
            "C1",
            "C2",
            "D",
            "E"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Metrics",
        "Target": "Impacts",
        "Selectable": "Yes"
    },
    //Prohibitions
    {
        "Name": "Prohibitions",
        "Type": "Frames",
        "DataSource": "SPACE",
        "Target": "Alcohol",
        "TargetValues": [
            1234931339,
            1235190735
        ]
    }
],
"TimeZone": "GMT",
"Url": "http://<domain>/<path>/creativespec.aspx"
}

```

7.8.3 /products/search

Gets a list of [Products](#) from the product catalog that matches the specified filter criteria (see [ProductSearch](#)).
The response must support pagination. See [Paging Query Parameters](#).

Verbs

POST: (required) Gets a list of products from the publisher's product catalog based on the criteria specified in the body of the request. For a list of the filter criteria that a caller may specify, see [ProductSearch](#). The body of the response contains a collection of [Product](#) objects that match the filter criteria.

Rules

Logical JSON operators are supported in this request as defined in Section 6.6

Example Request

```
https://<host>/<path>/<version>/products/search HTTP/1.1
Accept: application/json AccessToken: <OAuth token>

{
    "Targeting": [
        {
            "$and": [
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "frame_type",
                    "TargetValues": [
                        "digital moving image"
                    ]
                },
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "format",
                    "TargetValues": [
                        "6 sheets"
                    ]
                },
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "environment",
                    "TargetValues": [
                        "Rail Stations"
                    ]
                }
            ]
        }
    ]
}
```

Example Response

```
HTTP/1.1 200 OK Content-Type: application/json Content-Length: 5899 {
    "ActiveDate": "2012-12-10T18:00:00.000Z",
    "AdFormatTypes": [
        "mp4",
        "jpg",
        "html5"
    ],
    "AllowNoCreative": "True",
    "BasePrice": 10000,
    "Currency": "GBP",
    "DeliveryType": "Guaranteed",
    "Description": "All Digital 6-sheets in Metropolis",
    "Icon": "http://<domain>/<path>/icon.jpg",
    "Id": "456366",
    "Languages": [
        "EN"
    ],
    "LeadTime": "T1H",
    "Name": "Metro",
    "ReservedExpiryTime": "P7D",
    "AdvertiserIdAccess": [],
    "BuyerIdAccess": []
}
```

```

"ThirdPartyIdAccess": [],
"TargetTypes": [
    //Frames
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "frame_id",
        "TargetValues": [
            1234931339,
            1235190735,
            1234931338,
            1235191547,
            1234931569,
            1235202465
        ],
        "Selectable": "Yes",
        "Minimum": 2,
        "Maximum": 6,
        "Increment": 2,
        "Default": 6
    },
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "frame_type",
        "TargetValues": [
            "digital moving image"
        ]
    },
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "format",
        "TargetValues": [
            "6 sheets"
        ]
    },
    {
        "Name": "Inventory",
        "Type": "Frames",
        "DataSource": "Space",
        "Target": "environment",
        "TargetValues": [
            "Rail Stations",
            "Roadside",
            "Underground"
        ]
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "Time",
        "Target": "Days",
        "TargetValues": [],
        "Selectable": "Yes",
        "Minimum": 1,
        "Maximum": 7,
        "Increment": 1,
        "Default": 7
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": [],
        "Selectable": "Yes",
        "Minimum": 2,
        "Maximum": 100,
        "Increment": 1,
        "Default": 16.6
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",

```

```

        "Target": "Spot",
        "TargetValues": ,
        "Measurement": "seconds",
        "Selectable": "Yes",
        "Minimum": 5,
        "Maximum": 30,
        "Increment": 5,
        "Default": 5
    },
    {
        "Name": "Distribution",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Hour",
        "TargetValues": "Fixed"
    },
    //Audience

    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "Target": "age",
        "TargetValues": [
            "15-17",
            "18-24",
            "25-29",
            "30-34",
            "35-39",
            "40-44",
            "45-49",
            "50-54",
            "55-59",
            "60-64"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "TargetValues": [
            "Male",
            "Female"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Route",
        "Target": "affluence",
        "TargetValues": [
            "A",
            "B",
            "C1",
            "C2",
            "D",
            "E"
        ],
        "Selectable": "Yes"
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Metrics",
        "Target": "Impacts",
        "Selectable": "Yes"
    },
    //Prohibitions

    {
        "Name": "Prohibitions",
        "Type": "Frames",
        "DataSource": "SPACE",
        "Target": "Alcohol",
        "TargetValues": [
            1234931339,
            1235190735
        ]
    }
}

```

```

        ]
    }
],
"TimeZone": "GMT",
"Url": "http://<domain>/<path>/creativespec.aspx"
}

```

7.8.4 /products/avails

Gets pricing and avails information (see [ProductAvails](#)) for the specified products (see [ProductAvailsSearch](#)). The response must support pagination. See Paging Query Parameters.

Verbs

POST: (required) Gets the availability and pricing information for a specified list of products based on flight dates, quantity and targeting. The body of the request contains the list of products and flight details (See [ProductAvailsSearch](#)). The body of the response contains a collection of [ProductAvails](#) objects (one for each product specified in the request).

Rules

Only organizations that have an Approved or Limited status may search for avails.

Logical JSON operators are supported in this request as defined in Section 6.6

Example Frame Inventory Availability Request

```

https: //<host>/<path>/<version>/products/avails HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
{
    "AccountId": "23873345",
    "EndDate": "2014-12-10T18:00:00.000Z",
    "ProductIds": [ "456366" ],
    "StartDate": "2014-12-05T06:00:00.000Z",

    "AvailabilityFields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime"
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts"
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed"
        }
    ],
}
```

```

    "Grouping": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id"
        }
    ],
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "TargetValues": 5
        }
    ]
}

```

Example Frame Inventory Availability Response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 5899
{
    "ProductAvails": {

        "Currency": "GBP",
        "ProductId": "456366",
        "Targeting": [
            [
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "frame_id",
                    "TargetValues": "1234931339"
                },
                {
                    "Name": "Delivery",
                    "Type": "Frames",
                    "DataSource": "ShareOfDisplay",
                    "Target": "ShareOfTime",
                    "TargetValues": 20
                },
                {

```

```

        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Metrics",
        "Target": "Impacts",
        "TargetValues": 15000
    },
    {
        "Name": "Investment",
        "Type": "Total",
        "DataSource": "GBP",
        "Target": "Fixed",
        "TargetValues": 150
    }
],
[
    [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": "1235190735"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts",
            "TargetValues": 25000
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed",
            "TargetValues": 250
        }
    ],
    [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": "1234931338"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts",
            "TargetValues": 10000
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed",
            "TargetValues": 100
        }
    ],
    [
        {
            "Name": "Inventory",

```

```

        "Type": "Frames",
        "DataSource": "Space",
        "Target": "frame_id",
        "TargetValues": "1235191547"
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 20
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Metrics",
        "Target": "Impacts",
        "TargetValues": 30000
    },
    {
        "Name": "Investment",
        "Type": "Total",
        "DataSource": "GBP",
        "Target": "Fixed",
        "TargetValues": 300
    }
},
]

],
}

        "Price": 800
}
}

```

Example Audience Inventory Availability Request

```

https://<host>/<path>/<version>/products/avails HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
{
    "AccountId": "23873345",
    "EndDate": "2014-12-10T18:00:00.000Z",
    "ProductIds": [ "456366" ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "AvailabilityFields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime"
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts"
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed"
        }
    ],
}

```

```

    "Grouping": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id"
        }
    ],
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931339,
                1235190735,
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Route",
            "Target": "age",
            "TargetValues": [
                "15-17",
                "18-24",
                "25-29"
            ],
            "Selectable": "Yes"
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Route",
            "TargetValues": [
                "Female"
            ],
            "Selectable": "Yes"
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Route",
            "Target": "affluence",
            "TargetValues": [
                "A",
                "B",
                "C1"
            ],
            "Selectable": "Yes"
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts",
            "TargetValues": 8000
        }
    ]
}

```

Example Audience Inventory Availability Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 5899
{
    "ProductAvails": [
        {
            "Currency": "GBP",
            "ProductId": "456366",
            "Targeting": [
                [
                    {
                        "Name": "Inventory",
                        "Type": "Frames",
                        "DataSource": "Space",
                        "Target": "frame_id",
                        "TargetValues": "1234931339"
                    },
                    {
                        "Name": "Delivery",
                        "Type": "Frames",
                        "DataSource": "ShareOfDisplay",
                        "Target": "ShareOfTime",
                        "TargetValues": 20
                    },
                    {
                        "Name": "Inventory",
                        "Type": "Audience",
                        "DataSource": "Metrics",
                        "Target": "Impacts",
                        "TargetValues": 15000
                    },
                    {
                        "Name": "Investment",
                        "Type": "Total",
                        "DataSource": "GBP",
                        "Target": "Fixed",
                        "TargetValues": 150
                    }
                ],
                [
                    {
                        "Name": "Inventory",
                        "Type": "Frames",
                        "DataSource": "Space",
                        "Target": "frame_id",
                        "TargetValues": "1235190735"
                    },
                    {
                        "Name": "Delivery",
                        "Type": "Frames",
                        "DataSource": "ShareOfDisplay",
                        "Target": "ShareOfTime",
                        "TargetValues": 20
                    },
                    {
                        "Name": "Inventory",
                        "Type": "Audience",
                        "DataSource": "Metrics",
                        "Target": "Impacts",
                        "TargetValues": 25000
                    },
                    {
                        "Name": "Investment",
                        "Type": "Total",
                        "DataSource": "GBP",
                        "Target": "Fixed",
                        "TargetValues": 250
                    }
                ],
                [

```

```

        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": "1234931338"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts",
            "TargetValues": 10000
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed",
            "TargetValues": 100
        }
    ],
    [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": "1235191547"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts",
            "TargetValues": 30000
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed",
            "TargetValues": 300
        }
    ]
],
{
    "Price": 800
}
]
}

```

Example Logic Request

```
https://<host>/<path>/<version>/products/avails HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
{
    "AccountId": "23873345",
    "EndDate": "2014-12-10T18:00:00.000Z",
    "ProductIds": [ "456366" ],
    "StartDate": "2014-12-05T06:00:00.000Z",
    "AvailabilityFields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime"
        },
        {
            "Name": "Inventory",
            "Type": "Audience",
            "DataSource": "Metrics",
            "Target": "Impacts"
        },
        {
            "Name": "Investment",
            "Type": "Total",
            "DataSource": "GBP",
            "Target": "Fixed"
        }
    ],
    "Grouping": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id"
        }
    ],
    "$and": [
        {
            "Targeting": [
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "frame_id",
                    "TargetValues": [
                        1234931339,
                        1235190735
                    ]
                },
                {
                    "Name": "Delivery",
                    "Type": "Frames",
                    "DataSource": "Time",
                    "Target": "Days",
                    "TargetValues": [ 5, 6 ]
                }
            ],
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "ShareOfTime"
            }
        }
    ]
}
```

```

        "Target": "ShareOfTime",
        "TargetValues": 10

    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 5
    }
}

],
{
    "Targeting": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": [
                1234931338,
                1235191547
            ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "Time",
            "Target": "Days",
            "TargetValues": [ 5, 6 ]
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": 20
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "TargetValues": 5
        }
    ]
}
]
}

```

Example Logic Response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 5899
{
    "ProductAvails": {

        "Currency": "GBP",
        "ProductId": "456366",
        "Targeting": [
            [
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "frame_id",

```

```

        "TargetValues": "1234931339"
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 10
    },
    {
        "Name": "Inventory",
        "Type": "Audience",
        "DataSource": "Metrics",
        "Target": "Impacts",
        "TargetValues": 10000
    },
    {
        "Name": "Investment",
        "Type": "Total",
        "DataSource": "GBP",
        "Target": "Fixed",
        "TargetValues": 100
    }
},
[
{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "frame_id",
    "TargetValues": "1235190735"
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "ShareOfTime",
    "TargetValues": 10
},
{
    "Name": "Inventory",
    "Type": "Audience",
    "DataSource": "Metrics",
    "Target": "Impacts",
    "TargetValues": 18000
},
{
    "Name": "Investment",
    "Type": "Total",
    "DataSource": "GBP",
    "Target": "Fixed",
    "TargetValues": 180
}
],
[
{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "frame_id",
    "TargetValues": "1234931338"
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "ShareOfTime",
    "TargetValues": 20
},
{
    "Name": "Inventory",
    "Type": "Audience",
    "DataSource": "Metrics",
    "Target": "Impacts",
    "TargetValues": 10000
},
{
    "Name": "Investment",

```

```

        "Type": "Total",
        "DataSource": "GBP",
        "Target": "Fixed",
        "TargetValues": 100
    }
],
[
{
    "Name": "Inventory",
    "Type": "Frames",
    "DataSource": "Space",
    "Target": "frame_id",
    "TargetValues": "1235191547"
},
{
    "Name": "Delivery",
    "Type": "Frames",
    "DataSource": "ShareOfDisplay",
    "Target": "ShareOfTime",
    "TargetValues": 20
},
{
    "Name": "Inventory",
    "Type": "Audience",
    "DataSource": "Metrics",
    "Target": "Impacts",
    "TargetValues": 30000
},
{
    "Name": "Investment",
    "Type": "Total",
    "DataSource": "GBP",
    "Target": "Fixed",
    "TargetValues": 300
}
]
],
{
    "Price": 680
}
}

```

7.9 Change Request

Change requests are used to make a change to the order.

7.9.1 /accounts/{id}/changerequest

Gets all change requests for an account.

Verbs

POST: Adds a change request to the account.

GET: Gets a list of all change requests that belong to the account.

Example POST Request

```
POST https://<host>/<path>/<version>/accounts/23873345/changerequest HTTP/1.1
Content-Type: application/json
AccessToken: <OAuth token>
{
    "AccountId": 23873345,
    "Comments": "comments why the Change is being requested/proposed",
    "Contacts": [
        {
            "Billing": "@emailaddress",
            "Buyer": "@emailaddress",
            "Creative": "@emailaddress"
        }
    ],
    "Id": null,
    "OrderId": "1235872",
    "LineId": null, //can be used if change request is at Order and Line level
    "OOHProviderData": [
        {
            "CampaignId": "optional provider data",
            "CampaignName": "optional provider data",
            "PoNumber": "optional provider data",
            "SalesOrderReference": "optional provider data",
            "BarterOrganizationID": "optional provider data",
            "Other": "optional"
        }
    ],
    "RequesterId": "OrganisationID of the Change Requester",
    "Status": null,
    "Webhook": "URI which is called when the change is approved, rejected or modified by the Seller"
}
```

Example POST Response

```
HTTP/1.1 200 OK
Location: https://<host>/<path>/<version>/accounts/23873345/changerequest/123456
Content-Type: application/json
Content-Length: 108
{
    "AccountId": 23873345,
    "Comments": "Request acknowledged",
    "Contacts": [
        {
            "Billing": "@emailaddress",
            "Buyer": "@emailaddress",
            "Creative": "@emailaddress"
        }
    ]
}
```

```

        ],
        "Id": 66,
        "OrderId": "1235872",
        "LineId": null, //can be used if change request is at Order and Line level
        "OOHProviderData": [
            {

                "CampaignId": "optional provider data",
                "CampaignName": "optional provider data",
                "PoNumber": "optional provider data",
                "SalesOrderReference": "optional provider data",
                "BarterOrganizationID": "optional provider data",
                "Other": "optional"
            }
        ],
        "RequesterId": "OrganisationID of the Change Requester",
        "Status": "PENDING", //The Change has not yet been approved/rejected, could also be APPROVED or REJECTED
        "Webhook": "URI which is called when the change is approved, rejected or modified by the Seller"
    }
}

```

Example GET Request

```

GET https://<host>/<path>/<version>/accounts/23873345/changerequest HTTP/1.1
Accept: application/json
AccessToken: <OAuth token> Example

```

Example GET Response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 187
{
    "changerequests": [
        {
            "AccountId": 23873345,
            "Comments": "comments why the Change is being requested/proposed",
            "Contacts": [
                {
                    "Billing": "@emailaddress",
                    "Buyer": "@emailaddress",
                    "Creative": "@emailaddress"
                }
            ],
            "Id": 66,
            "OrderId": "1235872",
            "LineId": null, //can be used if change request is at Order and Line level
            "OOHProviderData": [
                {

                    "CampaignId": "optional provider data",
                    "CampaignName": "optional provider data",
                    "PoNumber": "optional provider data",
                    "SalesOrderReference": "optional provider data",
                    "BarterOrganizationID": "optional provider data",
                    "Other": "optional"
                }
            ],
            "RequesterId": "OrganisationID of the Change Requester",
            "Status": "PENDING", //The Change has not yet been approved/rejected, could also be APPROVED or
REJECTED
            "Webhook": "URI which is called when the change is approved, rejected or modified by the Seller"
        }
    ]
}

```

7.9.2 /accounts/{id}/changerequest/{id}

Gets a specified change request.

Verbs

GET: Gets the specified change request.

PATCH: Updates the specified change request.

DELETE: Deletes the specified change request. May delete the change request only if the request is in a “PENDING” state.

7.9.3 /accounts/{id}/changerequest?\$filter=

Searches for change requests.

Verbs

GET: Gets a list of change requests that match the specified filter criteria. The user may use OData expressions and method calls with the following Order properties.

- Status
- OrderId

May support getting a list by IDs.

7.9.4 /accounts/{id}/changerequest/{id}/approve

Gets all approved change requests for an account.

Verbs

PUT

7.9.5 /accounts/{id}/changerequest/{id}/reject

Rejects a change request for an account.

Verbs

PUT

7.10 Change Request Lines

Change requests at the line level for an order.

7.10.1 /accounts/{id}/changerequest/{id}/lines

Gets all change requests for a specified line.

Verbs

GET: Gets a list of all lines in the change request.

POST: Adds a line to the change request.

7.10.2 /accounts/{id}/changerequest/{id}

Gets a specified change request for an account.

Verbs

GET: Gets the specified line from the change request.

PATCH: Updates the specified line in the change request. To update a line, the line must be in the Pending state.

POST: Deletes the specified line from the change request. May delete a line only if it's in the Pending state. Must also delete assignments that reference the line.

DELETE: Deletes the specified line from the change request. May delete a line only if it's in the Pending state. Must also delete assignments that reference the line.

7.10.3 /accounts/{id}/changerequest/lines?\$filter=

Searches for lines that have a ChangeRequestPending status within a specified account.

Verbs

GET: Gets a list of lines that match the specified filter criteria. The user may use OData expressions and method calls with the following Line properties.

- Name
- StartDate
- EndDate

May support getting a list by IDs.

7.11 Reporting

Reporting occurs at the line level. The Media Owner / Publisher may support the following POST calls to generate a spot, impacts time and spend served report.

7.11.1 /accounts/{id}/orders/{id}/lines/stats

Aggregates the frame count, spot plays, share of time, impacts served and spend for all lines in the order

Verbs

POST

Rules

Only organizations that have an Approved or Limited status may retrieve performance stats

Example Request

See line level example below

7.11.2 /accounts/{id}/orders/{id}/lines/{id}/stats

Aggregates the frame count, spot plays, share of time, impacts served and spend in the specified line.

Verbs

POST

Rules

Only organizations that have an Approved or Limited status may retrieve performance stats

Example Request

```
https: //<host>/<path>/<version>//accounts/{id}/orders/{id}/lines/{id}/stats HTTP/1.1
Accept: application/json AccessToken: <OAuth token> {

    "AccountId": "23873345",
    "OrderId": "3479",
    "LineId": "1",
    "StatsStartDate": "2020-12-09T00:00:00.000Z", //if left blank defaults to StartDate of order line
    "StatsEndDate": "2020-12-09T01:00:00.000Z", //if left blank defaults to EndDate of order line

    //OutSmart Report Level 4 example

    "StatsScheduled": [
        {
            "Fields": [
                {
                    "Name": "Inventory",
                    "Type": "Frames",
                    "DataSource": "Space",
                    "Target": "frame_id",
                    "TargetValues": []
                }
            ]
        }
    ]
}
```

```

        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "TargetValues": []
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "TargetValues": []
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "CreativeId": []
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "Count": []
        }
    ]
}

],
"StatsDelivered": [
    {
        "Fields": [
            {
                "Name": "Inventory",
                "Type": "Frames",
                "DataSource": "Space",
                "Target": "frame_id",
                "StatsValues": []
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "ShareOfTime",
                "StatsAverage": []
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "StatsValues": []
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "CreativeId": []
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "StatsCount": []
            }
        ]
    }
],
"Granularity": "Hour",

```

```
        "Webhook": "URI which is called when the information is published by the Seller"
    }
```

Example Response

```
HTTP/1.1 200 OK Content-Type: application/jsonContent-Length: 5899 {
  "Stats": [
    {
      "AccountId": "23873345",
      "OrderId": "3479",
      "LineId": "1",
      "ReportDate": "2020-12-20T00:00:00.000Z",
      "StatsStartDate": "2020-12-09T00:00:00.000Z",
      "StatsEndDate": "2020-12-09T01:00:00.000Z",

      "StatsScheduled": [
        {
          "StartDate": "2020-12-09T00:00:00.000Z",
          "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
          "Fields": [
            {
              "Name": "Inventory",
              "Type": "Frames",
              "DataSource": "Space",
              "Target": "frame_id",
              "TargetValues": 1234931339
            },
            {
              "Name": "Delivery",
              "Type": "Frames",
              "DataSource": "ShareOfDisplay",
              "Target": "ShareofTime",
              "TargetValues": 16.666667
            },
            {
              "Name": "Delivery",
              "Type": "Frames",
              "DataSource": "ShareOfDisplay",
              "Target": "Spot",
              "TargetValues": 10
            },
            {
              "Name": "Delivery",
              "Type": "Frames",
              "DataSource": "ShareOfDisplay",
              "Target": "Spot",
              "CreativeId": "capad653"
            },
            {
              "Name": "Delivery",
              "Type": "Frames",
              "DataSource": "ShareOfDisplay",
              "Target": "Spot",
              "Count": 60
            }
          ]
        },
        {
          "StartDate": "2020-12-09T00:00:00.000Z",
          "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
          "Fields": [
            {
              "Name": "Inventory",
              "Type": "Frames",
              "DataSource": "Space",
              "Target": "frame_id",
              "TargetValues": 1235190735
            },
            {
              "Name": "Delivery",
              "Type": "Frames",
              "DataSource": "ShareOfDisplay",
              "Target": "ShareOfTime",
              "TargetValues": 16.666667
            }
          ]
        }
      ]
    }
  ]
}
```

```

        "TargetValues": 16.666667
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 10
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "CreativeId": "capad653"
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "Count": 60
    }
]
},
{
    "StartDate": "2020-12-09T00:00:00.000Z",
    "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
    "Fields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": 1234931338
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareofTime",
            "TargetValues": 16.666667
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "TargetValues": 10
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "CreativeId": "capad653"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "Count": 60
        }
    ]
},
{
    "StartDate": "2020-12-09T00:00:00.000Z",
    "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
    "Fields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "TargetValues": 1235191547
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "Count": 60
        }
    ]
}

```

```

        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "ShareOfTime",
        "TargetValues": 16.666667
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "TargetValues": 10
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "CreativeId": "capad653"
    },
    {
        "Name": "Delivery",
        "Type": "Frames",
        "DataSource": "ShareOfDisplay",
        "Target": "Spot",
        "Count": 60
    }
]
}
],
//Delivered

"StatsDelivered": [
{
    "StartDate": "2020-12-09T00:00:00.000Z",
    "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
    "Fields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "StatsValues": 1234931339
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "StatsAverage": 10
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "StatsValues": 10
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "CreativeId": "capad653"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "StatsCount": 36
        }
    ]
},
{
    "StartDate": "2020-12-09T00:00:00.000Z",

```

```

        "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
        "Fields": [
            {
                "Name": "Inventory",
                "Type": "Frames",
                "DataSource": "Space",
                "Target": "frame_id",
                "StatsValues": 1235190735
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "ShareOfTime",
                "StatsAverage": 10
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "StatsValues": 10
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "CreativeId": "capad653"
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "StatsCount": 36
            }
        ]
    },
    {
        "StartDate": "2020-12-09T00:00:00.000Z",
        "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
        "Fields": [
            {
                "Name": "Inventory",
                "Type": "Frames",
                "DataSource": "Space",
                "Target": "frame_id",
                "StatsValues": 1234931338
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "ShareOfTime",
                "StatsAverage": 10
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "StatsValues": 10
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "CreativeId": "capad653"
            },
            {
                "Name": "Delivery",
                "Type": "Frames",
                "DataSource": "ShareOfDisplay",
                "Target": "Spot",
                "CreativeId": "capad653"
            }
        ]
    }
]

```

```

        "StatsCount": 36
    }

    ],
},
{
    "StartDate": "2020-12-09T00:00:00.000Z",
    "EndDate": "2020-12-09T01:00:00.000Z", // +1 Hour
    "Fields": [
        {
            "Name": "Inventory",
            "Type": "Frames",
            "DataSource": "Space",
            "Target": "frame_id",
            "StatsValues": 1235191547
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "ShareOfTime",
            "StatsAverage": 10
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "StatsValues": 10
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "CreativeId": "capad653"
        },
        {
            "Name": "Delivery",
            "Type": "Frames",
            "DataSource": "ShareOfDisplay",
            "Target": "Spot",
            "StatsCount": 36
        }
    ]
},
{
    "Webhook": "insert webhook here"
}
]
}

```

7.12 Advertiser Brands

Advertiser Brands are related to each Advertiser Organization are used to add information to a Product Availability request and Order to ensure that any booking prohibitions can be upheld.

7.12.1 /advertiserbrands

Gets a list of [advertiserbrands](#) in the Media Owner / Publisher sell side system. The response must support pagination. See Paging Query Parameters.

Verbs

GET: (required) Gets a list of all Advertiser Brands

Example Request

```
GET https://<host>/<path>/<version>/advertiserbrands HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: x
{
  [
    {
      "Id": 1173,
      "Name": "Marmite",
      "OrganizationId": 345,
      "ThirdPartyId": 27,
      "ThirdPartyDataSource": "Space"
    },
    {
      "Id": 1174,
      "Name": "PGTips",
      "OrganizationId": 345,
      "ThirdPartyId": 42,
      "ThirdPartyDataSource": "Space"
    },
    {
      "Id": 1175,
      "Name": "Lynx",
      "OrganizationId": 345,
      "ThirdPartyId": 109,
      "ThirdPartyDataSource": "Space"
    },
    {
      "Id": 1176,
      "Name": "Walls",
      "OrganizationId": 345,
      "ThirdPartyId": 240,
      "ThirdPartyDataSource": "Space"
    }
  ]
}
```

7.12.2 /advertiserbrands/{id}

Gets a specified Advertiser Brand.

Verbs

GET: (required) Gets the specified Advertiser Brand.

Example GET Request

```
GET https://<host>/<path>/<version>/organizations/advertiserbrands/1173 HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: x
{
    "Id": 1173,
    "Name": "Marmite",
    "OrganizationId": 345,
    "ThirdPartyId": 27,
    "ThirdPartyDataSource": "Space"
}
```

7.12.3 /advertiserbrands?\$filter=

The response must support pagination. See Paging Query Parameters.

Verbs

GET: (optional) Gets a list of Advertiser Brands that match the specified filter criteria. The user may use OData expressions and method calls with the following Organization properties:

- Name
- OrganizationId
- One or more AdvertiserBrandIds
- One or more ThirdPartyIds
- ThirdPartyDataSource

7.13 DataSources

DataSources lists all targetable OOHbjects in the sell side system that are defined using third party DataSources

7.13.1 /datasources

Gets a list of all third party defined OOHbjects in the sell side system

Verbs

GET: (required) Gets a list of all DataSourced OOHbjects in the sell side system

Example Request

```
GET https://<host>/<path>/<version>/datasources HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: x
{
  [
    {
      "Name": "Inventory",
      "Type": "Frames",
      "DataSource": "Space",
      "Target": "frame_id"
    },
    {
      "Name": "Inventory",
      "Type": "Frames",
      "DataSource": "Space",
      "Target": "format"
    },
    {
      "Name": "Inventory",
      "Type": "Frames",
      "DataSource": "Space",
      "Target": "environment"
    },
    {
      "Name": "Inventory",
      "Type": "Audience",
      "DataSource": "Route",
      "Target": "age"
    },
    {
      "Name": "Inventory",
      "Type": "Audience",
      "DataSource": "Route",
      "Target": "sex"
    },
    {
      "Name": "Inventory",
      "Type": "Audience",
      "DataSource": "Route",
      "Target": "affluence"
    }
  ]
}
```

7.13.2 /datasources/{datasource}

Gets a specified list of targetable OOHbjects by DataSource.

Verbs

GET: (required) Gets OOHbjects by the specified DataSource.

Example GET Request

```
GET https://<host>/<path>/<version>/datasources/route HTTP/1.1
Accept: application/json
AccessToken: <OAuth token>
```

Example GET Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: x
{
  [
    {
      "Name": "Inventory",
      "Type": "Audience",
      "DataSource": "Route",
      "Target": "age"
    },
    {
      "Name": "Inventory",
      "Type": "Audience",
      "DataSource": "Route",
      "Target": "sex"
    },
    {
      "Name": "Inventory",
      "Type": "Audience",
      "DataSource": "Route",
      "Target": "affluence"
    }
  ]
}
```

7.13.3 /datasources?\$filter=

The response must support pagination. See Paging Query Parameters.

Verbs

GET: (optional) Gets a list of OOHbjects that match the specified filter criteria. The user may use OData expressions and method calls with the following Organization properties:

- Name
- Type
- Target

8 OpenDirect Workflow

The following describes the calls that a client would make to get product avails and pricing, create an order and add lines to it, upload creatives and associate them with a line, and get a performance report. For a diagram that shows the flow, see [Workflow Diagram](#).

8.1 Onboarding a Provider

A provider is a business that develops the platform and interface that agencies and advertisers use to buy premium guaranteed ad inventory from the publisher. Onboarding the provider is a manual process that is dependent on the publisher assigning IDs to agencies and advertisers and creating accounts for them to access.

8.2 Adding an Agency Organization

Agencies sign up directly with the publisher. The process is publisher-defined and varies by publisher. Once an organization has been added for the agency, the agency may create organizations for their advertising clients. Each user within an organization should have their own credentials.

8.3 Adding A Third Party Organization

Third parties sign up directly with the publisher. The process is publisher-defined and varies by publisher. Once an organization has been added for the agency, the third party may create organizations for their advertising clients. Each user within an organization should have their own credentials.

8.4 Adding an Advertiser Organization

Advertisers may sign up directly with the publisher, or an agency may represent the advertiser. Once an organization has been added for the advertiser, the advertiser may create one or more organizations. For example, they may create a single organization and then create accounts for each brand, subsidiary, or division. It is up to the advertiser to determine how they use Organization and Account to meet their organizational needs.

Each user in an organization should have their own credentials.

8.5 Getting an OAuth 2.0 Access Token

Providers must use OAuth 2.0 to authenticate the user. Each API call requires an AccessToken header that is sent to the OAuth access token.

The provider may choose to use either the implicit grant flow or authorization code grant flow depending on their usage. For one time or short-term access, use the implicit grant flow. The token is short lived and will expire in minutes or seconds as determined by the authentication service. Web applications should not use the implicit flow.

For repeat or long term access, use the authorization code grant flow. The authentication service returns an access token, refresh token, and expiration time. Before the access token expires, use the refresh token to get a new access token.

8.6 Adding an Account

An advertiser may create one or more accounts based on how they organize their buys. For example, they could create accounts for each brand, subsidiary, or division. The account associates the buyer with an advertiser. If the advertiser represents itself, the account identifies the advertiser as also the buyer (the organization for both advertiser and buyer is the same).

An agency that acts on behalf of the advertiser must have permission to do so. The process of granting an agency permission to manage an advertiser's accounts is publisher-defined.

In addition to defining the relationship between the advertiser and buyer, an account also owns Order and Creative objects.

To create an account, POST a request to /accounts. The body of the request is an Account resource object. The Account object contains the buyer's ID and the advertiser's ID. The response includes the Location header that contains the URI to the new account.

8.7 Get Product Inventory, Availability and Pricing

The following provides several options for getting product inventory details. Typically, you'd use the first two options to present a product catalog and the last option to add and book a line.

To get a product catalog to display to the user, send a GET request to /products. The response includes a collection object that contains an array of Product objects. The Product object contains the product's base rate and estimated daily impressions (for example, hundreds of thousands). Providers should not use the avails search method (option 3) to determine estimated avails.

- To get a specific product from the catalog, send a GET request to /products/{id}. The response contains a Product object.

To search the product catalog, send a POST request to /products/search. The body of the request is a ProductSearch object that contains the search criteria. For example, the client may search the catalog for products that use a specific ad format. The response includes a collection object that contains an array Product objects that match the search criteria. If no products match the search criteria, the array is empty.

To get product availability and pricing information for specific products, send a POST request to /products/avails. You should make this call only to determine actual availability just before adding and booking a line; you should not use this call to present availability as part of a product catalog.

- The body of the request is a ProductAvailsSearch object. The client must specify a date range, quantity, list of product IDs and may optionally specify frequency and targeting information. To get custom rates and availability for a media buyer, include the account ID, which identifies the advertiser and agency.

The response includes a collection object that contains an array of ProductAvails objects. Each ProductAvails object contains the available quantity and pricing information for a product. The number of available

impressions returned will be either the specified quantity, if the requested quantity is available, or less if there is fewer quantity available.

Note that the caller should not use this call to determine the maximum available impressions. Instead, they should use /products or /products/search which returns the estimated daily availability and base pricing details. If they use the avails search for product catalog purposes, they will likely display inaccurate pricing information to the user. For example, the pricing for 500,000,000 impressions may be less than the pricing for 100,000 impressions, which may lead the user to mistakenly believe that they're getting the impressions for \$5.00 CPM instead of \$15.00 CPM.

8.8 Creating an Order

An order is the parent container for lines. To add an order, send a POST request to /accounts/{id}/orders. The body of the request is an Order object, which specifies directional start and end dates, estimated budget, currency, and preferred billing method. The response includes the Location header that contains the URI to the new order.

8.9 Adding Lines to the Order

A line specifies the ad product to book, quantity, targeting details, and a date range of when the line runs. To add a line to the order, send a POST request to /accounts/{id}/orders/{id}/lines. The body of the request is a Line resource object. Typically, the client should specify the same details on the line that were used to search for product availability.

The response includes the Location header that contains the URI to the new line. The state of the line is Draft.

The line may be updated only in the Draft state. To update a line, send a PATCH request to /accounts/{id}/orders/{id}/lines/{id}.

8.10 Uploading a Creative and Assigning It to a Line

Not supported in OOHopenDirect 1.5.1

8.11 Reserving, Booking, and Canceling a Line

To reserve, book, or cancel a line, send a PATCH request to the following URIs, respectively.

/accounts/{id}/orders/{id}/lines/{id}?reserve

/accounts/{id}/orders/{id}/lines/{id}?book

/accounts/{id}/orders/{id}/lines/{id}?cancel

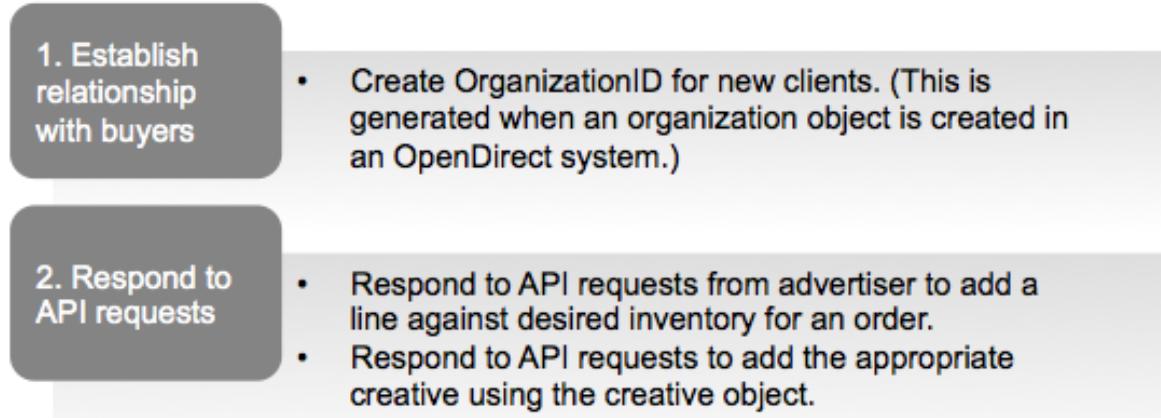
Each call initiates a process to perform the work. To determine whether the request succeeded, send a GET request to /accounts/{id}/orders/{id}/lines/{id} to get the specified line. Access the BookingStatus property to verify that the status changed accordingly. For example, if the request was reserve, confirm that BookingStatus is Reserved. If the reservation or booking process failed, the status will be Declined. To determine why the request was declined, access the StateChangeReason property.

8.12 Diagrams

The following diagrams illustrate key aspects of OpenDirect workflow and system dependencies.

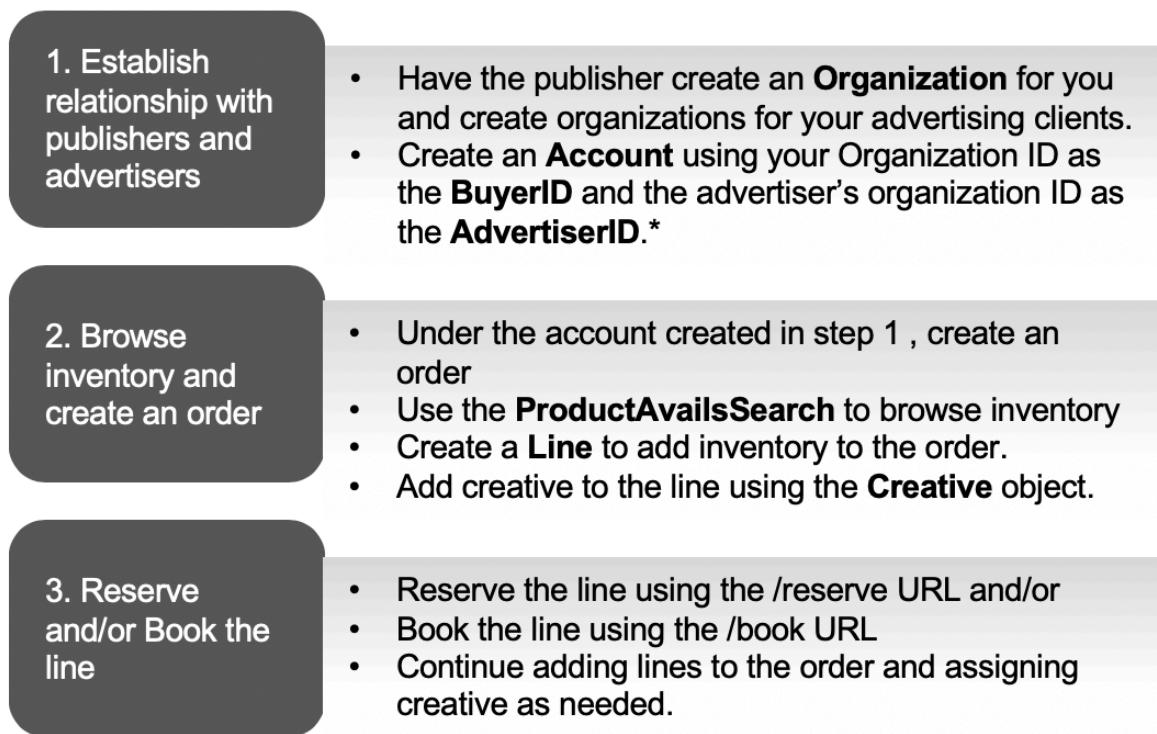
8.12.1 Publisher Workflow Diagram

The following diagram outlines the publisher workflow.



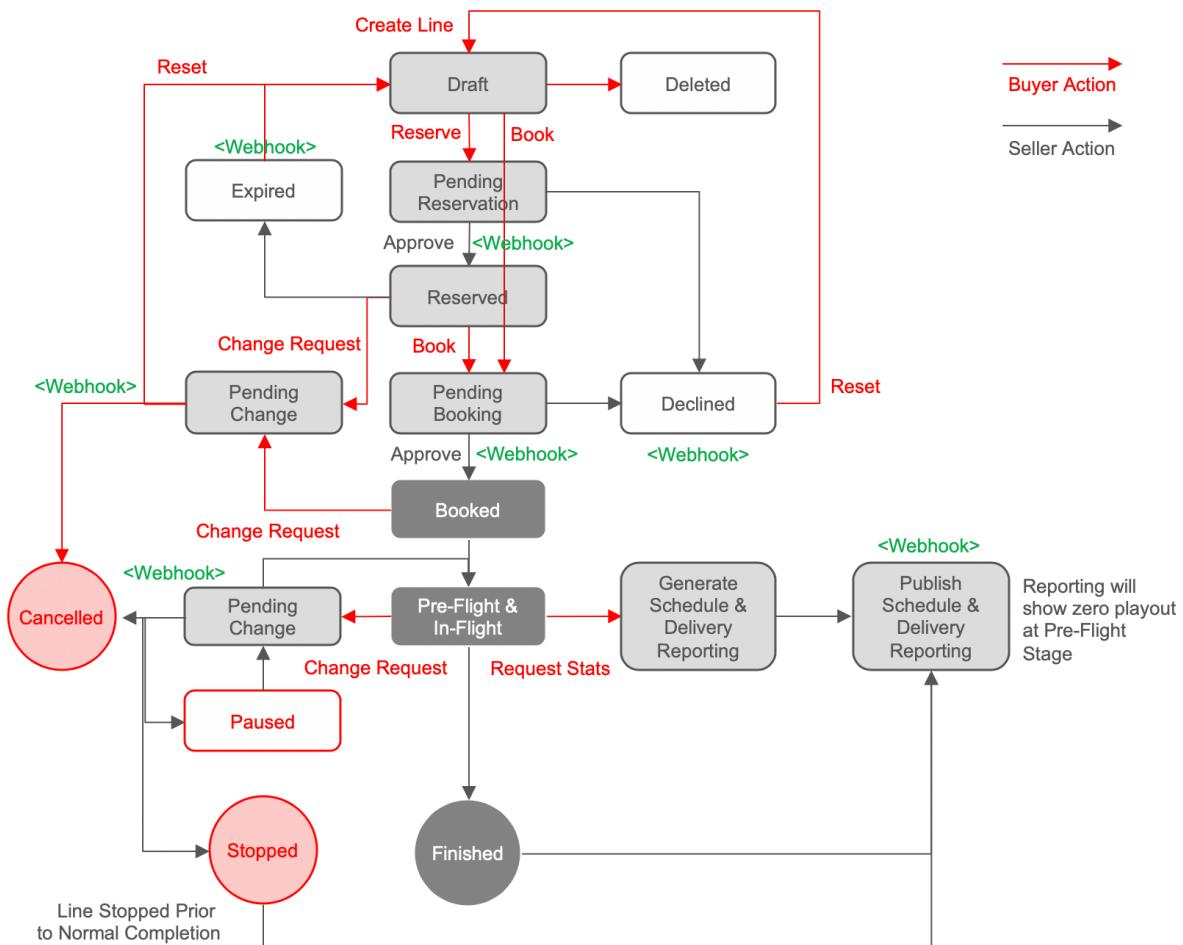
8.12.2 Agency and Advertiser Workflow Diagram

The following diagram outlines the workflow for creating an order.



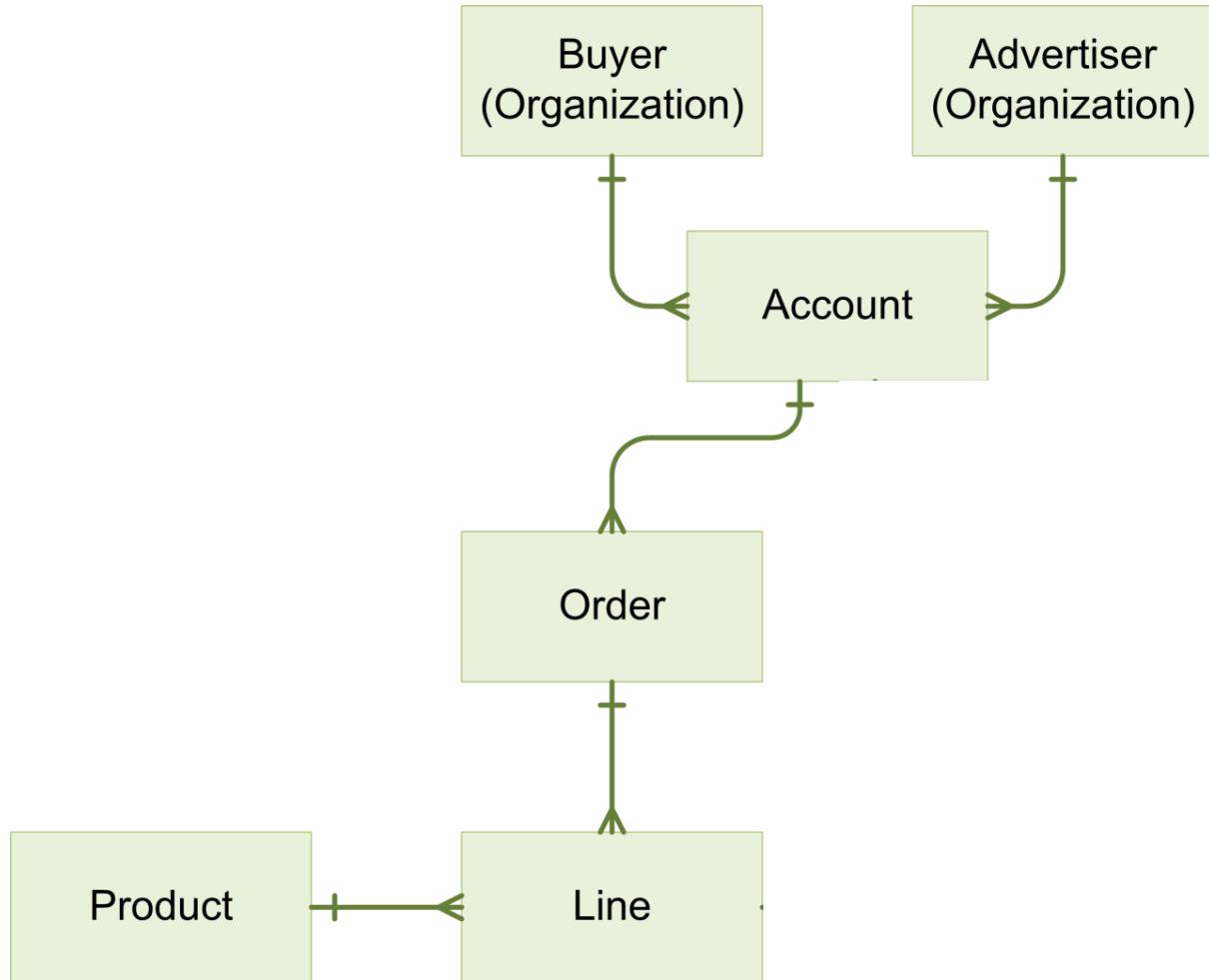
8.12.3 Booking State Diagram

The following diagram shows the state changes of a Line resource. For details about each state, see [BookingStatus](#).



8.12.4 Resource Model Diagram

The following diagram shows the relationships between the OpenDirect resources. This model allows a buyer to work with many advertisers and an advertiser to work with many buyers. If the advertiser does their own buying, they'd be both the advertiser and the buyer. For details about the resource objects, see Resources.



Appendix A : Specification Change Log

This appendix serves as an index of specification changes. These changes pertain only to the substance of the specification and not routine document formatting, organization, or content without technical impact.

Appendix B : Minimum OOHopenDirect Resources & Objects Required For An Initial Implementation

The OOHopenDirect standard is designed to make an OOH Media Owner's existing trading tools and methods accessible to programmatic direct buyers.

The OOHopenDirect standard is not about telling media owners how to trade, nor how to create key trading tools such as allocation and pricing engines.

The table below summarises the OOHopenDirect Resources, Common Objects and Targeting OOHbjects required to achieve a basic implementation of OOHopenDirect 1.5.1 based on a Media Owner's existing trading capabilities and trading tools.

Media Owner Trading Capabilities	OOHopenDirect Resource	Key OOHopenDirect Common Objects	Targeting OOHbjects Required	Notes
Prohibitions (Database)	Organization	AdvertiserBrands		Requires database of brand IDs that are meaningful to both Media Buyer and Seller
API	Account	ID		ID for API Access
Prohibitions (Order Level)	Order	AdvertiserBrandID OOHProviderData		BrandID enables Media Owner to enact prohibition/display rules at each display location
Billing				Buyer can add info to aid order tracking from their own systems
Scheduling	Line	StartDate & EndDate OOHProviderData Product Targeting Stats (Reporting at Line Level)		Can use minimum and maximum date to generate campaign flight at order level Buyer can add info to aid order tracking from their own systems Reccomended to centralise booking, scheduling & performance stats
Frame Selling	Product	Targeting (Line Level)	Inventory.Frames.<DataSource>.x Delivery.Frames.Time.x Delivery.Frames.ShareOfDisplay.ShareOfTime Delivery.Frames.ShareOfDisplay.Spot Investment.Total.<LocalCurrency>.CPF Investment.Total.<LocalCurrency>.Fixed Prohibition.Frames.<DataSource>.x	Identification of Frames at individual or grouped levels Granularity of booking time (Flight, Days or Hours) Share of Display (100 = Classic OOH) Length of creative (0 = Paper) Cost Per Frame Line Total Any Product Prohibitions at Frame Level can be published here
+ Audience Selling			Inventory.Audience.<DataSource>.x Investment.Total.<LocalCurrency>.CPT	Identification of Audience profile being sold Cost Per Thousand Impacts
+ Frame Allocation			Distribution.Frames.ShareOfDisplay.x	How the frequency of the advert (spot) will be paced over the campaign flight times
+ Audience Allocation			Distribution.Audience.<DataSource>.x	How the audience impacts will be shared over each location over the campaign flight.
+ Automated Pricing			Distribution.Audience.Time.x Distribution.Investment.Time.x Distribution.Investment.<DataSource>.x	How the Audience will be paced over the campaign flight, days or hours. How the budget will be paced over the campaign flight, days or hours How the budget will be paced over the campaign locations and frames