Parcel Integration iBoxen, 2.0

Introduction

The iBoxen ecosystem supports part or full use of its components to be able to book, deliver and collect parcels from the parcel lockers. The ecosystem consists of:

- Backend integration API's
- Driver app
- Consumer app
- Admin portal for drivers and administration of parcels

Each component optional depending on the partnership.

Naming

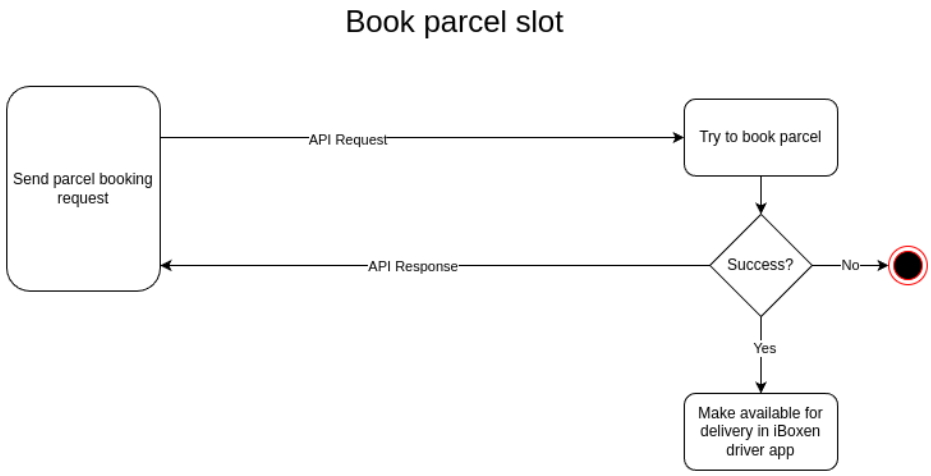
Pickup: A first mile parcel which is used for both return to a e-retailer and a shipment to another consumer
Delivery: A last mile parcel
Transporter: Company delivering the parcel, or picking up the pickup
Status: A parcel's current state

Systems information exchange

Booking

The iBoxen backend integration system is divided into two areas, the first one is where the Transporter attempts to book a parcel slot in a locker for either first- or last mile shipments. This is where the Transporter will be able to decide in what process the parcel should go next since the API will give a direct response to if the parcel is guaranteed a slot in the locker.

This is also where the Transporter can change a parcel's state themselves by interacting with the API. These state changes are made by sending a new status for the parcel. Each state is described in section "Status names".

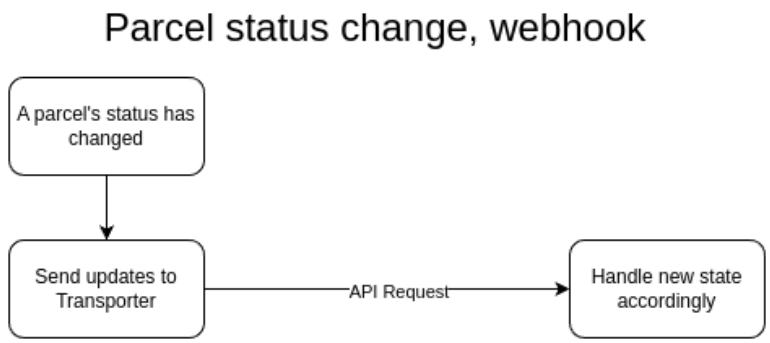


Webhook

The second area is “webhook” which is continuous feedback from iBoxen to the Transporter of how each parcel changes status/state in the iBoxen system, iBoxen will supply additional contextual data for each change.

The webhook data consists of:

- Parcel ID
- Status name
- Timestamp
- Any additional data the Transporter see fit, ex: Location ID, driver username (if applicable).



Statuses

A status name indicates what ‘state’ a parcel is in. This state determines who(driver/customer) has access to the parcel’s compartment.

‘created’ - Parcel has been created in iBoxen system, always applies to a parcel that has been notified to iBoxen (no-one has access). The parcel is not necessarily guaranteed a slot in a locker, that will be notified from the next status below “on-way”.

‘cancelled’ - Parcel has been cancelled, this status is applicable before the parcel has been put in a box. (no-one has access)

‘on-way’ - Parcel has been given a booked spot at a location (driver access)

‘deviation’ - Driver has marked parcel delivery with a deviation. See deviation topic

‘in-box’ - Parcel has been delivered into a box by a driver (customer access)

‘marked-for-return' - Parcel should be picked up by driver (driver access)

‘collected’ - Parcel has been collected by the customer (no-one has access)

‘driver-picked-up' - The parcel has been picked up by a driver (no-one has access)

Status flow

- All changes of status can be ‘webhooked’ to the transporter, containing any relevant data about the status. The method of the webhook is agreed between iBoxen and the transporter.
- If a transporter would like to pickup and return a parcel which is in a box. They can transition the parcel status from in-box to marked-for-return. Now they have access to the box but not the customer.
- If a transporter would like to cancel a parcel/box they send the status **cancelled**. This will remove all box allocations and access to the parcel.

A normal status delivery flow

created: parcel data has been created in iBoxen system
on-way: parcel is booked to a box and ready to be delivered (driver has access)
in-box: parcel is delivered to a box (customer has access)
collected: parcel has been collected from the box by a customer

A normal pickup flow

created
pickup-on-way: parcel is booked to a box and ready to be delivered by customer (customer has access)
pickup-in-box: parcel is delivered by customer to a box (driver has access)
pickup-ready-to-collect: the parcel is available to collect by the driver
pickup-collected: parcel has been collected by the driver

Status ‘ready-to-collect'

The Transporter has the possibility to control when a driver should be able to collect a parcel that has been delivered by a customer to a box. They can either set status **‘pickup-ready-to-collect'** through the API or let iBoxen automatically have **‘pickup-in-box'** status transition to **‘pickup-ready-to-collect'.**

The deviation status

In the last mile flow the driver can add a status called “deviation” to a parcel. This happens when the driver has some issues with the parcel or locker. In this case the status name is “deviation” and also an additional field is supplied, “data”. In “data” there is one more property “code” which is the additional code for the issue.

The deviation codes are:

- ParcelTooBig
- FailedToOpenLock

- CustomReason (this also has property “comment”)
- NoParcelInLocker (when the driver should pickup a parcel and the compartment is empty)