



New Distribution Capability

NDC Process Flow User Guide

Last updated: May 2017

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Please note that this document is for information only and does not necessarily imply that British Airways will be allowing the reader to access its APIs. All information on how to get access to the APIs can be found on <http://developer.ba.com/ndc>

As British Airways implements new products and features through NDC, this document will be updated. British Airways will keep its users informed of any significant change to the product, and the latest version of this user guide can always be provided upon request from selling.distribution@ba.com.

In no circumstances shall British Airways have any liability for losses (whether direct or indirect) arising from the participation in this trial, or for any inaccuracies, errors in, or omissions from this document.

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1. Preface

British Airways NDC creates new opportunities for all parties in the travel industry, including travel agents, corporates, other travel sellers, IT developers, NDC service providers and GDS'.

This Process Flow guide aims to describe the high-level architecture for NDC operations. The primary target audience for this document are IT architects and developers.

Participating in NDC is entirely optional, and does not guarantee access to live booking capability. Existing contracts with British Airways will not be affected and all bookings, where eligible, will count towards any incentive deal currently in place with us.

The latest version will always be available upon request from selling.distribution@ba.com and we will proactively update our developers.

2. Definitions

For the purpose of this document, please note the following definitions:

IATA agent: all travel agents accredited by IATA or ARC, which have ticketing authority on British Airways services and are authorised to perform all booking and servicing activities for their passengers.

Non-IATA retailers: All other retailers who are directly involved with the customer's booking process but do not fall in the previous category (e.g. metasearch engines, non-traditional retailers or agents who do not have authority to sell/service British Airways flights).

NDC Service Provider: Certified IT providers which act as an intermediary between the airline and travel agents to facilitate the aggregation and transfer of data using British Airways' APIs.

Test Environment/Sandbox environment: A platform that enables developers to test API capability and create mock bookings.

Live Environment: Operating platform/system which enables live API bookings to be made.

API: Application Programming interface.

3. Shop and Order API flows

This section details the APIs available and the intended process flows for making, changing and cancelling a booking. Details of the API components can be found in section 5.

3.1 Shop and Order APIs

The British Airways Shop and Order APIs currently include:

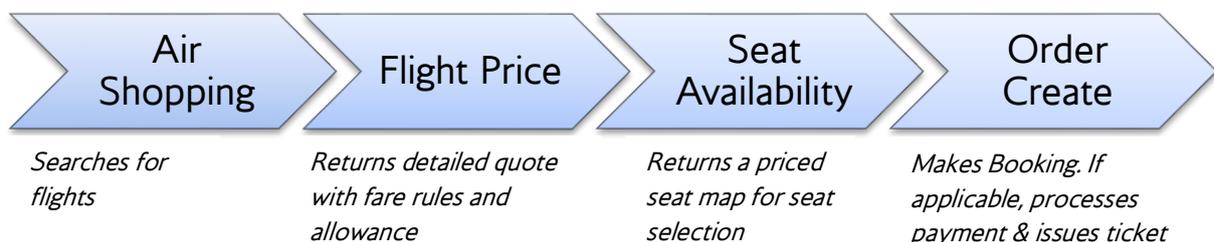
1. **Air Shopping** – allows users to search for availability and pricing (flight search)
2. **Flight Price** – validates a price quote and provides payment options (final quote)
3. **Seat availability** – allows users to access a priced seat map (seat selection)
4. **Order Create** – completes the booking, accepts payments, issues the ticket and where fares allow Ticketing Time Limit, the booking can be held
5. **Order Retrieve** – allows users to retrieve and view details of existing bookings
6. **Order Change** – processes and confirms requested booking changes, where entitled seats can be held for 24 hours and paid for within the time limit
7. **ItinReshop** – Returns refund quote prior to booking cancellation, requotes a held booking with the latest fares and taxes and allows flight search and final quote for changing itinerary of a booking
8. **OrderCancel** – cancels a booking and triggers refund process if applicable
9. **ServiceList** – Returns optional services with prices available; special meals, add executive club card number, book special assistance and other services.
10. **AirDocIssue** – Processes payment and issues the ticket for a held booking as per Ticketing Time Limit

The Shop and Order APIs are intended to be used sequentially, but can also be used in isolation subject to certain criteria. This is detailed in the relevant API component sections.

Our Shop and Order APIs are compliant with the IATA NDC schemas.

3.2 Initial booking flow

The booking flow is designed as follows:



Please note that this booking flow is the same for Published and Private Fares. For corporate fares, please ensure to pass the relevant unique corporate identifier (JBID) and for agent fares, please include pass the type of fare (Contract bulk, Humanitarian, Marine, Private fare adult, Inclusive tour) in order to access your negotiated deal.

If your fare allows Ticketing Time Limit, you can skip Payment details from the OrderCreate and use the following flows to progress the booking during the Ticketing Time Limit.

3.3 Payment for a held booking

If you have created a booking using a corporate or leisure fare and need to pay for it within its Ticketing Time Limit, the following process applies:



Please note that for bookings which have been paid for within the Ticketing Time Limit period, the 24-hour cooling-off period starts from the moment the ticket is issued. Held seats, within the time limit, can be confirmed and e-ticket issued, using AirDocIssue.

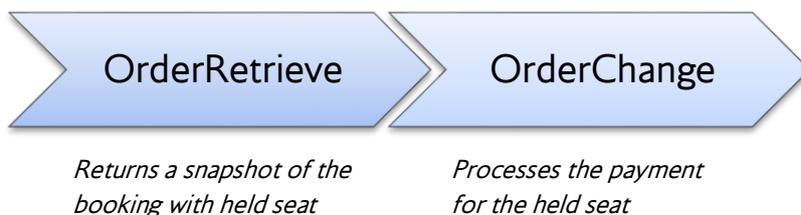
3.4 Advance seat selection flow (post-sale)

This flow outlines how to add or hold, where entitled, advance seat selection to an existing booking:



3.5 Payment for a held seat

If you have held a seat and need to pay for it within the holding period of 24 hours, the following process applies:

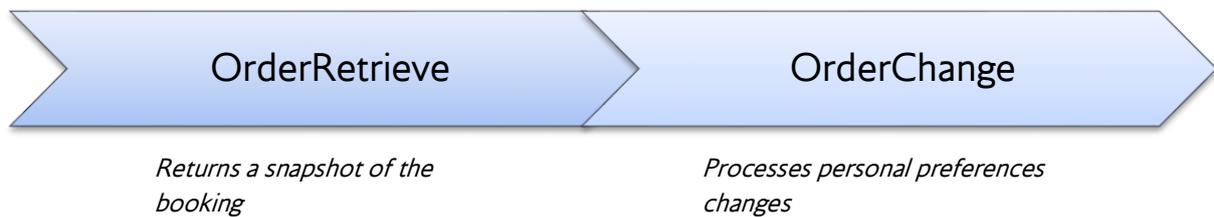


3.6 Amending personal preferences and contact details

Personal preferences include the post-sale addition of Frequent Flyer number, and provision of APIS data. It is possible to enter some of these details as part of the Shop and Order booking flow; however we understand that many customers prefer to do this at a later stage, which is available through NDC.

Agents will be able to enter all personal details and preferences at any time after booking confirmation.

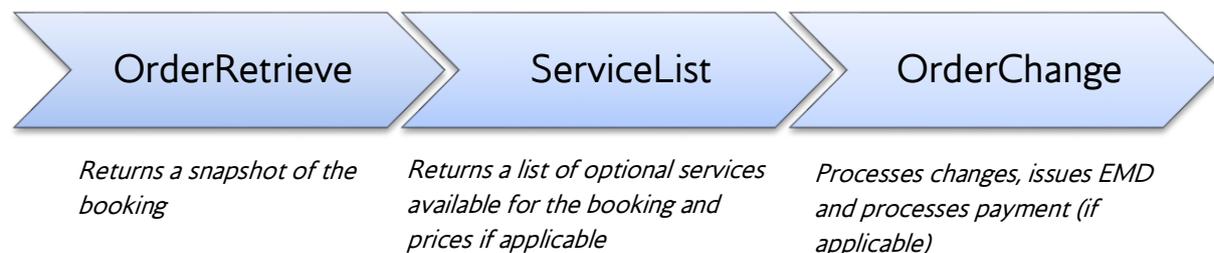
Retailers should not access any bookings post-sale, as all customers will be serviced directly by British Airways.



3.7 Requesting optional services

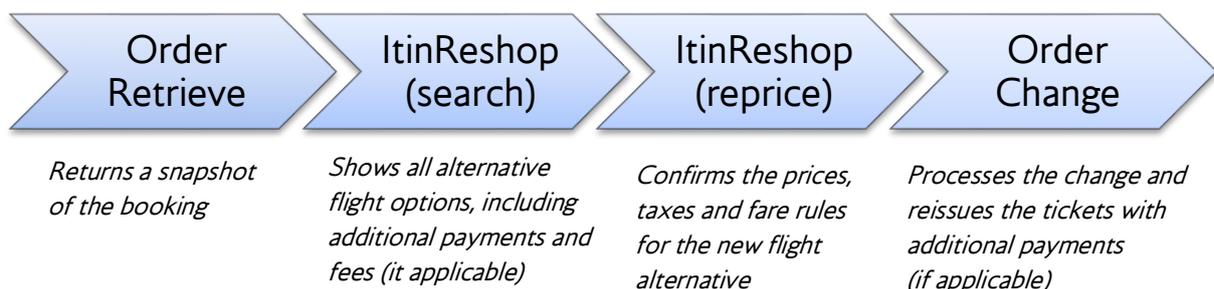
One of the primary purposes of our NDC development is to offer efficient ways to tailor a booking, adding optional services and making ancillary retailing more effective through all of our sales channels. We offer baggage, seating and catering ancillaries through Shop and Order integration or via an NDC Service Provider, or GDS.

You can also book special assistance or dietary requirements via NDC post sale using this flow.



3.8 Changing the itinerary

In order to modify the booking itinerary, please use the following process to search for alternative flights and process the change.



Advance Seat Selection in Change situation: If your booking contained pre-selected seating, you will need to re-book your seat in the new flight. If you had already paid for a seat, the value of the previous seat will be used as a credit towards the new seat booking.

Additional Baggage allowance in Change situation: If your booking contained additional baggage allowance, this will be transferred to your new flight booking, provided that the operating carrier is able to support additional baggage allowance.

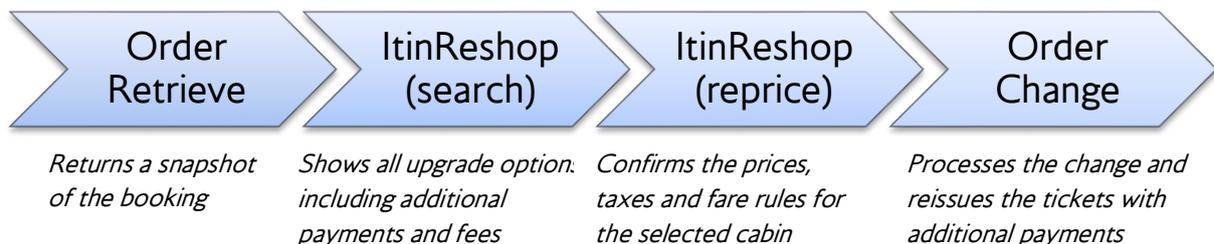
Pre-selected catering in Change situation: If your booking contained pre-selected catering, you will need to rebook it in the new flight. If you had paid for your catering, the value of the previous payment will be used as a credit towards the new catering selection.

Change to a non-BA Operated service: Please note that if you are moving to a non-BA operated service, your ancillary request will NOT be transferrable between airlines. Therefore we recommend that you refund your ancillary prior to a change (if applicable).

Unpaid bookings: Please note that only bookings for which a ticket has been issued are entitled for a change. Any unpaid bookings held during its ticketing time limit needs to be cancelled and rebooked.

3.9 Upgrading your booking

In order to upgrade your booking to a higher cabin, please use the following process to get a quote and process the change.



Advance Seat Selection in Change situation: If your booking contained pre-selected seating, you will need to re-book your seat in the new cabin. If you had already paid for a seat, the value of the previous seat will be used as a credit towards the new seat booking.

Additional Baggage allowance in Change situation: If your booking contained additional baggage allowance, this will be transferred to your new cabin booking.

Pre-selected catering in Change situation: If your booking contained pre-selected catering, you will need to rebook it in the new cabin since the catering options vary by cabin. If you had paid for your catering, we recommend you process a catering refund prior to upgrading the flight since we cannot process the refund proactively.

Unpaid bookings: Please note that only bookings for which a ticket has been issued are entitled for an upgrade. Any unpaid bookings held during its ticketing time limit needs to be cancelled and rebooked in the new cabin.

3.10 Cancelling and refunding a booking

The flow below shows how to cancel an existing booking:

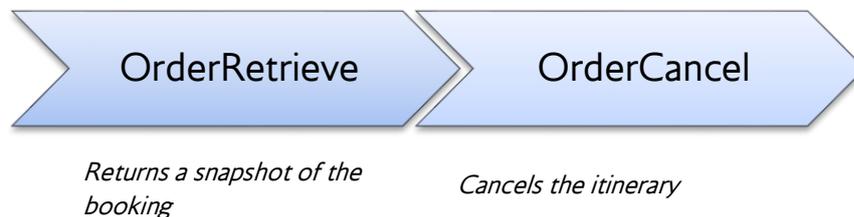


The ItinReshop API provides information relating to a proposed cancellation including amount to be refunded. The service can only be used for bookings originally created using the APIs.

The OrderCancel service can only be used to cancel bookings which were made by IATA agents using the Shop and Order APIs, or by NDC Service Providers acting on their behalf. The service can also only be used for bookings originally created using the APIs.

3.11 Cancelling an unpaid booking (during Ticketing Time Limit)

If you have held a booking (created a booking and it is still within its Ticketing Time Limit) using a corporate or leisure fare and need to cancel it, please use the following process:



Please note that any unwanted bookings need to be cancelled, which will ensure that both BA and Agent's systems remain aligned.

4. Shop and Order API Components

The Shop and Order APIs function as message pairings, with each API having a Request (message from User to Airline) and a Response (message from Airline to User). This section describes the basic components of each API request and response.

All requests require agent/retailer credentials and language preferences to be entered, so that relevant information can be returned. Please see the Interface Specification documents for full technical details.

All other APIs listed are available for testing and live activity for all users.

4.1 Air Shopping API (Flight Search)

Air Shopping returns priced availability for each flight for the requested origin and destination, date and cabin. For multi-city journeys up to 6 origin and destination pairs can be added. The service returns options for same cabin flexibility upsell as well as cabin upgrade (where applicable), product attribute descriptions for each cabin, and notifies the user of lower fares +/- 3 days (where available, and in V2 of the APIs where requested). The table below details the components of an Air Shopping request and response.

If the requestor is entitled to a corporate or leisure fare, this will be taken into account as part of the priced availability process.

Air Shopping Request	Air Shopping Response
Agent's identifier, corporate code (if applicable)	
Requested Origin and Destination pairing(s), at city or airport level	Total price for all customers on requested itinerary, on all relevant inbound/outbound combinations
Number of customers by customer type (i.e. Adult/Child/Infant)	Price per itinerary per customer type per cabin, including base fare and total taxes, selling class and flight details (e.g. time, operating carrier, flight number, airport terminal, aircraft allocated, and baggage allowance)
Requested cabin for itinerary	Product attributes, cabin and ticket upgrade options for selected itinerary where available
Restriction Type (e.g. flexible or restricted)	Lead-in fares available +/- 3 days of request (where available, and in V2 of the APIs where requested).
Type of Leisure Fare (if applicable)	

4.2 Flight Price API (Fare Quote and Payment Options)

This service returns a fare and tax breakdown by customer type for the requested itinerary, as well as fare rules and baggage allowance. The service also returns product attribute descriptions for each flight segment requested. It can be used independently of Air Shopping but should not be used without a prior check of availability.

Flight Price Request	Flight Price Response
Agent's identifier, corporate code (if applicable)	
Number of customers by customer type, and known customer details including frequent traveller information (where appropriate)	Total price for all customers on requested itinerary. Fare and Tax breakdown per customer type
Requested flight segments details including O&Ds, flight number, cabin and selling class	Fare basis code and fare rules applicable, including change and cancellation charges. Flight details (e.g. time, operating carrier, flight number, airport terminal, aircraft allocated, and baggage allowance)
Type of Leisure Fare (if applicable)	
Customer language preferences	Product attributes, cabin and ticket upsell options for selected flight where available
	Available payment options, including any surcharge, and required payment details Cash option is available for IATA Agents in BSP markets

4.3 Seat Availability API (Retrieving a seat map and prices)

This service returns a seat map for one or several flights and provides the price of pre-selecting a specific seat. The service returns available seats and their prices, as well as elements to create a seat map such as galleys, aisles and toilet positions. Prices include elements such as executive club tier, class flexibility to ensure free seating eligibility is adhered to.

This service is optional and should only be called if the customer wants to pre-select their seat. Seat selection and purchase is part of Order Create API. For multi-city Seat Availability will have to be ran per origin and destination pair.

For post-sale seating, the PNR¹ of the existing booking should also be included in the Seat Availability request. Post-sale seat purchase is completed through the Order Change API.

Seat Availability Request	Seat Availability Response
Number of customers by customer type, and known customer details including frequent traveller information (where appropriate)	Price for different seat types (e.g. Upper Deck, Window, Aisle...)
Requested flight segments details including O&D, flight number, cabin and selling class.	Seat map and available seats for each flight
Class letter and Fare Basis code	Legal disclosures
Required language	Seats characteristics

Please note:

¹ PNR stands for Passenger Name Record, and is the record of the itinerary and booking held by British Airways. PNRs typically have a 6-digit alphanumeric code attached to them, known as the PNR locator.

- Our seating policy allows some customers to select their seating in advance for free. All other customers are able to pre-select seating for a fee.
- Our seating policy requires that should passengers wish to pre-select their seats, they must do so for all customers in the booking. It is not possible to pre-select seats for only part of the customers in the booking.
- Our seating policy can be found at <http://www.britishairways.com/en-gb/information/seating/choosing-your-seat> or reference NDC British Airways seating guide for more information.

4.4 Order Create API (Booking, Payment and Ticketing)

This service accepts payment, creates the booking, returns the booking reference (PNR), and generates an e-Ticket. Order Create can be used independently of Flight Price, but the precise fare and tax must be entered. Prior use of Flight Price is strongly advised in order to avoid errors.

Order Create Request	Order View Response
Customer details for each customer including name and FQTV details. Gender and DOB where required by governments. Contact details of lead customer (email, phone, address)	Confirmation of customer details, flight details and price
Requested flight segments details including O&Ds, flight number, cabin and selling class	Booking reference (PNR) and link to ba.com/MMB (Manage My Booking)
Requested seats for each flight per customer (optional)	Confirmation of seats allocation (if applicable)
Payment details, including Agent Commission details	Confirmation of booking and payment. Total Order Value and total price charged

Please note:

- Bookings where the selling class/price is no longer available will be rejected.
- Bookings where the customer wishes to pre-select an unavailable seat will be completed for the air segments but seats will not be purchased and no payment will be taken.
- Agents' commissions will be automatically validated and populated in the PNR.
- If you want to hold the booking as part of the fare rules ticketing time limit, you can omit the payments information from the OrderCreate request. If your booking is not entitled to Ticketing Time Limit, this will result in an error and the booking will not be created.

4.5 AirDocIssue API (Payment and Ticketing)

This service accepts payment for a previously created PNR which has been confirmed and held for later ticketing as per ticketing time limit. By calling this API, you can pay for a transaction and generate an e-Ticket. Prior to AirDocIssue, the user must call an ItinReshop to confirm the latest value of fare and taxes.

Please note that only bookings entitled to Ticketing Time Limit as per their fare rules can be processed through AirDocIssue. In current capability, this only targets corporate and leisure deals containing that feature.

AirDocIssue Request	Order View Response
PNR Reference	Confirmation of customer details, flight details and price
Payment details, including Agent Commission details (if applicable)	Confirmation of booking and payment. Total Order Value and total price charged
	Confirmation of e-tickets and EMD numbers (when applicable)

Please note:

- Agents' commissions will be automatically validated and populated in the PNR.
- If the combination of fare and taxes has changed since the booking was created (eg. Rate of Exchange has been modified, additional taxes have been introduced,...), then only the current combination of fare and tax will be accepted. Therefore, it is mandatory to use ItinReshop prior to AirDocIssue to avoid errors.

4.6 Order Retrieve (View details of existing bookings)

This service allows the user to retrieve and a view a booking previously created by a travel agent. This service may be used to support post-sale booking changes, such as additional ancillary purchase or cancellations.

Order Retrieve Request	Order View Response
Agent and NDC Service Provider details (as applicable)	Confirmation of customer details, flight details and price.
Booking Reference (PNR)	Booking reference (PNR) and link to ba.com/MMB (Manage My Booking).
	Confirmation of seats allocation (if applicable)

4.7 Order Change (Process changes to existing bookings)

This service facilitates changes to existing bookings, including ability to modify the itinerary post-sale, ability to amend the ancillaries in the booking, request special assistance or simply to modify contact details.

Several APIs may be called prior to OrderChange. Please refer to Section 3 for details on the process you are attempting.

Please note that for most operations, OrderChange will only be valid once the original booking has been ticketed.

Order Change Request	Order View Response
Customer and PNR details, including contact details for customer	Confirmation of customer details, PNR reference, e-tickets and EMD details.
Requested change details (e.g. seat to be purchased or changed, or new flights to be booked)	Confirmation of changes and applicable details (e.g. seats allocated)
Payment details including payment type and currency (if applicable)	Confirmation of successful payment, including total amount charged (if applicable)

Please note:

- It is possible to use Order Change to change a selected seat for an alternative seat. This may be subject to additional payment for any difference in seat price.
- For change of itinerary, only ticketed bookings can be processed. Non-ticketed bookings need to be cancelled and rebooked under a new PNR reference.
- For multi-city journeys change of itinerary is not available via ba.com or API, this can only be done via contact centres/ trade support

4.8 ItinReshop

This service is used for various use cases where the ticket will be modified post-sale. Please see below for the different use cases.

4.8.1 ItinReshop for Reshopping options

This service provides all available options for changing the itinerary to another flight or cabin option.

This service may only be called by IATA agents or the NDC service provider acting on their behalf, and through the same channel used to create the booking

ItinReshop Request	ItinReshop Response
PNR and contact details	Customer details and PNR information
Flight details that you want to change (action Cancel)	Total price for all customers on requested itinerary, on all relevant inbound/outbound combinations
Requested new origin, destination, date, Cabin	Price per O&D per customer type per cabin, including base fare and total taxes, selling class and flight details (e.g. time, operating carrier, flight number, airport terminal, aircraft allocated, and baggage allowance)
	Product attributes, cabin and ticket upgrade options for selected itinerary where available

4.8.2 ItinReshop for Repricing

This service provides all the details regarding the new flight options, before processing the change.

This service may only be called by IATA agents or the NDC service provider acting on their behalf, and through the same channel used to create the booking.

ItinReshop Request	ItinReshop Response
PNR and contact details	Customer details and PNR information
Flight details that you want to change	Total price for all customers on requested itinerary. Fare and Tax breakdown per customer type
Requested new origin, destination, date, Cabin	Fare basis code and fare rules applicable, including change and cancellation charges Flight details (e.g. time, operating carrier, flight number, airport terminal, aircraft allocated, and baggage allowance)
Fare details	Product attributes, cabin and ticket upsell options for selected flight where available
	Available payment options, including any surcharge, and required payment details Cash option is available for IATA Agents in BSP markets

4.8.3 ItinReshop for refunds

This service provides information relating to a proposed booking cancellation. Booking cancellation can be processed through the Order Cancel API.

This service may only be called by IATA agents or the NDC service provider acting on their behalf, and through the same channel used to create the booking.

ItinReshop Request	ItinReshop Response
PNR and contact details	Customer details and PNR information
Desired change action (in this case, cancel)	Confirmation of current Order Value and details of proposed refund, including any penalty fee (if applicable)

4.9 Order Cancel (Cancel and refund existing booking)

This service provides the ability to cancel an existing booking, release the inventory and process the refund to the original form of payment. The Order Cancel service should be preceded by the ItinReshop API, which provides the relevant details for the cancellation.

The Order Cancel service can only be used to cancel bookings which were made by IATA agents using the Shop and Order APIs, or by NDC Service Providers acting on their behalf. The service can only be used for bookings originally created using the APIs.

Order Cancel Request	Order Cancel Response
PNR reference and lead customer details	Status and PNR reference
Expected refund amount and currency	

Please note:

- A 24-hour cooling-off period will apply to all NDC bookings, during which a booking can be cancelled without penalty and refunded in full.²
- Any cancellation or refund outside of the cooling off period remains subject to fare rules and as such may incur a penalty fee which will be deducted from the refunded amount. Any refund will be returned to the original form of payment.
- Advance seat selection is not refundable outside of cooling-off period, unless British Airways is unable to fulfil the seat selection for the customer.
- If the booking was still unpaid (under ticketing time limit), OrderCancel will cancel the itinerary and release the inventory, but no refund will be provided since no payment has previously taken place.

4.10 Service List API

This service has been designed to return a list of all the optional services applicable for this booking, alongside with their prices if applicable. These services currently include:

- Additional Baggage allowance
- Pre-selection of meal (special meals, pre-paid meals and premium meals)
- Lead-in price for seat selection
- Special assistance requirements (wheelchair, hearing impairment, etc)

The response of ServiceList is tailored for the booking, and therefore both services and prices are valid for the combination of route/passengers. Any service returned in ServiceList can be booked as part of OrderChange.

Some services are route-specific and therefore will not be returned as part of ServiceList (eg. Pre-paid catering is only available on some long-haul destinations).

ServiceList Request	ServiceList Response
Agent's credentials	List of available services
PNR Reference	Applicable passengers
	Available payment options

Please note:

ServiceList is currently only applicable for bookings which have been ticketed.

² Where applicable, the 24 hour cooling off policy will cease after the first segment of the itinerary has commenced or if the booking was made less than 24 hours before departure. Please note that if agents are using a third-party provider to access our API content, some may apply a shortened cooling-off period. We recommend that agents confirm this with their provider.

5. Interim and fall-back processes

The Shop and Order APIs have been designed to support the end-to-end booking process, with current capability and upcoming developments outlined above.

In the meantime, there are a number of interim processes which have been designed to allow you to meet your customers' expectations. These processes will also serve as back-up processes once the new APIs have been delivered. We appreciate that in some cases these may differ from processes which you might be used to, and welcome feedback on how to improve those processes in the future.

For technical, commercial and regulatory reasons, processes for IATA agents and non-IATA retailers may differ in some cases. As a general principle, in line with existing processes, IATA agents will retain control of customer PNRs up to the check-in window. We will endeavour to communicate with the agent and enable them to pass updates on to the customer.

In contrast, control of bookings made by non-IATA retailers' passes to British Airways once the booking is completed. Therefore any post-sale servicing activity will be managed by our channels and the original retailer will not be involved in either post-sale servicing or communication. As a result, the below interim processes apply to IATA agents only.

5.1 Customer Communications

Our primary form of communication in the NDC is the XML response from the API, usually confirmed by an email. There will be no EDIFACT messaging between British Airways and agents or third parties.

Where a booking is made by an IATA agent and a change is made prior to the check-in window, we intend to communicate with the agent and enable them to pass updates on to the customer. For technical reasons, these communications are not yet fully aligned with expected processes and some emails may still be directed to the end traveller. This is a temporary technical constraint and will be fixed in due course.

Where a booking is made by a non-IATA retailer, the communication will be directly between British Airways and the traveller.

6. Further details

More details on the NDC can be found by clicking [here](#).

Should you have any further questions on the NDC capability which are not covered in this document, please get in touch through your usual channels or via selling.distribution@ba.com.