

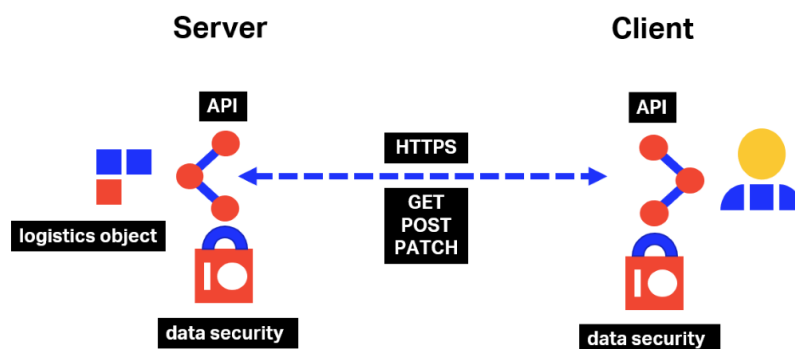


ONE Record API

An overview of the key features

Air cargo companies need to share and access different types of data such as bookings, ULD ID's, documents, addresses etc. These are referred to as "logistics objects" or simply "LO's". As ONE Record uses Linked Data concept for its models, each logistics object is unique and identified through its own URI. Therefore, all you need to get some specific data, is the URI of the particular logistics object and then you can retrieve the data through the ONE Record API.

This means that the ONE Record API is universal and regardless of the data you need, there is only one endpoint (server access point) and the URI of the logistics object. There are three ways to interact with a logistics object that is hosted on a server of some company: POST, GET and PATCH.



Creating data with POST

When creating a new logistics object, you need to do a HTTPS POST request. The data for the logistics object should be included in the HTTPS body of the request and provided that you are authenticated and authorized, the server will accept the request and create a new logistics object. This will be done generally by the owner of the data, who in most cases owns or at least controls the server.

Reading data with GET

To read the content of a logistics object, you need to perform a HTTPS GET request. The server that you are accessing will check that you are an authenticated and authorized user before it will return you the data. JSON is one of the standard response formats for REST API, but there are other valid document types that could be returned by GET request.

Updating data with PATCH

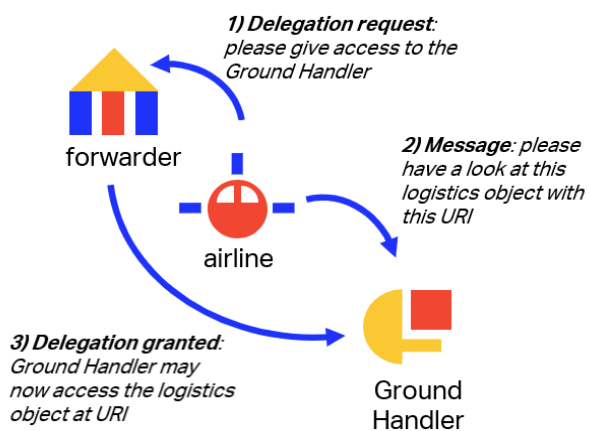
Whenever you need to make a change to data in a logistics object, you need to use the HTTPS PATCH method. This is the way that two companies interact with each other for updating data: one will host the logistics object and the other can request changes, such as status updates, through the PATCH method.

In ONE Record, when a change request for a logistics object is done through PATCH, you need to specify the type of operation to apply (add, change or delete) and the path to the data element to be changed. The owner of the logistics object will then decide whether they will accept the change or not. All PATCH operations are registered in an audit trail so that all parties can trace back the history and changes that concern a specific logistics object.

Access Delegation

Data sharing between two companies always requires a form of access control so that only the right company can access data that is shared by another.

Typically, the company that has data will notify their partner and provide them access details such as the URI of the data. However, that second company may need to share the same data with another company downstream. Perhaps the airline who received a booking from a forwarder needs to share that data with their ground handler as well.



To do so, they can use Access Delegation. They inform the data owner, i.e. the forwarder in this example, that they want their ground handler to access the booking data. If the forwarder approves that request, then the airline will provide the URI to the ground handler who can now access the data.

Automatic data updates through pub/sub

The ONE Record API through the use of the POST, GET and PATCH methods allow companies to actively access and exchange data. In practice, companies need also to be notified when new data becomes available, so they can act accordingly if required. For this purpose, ONE Record specifies a publisher – subscriber (pub/sub) mechanism.



Pub/sub implies that the owner of a logistics object, who is the publisher, contacts the intended recipient (the subscriber) and proposes that they subscribe to this logistics object. The subscriber can subscribe by providing the publisher with a callback URL where the publisher can send notifications about a logistics object, such as updates. When the subscriber receives a notification on the callback URL, they can automatically take action if needed.

More info at <https://www.iata.org/one-record>.