Freedom To Fly
The Way You Want

Time	To	Flight		Gate	Remarks
2310	Frankfurt	LH	524	C24	Boarding
2320	London-Heath	BA	16	C18	Boarding
2325	Tokyo-Narita	NH	902	D35	Boarding
2325	London-Heath	QF	9	C13	Boarding
2340	Paris-CDG	DL	8377	C22	On Time
2345	Tokyo-Narita	AA	5832	D44	Boarding
0025	Osaka/Kansai	JL	722	D40	On Time
0055	London-Heath	QF	31	C26	On Time
0130	Beijing	CA	970	D30	On Time
0145	Moscow-Domode	UA	516	C23	On Time

Release Notes: Release Ready

SabreSonic CSS Digital Connect

Shop & Book, Manage Your Booking, Modify Trip Options

Check-In

Version 2.0

Sabre

Software version 2.0

Document Edition 1.0 (April 2016)

Template Version 4.5

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Introduction

<div style="text-align: right; font-size: xx-large;">1</div>

SabreSonic® CSS Digital Connect exposes key capabilities of Sabre's eCommerce platform like shopping, booking, ancillaries, payments, seat selection and ticketing whilst abstracting its underlying booking engine business, architecture and infrastructure, to enable an optimized data set via JSON for airlines to consume and create their own user experiences.

This document contains "Release Ready" Release Notes information for *SabreSonic® CSS Digital Connect* v2.0.
It contains high-level information to enable advanced identification of new features and preparation for readiness and deployment. .

1.1   Document Overview

This document identifies the functionality provided by the release ready release of *SabreSonic® CSS Digital Connect v2.0* and the specific services that gives airlines to that functionality. For details, see the *Digital Connect v2.0* API documentation.
Read this document so that you are aware of changes to the solution. Between the release of this document and the release of the solution, changes to the listed features may occur.

If you have questions regarding this document, you may contact your *Sabre®* Account Director or Delivery Manager.

1.2   Release Identification

Release Version	Type (Version, Update, or Update with Patch)	Date	Approved By	Description of Change
2.0	Version	April 2016		

Release Features

2

2.1   Summary of Features

Digital Connect v2.0 includes the following new and enhanced features by using *Digital Connect v2.0* services:

2.1.1   Shopping

This section covers the services airlines use to display available flights and other products to passengers and to build itineraries from passenger selections. *Digital Connect v2.0* adds and enhances the functionality in this area in the following ways.

Note that Payment and Ticketing functionality, which obtains payment information from passengers, authorizes the payment, and tickets the booking, may also be used by post-booking operations, and is therefore covered separately.

2.1.1.1   Deep linking from Metasearch or Other Indirect Online Channels

This service supports the option to link directly from metasearch sites or other indirect channels to the airline's application with flights already selected. After processing a /products/air/metasearch request, the application can proceed directly to next stage of the airline's booking flow, such as collecting passenger details. In other words, the airline's site can respond exactly as though the passenger had already searched for flights and selected flights on the local site.

2.1.1.1.1   API Modifications

Service Name	Operation	Change
/products/air/metasearch	POST	The parameters were slightly reorganized for clarity.

2.1.1.2   Ancillaries

The services that provide the ability to obtain and display the ancillaries available for passenger-selected flights and process passenger selections of ancillaries have the following additions and enhancements:

- Airline will determine whether a promotion applies and if so, will need to use a specific custom SSR to drive the discount in the ancillaries and/or seats request.
- SSR driven discounts for ancillaries and seats.
  Airline will be able to send a special request SSR in the products/ancillary service (enhance ancillary contract to accept SSR in products/ancillaries and enhance products/seats contract to accept SSR for seats).

- Rule ID exposure in the response.
  GET /products/ancillaries response will include rule ID coming back from the Dynamic Retailer.
- Shopping cart update to display original and discounted amount.
  Once discounted ancillary or seat is added to the shopping cart, *Digital Connect v2.0* will provide original amount and discounted amount in /products service.

This solution does not apply to exchange and post-booking path.

Airline can add the SSRs and/or remarks to the PNR by using PNR utility in the Purchase Request. See also the PNR Remarks section for related functionality.

2.1.1.2.1 Highlights

Airlines can now drive discounts for ancillaries with the following sequence of *Digital Connect v2.0* service calls:

The airlines will define the required SSR code as part of the OC record.

1. The passenger shops for flights and builds an itinerary.
2. The airline calls /products/ancillaries GET to obtain list of ancillaries available for the currently selected itinerary.
3. The passenger includes one or more promotional codes, which are passed to /products/ancillaries as query parameters.
   The airline provides SSR codes (promoSSRs) in GET /products/ancillaries to to obtain possible discounts for ancillaries (possible discounts are based on different factors, like tier level).

   The airline formats information about available ancillaries for display to the passenger.
4. When the passenger selects ancillaries, the airline calls POST /products/ancillaries to add any ancillary products selected by the passenger to the itinerary; the information passed includes information about the SSRs used for the promotional code ancillaries and text descriptions of these ancillaries.
5. The airline calls /products/seats GET to obtain seat map for the currently selected itinerary.
6. The passenger includes one or more promotional codes, which are passed to /products/seats as query parameters.
   The airline provides SSR codes (promoSSRs) in GET /products/seats to obtain possible discounts for seats (possible discounts are based on different factors, like tier level).

   The airline formats information about available seats for display to the passenger.
7. When the passenger selects seats, the airline calls POST /products/seats to add seats selected by the passenger to the itinerary; the information passed includes information about the SSRs used for the promotional code ancillaries and text descriptions of these ancillaries.

8. The airline can call /products GET operation to obtain a current list, with prices of products that the passenger has added to the itinerary and use this information to build and display a shopping cart. The response for the ancillaries and seats will include breakdown of original amount,discount and discount amount.
9. When the passenger is ready to purchase the itinerary, the airline adds field values for all applicable remarks, SSRs, and OSIs to the /purchase POST request.
10. The airline initiates the purchase and ticketing process by calling /purchase POST ; if authorization is successful, the /purchase service will create a PNR, EMD(s), etc. EMDs will be issued with discounted values.
11. The response indicates whether the purchase is successful.

    The airline formats this information for display to the passenger.
12. The airlines submits a /pnr GET request; the results will include remarks.

    The airline can format the information for display to the passenger.

2.1.1.2.2   API Modifications

Service Name	Operation	Change
/products/ancillaries	GET	Accepts and passes the SSR (more a promo code) parameter in the query request to SE. Response will include rule ID coming back from Dynamic Retailer and we need to expose it.
/products/seats	GET	Accepts and passes the SSR (more a promo code) parameter in the query request to SE. Response will include rule ID coming back from Dynamic Retailer and we need to expose it.
/products	POST	Response will include breakdown of original amount, discount and discount amount.
/passengers	POST	Request will accept SSR code. Exposing the RuleID in the response.

2.1.1.3   Baggage allowance

Digital Connect v2.0 will introduce some enhancements:

The services that provide the ability to obtain and display the bag allowances display available for passenger-selected flights have the following enhancements:

- New capabilities on the Select Flight page were airlines can request Baggage Allowance (cabin baggage and registered baggage).

This enhanced feature introduces new capabilities on the Select Flight page were airlines can request Baggage Allowance (for cabin baggage and registered baggage). It will increase the level of disclosure for baggage disclosure for carry-on baggage and checked baggage.

The passenger will select a flight from the display of available flights and the airline can trigger sending a request to obtain the baggage allowance. The information obtained can be formatted and displayed to the passenger.

2.1.1.3.1 Prerequisites

Airline need to file the specific baggage allowance in ATPCO.

2.1.1.3.2 Highlights

Airlines can now offer to the passenger an enhanced online display for baggage allowance with the following sequence of *Digital Connect v2.0* service calls:

1. The Airline calls /products/air/search POST and obtains a list of flight results with connection information.

   The airline formats this information for display to the passenger.
2. The passenger makes the flight selection (shoppingBasketHashCode will be held in the current session). Note: this step is an optional, if the service is called with shoppingBasketHashCode parameter.
3. When the passenger selects a flight option (selected flight either inbound or outbound along with brand), the airline calls /products/air/bags GET (using proper shoppingBasketHashCode) and fetches the baggage allowance (carry-on baggage and checked baggage).

   The Airline formats this information for display to the passenger.

2.1.1.3.3 API Modifications

Service Name	Operation	Change
/product/air/bags	GET	This method will return information about carry-on baggage and checked baggage for each selected flight either inbound or outbound along with brand (new parameter added : shoppingBasketHashCode)

2.1.1.4 Fare rules - Enhanced Online Display

Digital Connect v2.0 will introduce some enhancements:

The services that provide the ability to obtain and display the fare rules display available for passenger-selected flights have the following enhancements:

- New capabilities on the Select Flight page were airlines can request Mini Fare Rules (a simplified version of the fare rules showing only cancel fees before and after departure) and Baggage Allowance (cabin baggage and registered baggage).

Digital Connect v2.0 services currently include a Fare Rules service that obtains all the fare rules for the current itinerary. This focuses on showing only the Mini Fare Rules.

This enhanced feature introduces new capabilities on the Select Flight page were airlines can request Mini Fare Rules (a simplified version of the fare rules showing only cancel fees before and after departure).It will increase the level of disclosure for fare rules (change and cancel fees).

The passenger will select a flight from the display of available flights and the airline can trigger sending a request to obtain mini fare rules. The information obtained can be formatted and displayed to the passenger.

2.1.1.4.1   Prerequisites

Airline need to file the specific fare rules in ATPCO.

2.1.1.4.2   Highlights

Airlines can now offer to the passenger an enhanced online display for fare rules with the following sequence of *Digital Connect v2.0* service calls:

1. The Airline calls /products/air/search POST and obtains a list of flight results with connection information.

   The Airline formats this information for display to the passenger.
2. The passenger makes the flight selection (shoppingBasketHashCode will be held in the current session). Note: this step is an optional, if the service is called with shoppingBasketHashCode parameter.
3. When the passenger selects a flight option (selected flight either inbound or outbound along with brand) the airline calls /products/air/farerules/mini GET (using proper shoppingBasketHashCode) and fetches the Mini Fare Rules (change and cancel fees).

   The Airline formats this information for display to the passenger.

2.1.1.4.3   API Modifications

Service Name	Operation	Change
/product/air/farerules/mini	GET	This service was added.

2.1.1.5 Passengers

The services that provide the ability to collect passenger data have the following enhancement:

- An option to allow German Child Passport (Kinderreisepass) numbers in the Passport field. The passport field on the Passengers page would recognize, accept, store, and transmit 8-character Kinderreisepass numbers as well as standard 9- or 10-character passport numbers.

2.1.1.5.1   Option to Allow German Child Passport (Kinderreisepass) Numbers in the Passport Field

An enhancement to the /passengers service that allows passengers to recognize, accept, store, and transmit 8-character German child passport (Kinderreisepass) numbers as well as standard 9- or 10-character passport numbers.

The Airline will be able to transmit the German child passport (Kinderreisepass) number to authorities in the correct length and format to meet ESTA requirement.

This applies to the following IBE flows: B2C, MYB Change passenger details, and B2B.

Highlights

Airlines can now accept German Child Passport (Kinderreisepass) Numbers in the Passport Field with the following sequence of *Digital Connect v2.0* service calls:

1. The airline calls /products/air/search POST and obtains a list of flight results with connection information.

   The airline formats this information for display to the passenger.
2. The passenger can continue shopping by selecting flights.
3. The airline prompts the passenger for the passenger's details (including passport information - Ealphanumeric format).
   After an itinerary has been stored in the session, the airline calls /passengers POST operation to add passengers to the itinerary.
4. When the passenger completes the itinerary and decides to purchase the airline initiates the purchase and ticketing process by calling /purchase POST; if authorization is successful, the /purchase service will create a PNR, EMD(s), etc. Purchase service adds blank spaces for the German Child Passport number to the passport format.
5. The response indicates whether the purchase is successful.

   The airline formats this information for display to the passenger.
6. The airline can call /pnr GET to PNR details, which can be formatted for display to the passenger.

API Modifications

JSON schema was not affected by this feature. No changes involved.

2.1.1.6 Seats

Seat functionality has been enhanced in the following way:

- There is now an option to provide a seat map preview to passengers who may take seat availability into consideration when they are selecting flights.

2.1.1.6.1 Seat Map Preview

A new service has been added that makes it possible to open a read-only seatmap preview from a flight selection list. This is to assist passengers who may take seat availability into consideration when they are selecting flights. Seatmap previews can requested by passing the shoppingBasketHashCode of one itinerary.

API Modifications

Service Name	Operation	Change
/products/seats/preview	GET	A new service that returns a read-only seatmap preview.

2.1.1.7 Insurance in the Revenue Booking Flow (B2C - Business to Consumer)

New Insurance service to retrieve and select Insurance in the Revenue Booking Flow (B2C).

2.1.1.8 Point of Sale (POS)

The /products/air/search service now has an option to override the default point of sale. The GET request has a new field, pointOfSale, the gives airlines the option to specify an alternate point of sale that will override the default. One possible use is giving passengers a prompt for point of sale that allows them to select their own point of sale, and then passing the selected value in the request.

It also gives airlines the option to support a limited number of selectable points of sale in one storefront, or to manage the point of sale internally.

2.1.1.8.1 API Modifications

Service Name	Operation	Change
/products/air/search	GET	A new field (pointOfSale) was added, allowing the airline to pass a specific point of sale code that will override the default point of sale.

2.1.1.9   Context Shopping

Context shopping enhances Interline Branded Fares (IBF) shopping by allowing for search results that include "cross-branded" combinations, that is combinations of flights from different brands, with more results that include codeshare and interline flights,. This results in more choices for passengers.

This feature is available in Release 2.0.

The context shopping enhancement (on top of IBF, for unbundled data), allows the /products/air/search service to indicate that "context shopping" should be performed on partial selections (for example after the passenger has selected an outbound flight), to get more combinable offers for remaining legs.\

The enhanced JSON response provides information (on the basket level) about multiple prices for the same flight and cross-brand prices differences.

2.1.1.9.1   API Modifications

Service Name	Operation	Change
/products/air/search	POST	A new field (searchItineraryPart/SelectedOfferRef) was added to indicate when a context shopping search is allowed--when the results returned should include cross-branded combinations.

2.1.2   Forms of Payment

This section covers the setup of forms of payment that will be available to passengers. In addition to setting up forms of payment, an airline can define the specific conditions under which each form of payment will be available, such as for all flights, for domestic flights only, or for international flights only.

2.1.2.1   Multiple Form of Payment (MFOP) support has been added

Digital Connect v2.0 will introduce some enhancements:

It is now possible to obtain information about payment combinability and use that information to populate a display with multiple forms of payment. That gives the passenger the opportunity to purchase the booking with two forms of payment.

2.1.2.1.1   Highlights

Airlines can now offer MFOP options to passenger with the following sequence of *Digital Connect v2.0* service calls:

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary. (The current itinerary is the list of flights selected by the passenger and held in the current session.)

   The airline formats this information for display to the passenger.
2. The passenger chooses the first payment option.
3. If the amount of the first form of payment is lower than price for the current itinerary the airline calls /paymentOptions POST and obtains information about which secondary forms of payment can be combined with the first selected form of payment.

   The airline formats this information (with amounts – residual values) for display to the passenger.
4. The passenger selects a second form of payment from the available options.
5. The airline initiates the purchase and ticketing process by calling /purchase POST; if authorization is successful, the /purchase service will create a PNR, etc.

2.1.2.1.2   API Modifications

Service Name	Operation	Change
/paymentOptions	GET	Was extended by one additional detail (PaymentInfo: combinableWith) – it provides information about combinable forms of payment.
/paymentOptions	POST	This method was added. It returns any leftover amount (surcharges included) with possible payment methods.

2.1.2.2   New Forms of Payment

Digital Connect v2.0 will introduce some enhancements:

Newly supported forms of payment include:

- Alternative Forms of Payment (AFOP) - forms other than typical forms of payment (e.g. major Credit Card, Travel Bank) with two-staged authorization,
- AFOP by PayPal,
- Gift Card – Option to retrieve the balance,
- E-Voucher – Option to retrieve the balance,
- Travel Bank – Option to retrieve the balance,
- Non-major Credit Cards (known as local Credit Cards).
  Tests were performed using AFOP (Alternative Form of Payment) when tickets are paid by using the respective local Credit Cards.
- The passenger will have the possibility to pay with:
   A single local credit card,
   A combination of the two local credit cards,
   Combination of one local credit card and one major credit card (e.g. American
Express or Visa).

The passenger will be able to purchase the booking with Alternative Forms of Payment (AFOPs).

AFOP is form of payment other than typical ones (e.g. major Credit Card, Travel Bank) with two-staged authorization.

Highlights

Airlines can offer AFOP as a single Form of Payment with the following sequence of *Digital Connect v2.0* service calls:

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary, including any applicable AFOPs (with fopCode and fopSubCode which are subsequently used in purchase request).
   The current itinerary is the list of flights selected by the passenger and held in the current session.

   The airline formats this information for display to the passenger.
2. The passenger chooses AFOP as the payment option.
3. The Airline initiates the purchase and ticketing process by calling /purchase POST with the two-staged authorization:

   The airline calls /purchase POST with payment type AFOP in order to retrieve data needed for 3rd party payment authorization.

   The airline calls /purchase POST with payment using the data retrieved from headers after redirecting from the 3rd party authorization page.
4. If the authorization is successful, the /purchase service will create a PNR, EMD(s), etc.
5. The response indicates whether the purchase is successful.

   The airline formats this information for display to the passenger.
6. The airline can call /pnr GET to PNR details, which can be formatted for display to the passenger.

Airlines can also offer AFOPs as a final Form of Payment (in MFOP) with the following sequence of *Digital Connect v2.0* service calls:

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary, including any applicable AFOPs (with their fopCodes and fopSubCodes, which are subsequently used in purchase request).
   The current itinerary is the list of flights selected by the passenger and held in the current session.

   The airline formats this information for display to the passenger.

2. The passenger chooses a combination of a standard FOP and alternate FOP as the payment option.
3. The Airline initiates the purchase and ticketing process by calling /purchase POST with the two forms of payment. The AFOP should be listed as the second (final) form of payment.

The payment process authorizes the first form of payment and retrieves the information needed for the 3rd party authorization of the AFOP.

If the first form of payment is authorized successfully, the payment process initiates the two-staged authorization for the AFOP;

If the authorization of the AFOP is successful, and the 3rd party redirects back to the airline with a successful message, the airline calls /purchase POST with using the data retrieved from headers that redirected from the 3rd party authorization page.
4. If the complete authorization process is successful, the /purchase service will proceed create a PNR, EMD(s), etc.
5. The response indicates whether the purchase is successful and the PNR was created.

The airline formats this information for display to the passenger.
6. The airline can call /pnr GET to PNR details, which can be formatted for display to the passenger.

API Modifications

Service Name	Operation	Change
/paymentOptions	GET	Contract in /paymentOptions has been changed with the below classes:
		AfopDetails - provides data needed for the purchase request using AFOP payment,
		AlternativeFormOfPayment - a new payment which is used in purchase request,
		AfopClientDetail - should contain purchaser data and needs to be provided for the 1st purchase request,
		RedirectUrlData - should contain data regarding redirect URLs and needs to be provided for the 1st purchase request,
		Received3rdPartyData - should contain regarding the data retrieved from headers after redirecting from the 3rd party authorization page and needs to be provided for the 2nd purchase request.
		RedirectData - contains RedirectUrlData.
/purchase	POST	Contract in purchase has been changed with the below classes:
		ThirdPartyRedirectInfo - provided result of the 1st purchase request needed for redirecting to the 3rd party authorization page.

2.1.2.2.2 E-Voucher / Gift Card

The passenger will be able to purchase the booking with the E-Voucher or Gift Card.

There will be support for purchasing the booking with combination of the E-Voucher/ Gift Card and Credit Card or Direct Debit.

For multiple forms of payment scenarios, there is a difference in the authorization sequence for the E-Voucher and Gift Card:

- Gift Card is authorized first, then Credit Card.
- Credit Card or Direct Debit is authorized before the E-Voucher.

Highlights

When the E-Voucher/ Gift Card balance is equal/higher than requested total amount - Airlines can offer E-Voucher/Gift Card as a Single Form of Payment with the following sequence of *Digital Connect v2.0* service calls:

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary including E-Voucher/ Gift Card (if applicable).
   The current itinerary is the list of flights selected by the passenger and held in the current session.

   The airline formats this information for display to the passenger.
2. The passenger chooses E-Voucher/ Gift Card as the payment option.
3. The passenger provides in case of:

   E-Voucher - number and PIN;
   Gift Card - number and expiry date.
4. The Airline calls /paymentOptions/details/GC POST to retrieve the balance for the E-Voucher/ Gift Card.

   The airline formats this information for display to the passenger. (In case of the remaining balance Airline formats also this information - the remaining balance will be kept on the E-Voucher/Gift Card for future use).
5. The Airline initiates the purchase and ticketing process by calling /purchase POST with payment data based on /paymentOptions and /paymentOptions/details/GC; if the authorization is successful, the /purchase service will create a PNR, EMD(s), etc.
6. The response indicates whether the purchase is successful.

   The airline formats this information for display to the passenger.
7. The airline can call /pnr GET to PNR details, which can be formatted for display to the passenger.

When the E-Voucher/ Gift Card balance is less than requested total amount (there is remaining balance for the trip), Airline can enable additional payment options and process payment with the following sequence of *Digital Connect v2.0* service calls:

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary including Direct Debit SEPA (if applicable).

The current itinerary is the list of flights selected by the passenger and held in the current session.

The airline formats this information for display to the passenger.

2. The passenger chooses E-Voucher/ Gift Card as the payment option.
3. The passenger provides E-Voucher number and PIN or Gift Card number and expiry date.
4. The Airline calls /paymentOptions/details/GC POST to retrieve the balance for the E-Voucher/ Gift Card.
5. The airline populates the E-Voucher/ Gift Card section of the payment options display with the E-Voucher/ Gift Card balance and the maximum amount that can be used to pay for the booking.
6. The airline calls /paymentOptions POST and obtains information about which secondary forms of payment can be combined with the first selected payment option (E-Voucher/Gift Card).

The airline formats this information (with amounts – residual values) for display to the passenger.

7. The passenger selects a second form of payment from the available options.
8. The Airline initiates the purchase and ticketing process by calling /purchase POST with payment data based on /paymentOptions and /paymentOptions/details/GC; if the authorization is successful, the /purchase service will create a PNR, EMD(s), etc.
9. The response indicates whether the purchase is successful.

The airline formats this information for display to the passenger.

10. The airline can call /pnr GET to PNR details, which can be formatted for display to the passenger.

API Modifications

Service Name	Operation	Change
/paymentOptions	GET	Existing method was extended with two additional return forms of voucher payment: "UATP_VOUCHER" and "GIFT_CARD"
/paymentOptions/details/GC	POST	New method, which checks the balance for the E-Voucher or Gift Card (for the E-Voucher also: validUntil, validFrom).
/paymentOptions	POST	New validator, which checks if the balance was made and verifies the amount of the E-Voucher or Gift Card.
/purchase	POST	New values : "UATP_VOUCHER" and "GIFT_CARD") were added to Field: /@type Existing method was extended with a validation, which checks a balance and verifies the amount of the E-Voucher/ Gift Card.

2.1.2.2.3   Local card support

Airlines can now offer local cards as forms of payment with *Digital Connect v2.0* services. This allows the airline to offer more payment options to passengers, potentially increasing conversion rates and passenger satisfaction.

Note that each type of local card an airline would like to offer must be set up and configured in advance.

Prerequisites

- FOPs must be configured correctly – each type of local credit card should be added to the configuration as a new FOP. Local credit cards must be configured in STAN and PWS.
- The Multiple Forms of Payment feature must be activated.

Highlights

The passenger will have the possibility to pay with:

- A single local credit card;
- A combination of the two local credit cards;
- Combination of one local credit card and one major credit card (e.g. American Express or Visa).

Airlines can offer combination of two local credit cards or local credit card and major credit card with the same sequence of *Digital Connect v2.0* service calls like we have for Multiple Forms of Payment .

Authorization:

- If the passenger chooses two local cards, the /purchase service will authorize the cards in the same order in which they are sent.
- If the passenger chooses a local card and a major card, the /purchase service will authorize the major credit card first, then the local credit card.

2.1.2.2.4   Travel Bank

This feature provides the additional option for passengers to select Travel Bank as a form of payment (FOP).

Highlights

Airlines can offer Travel Bank as a Form of Payment with the following sequence of *Digital Connect v2.0* service calls:

The passenger is logged in (at any time) before the Payment Options display:

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary. (The current itinerary is the list of flights selected by the passenger and held in the current session.)
2. The passenger chooses Travel Bank as the first form of payment.
3. The airline calls /paymentOptions/details/BT GET to retrieve Travel Bank balance for the passenger (this will only succeed if passenger logged in and the /login response indicated that the passenger has a Travel Bank account.
4. The airline populates the Travel Bank section of the payment options display with the passenger's account balance and the maximum amount that can be used to pay for the booking.
5. The airline calls /paymentOptions POST and obtains information about which secondary forms of payment can be combined with the first selected payment option (Travel Bank).

   The airline formats this information (with amounts – residual values) for display to the passenger.
6. The passenger selects a second form of payment from the available options.
7. The Airline initiates the purchase and ticketing process by calling /purchase POST; if authorization is successful, the /purchase service will create a PNR.

The passenger is not logged in before the Payment Options are displayed

1. The airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary. (The current itinerary is the list of flights selected by the passenger and held in the current session.)
2. The passenger chooses Travel Bank as the first form of payment.
3. The airline prompts the passenger to log in with his account credentials (user ID and password).
4. The airline calls /login POST to get the authentication for the user in the Travel Bank.
5. The airline calls /paymentOptions/details/BT GET to retrieve Travel Bank balance for the user (only succeeds after the passenger is logged in and the /login response has indicated that the passenger has a Travel Bank account).
6. The airline calls /paymentOptions POST and obtains information about what secondary forms of payment can be combined with the first selected payment option (Travel Bank).

   The airline formats this information (with amounts – residual values) for display to the passenger.
7. The passenger selects a second form of payment from the available options.
8. The airline initiates the purchase and ticketing process by calling /purchase POST; if authorization is successful, the /purchase service will create a PNR

Service Name	Operation	Change
/paymentOptions	GET	Was extended by one additional detail : PaymentInfo: combinableWith – it provides information about combinable forms of payment.
/paymentOptions/details/BT	GET	This method was added.
/paymentOptions	POST	This method was added
/purchase	POST	New value: "TRAVEL_BANK" was added to Field: /@type

2.1.2.3   Redemption Purchase (Award)

Digital Connect v2.0 adds services that support the purchase of a booking with frequent flyer points/miles:

An enhancement to the payment and ticketing process that allows passengers who are loyalty program members with sufficient point balances to use their points to pay for a reservation. Points can be used for the entire reservation, including ancillaries, seats, and taxes.

In phase 1, paying with points can be used only as a single form of payment, so the passenger's point balance must be sufficient to cover the entire price of the reservation. Also in phase 1, hotels, cars, and insurance cannot be paid with points.

Service /paymentOptions GET will be used as award payment values evaluation.

Note that the passenger must be logged in to a frequent flyer account to make use of redemption payment functionality.

See also the Frequent Flyer section for related functionality.

2.1.2.3.1   Highlights

Airlines can offer the purchase of a booking with frequent flyer points/miles with the following sequence of *Digital Connect v2.0* service calls:

1. The airline can offer the passenger the choice to make an award booking search when it prompts the passenger for search criteria.
2. If the passenger chooses to perform an award booking search, the airline initiates a /products/air/search request with the awardBooking flag set to true. The service returns flights, priced in both cash and points.

   The airline formats this information for display to the passenger.
3. If, at this time, the passenger selects a flight priced in award points, the passenger must be logged in. If the passenger is not logged in airline can prompt the passenger to log in.

The passenger supplies frequent flyer credentials, and the airline uses the /login POST service to log the passenger in.

The airline uses /profile GET service to retrieve the passenger profile details, including point balance.

4. The passenger can continue shopping by selecting flights, seats, and ancillaries, according to the airline's shopping sequence.(Products cart is updated)
5. When the passenger indicates that shopping is complete, the airline calls the /paymentOptions GET service. The results will include the available award payment types (depends on configuration - could return LP or/and FF award payment type).
6. Airline calls /purchase POST to initiate the payment and ticketing process. The process will confirm that the passenger's point balance is sufficient to pay for the itinerary.
7. If payment is successful, the PNR and other supporting documents are issued, and the airline's application receives results indicating success.
8. The airline can call /pnr GET to retrieve PNR details, which can be formatted for display to the passenger.

2.1.2.3.2   API Modifications

Service Name	Operation	Change
/purchase	POST	A new value, "AWARD" was added for the /@type field to indicate that the passenger is paying with points.

2.1.2.4   Ancillaries - Use of Rules to Manage FOP Availability

Digital Connect v2.0 will introduce some enhancements:

By using the rules engine an airline can set up below example scenarios:

- Option of not offering a particular FOP (Form of Payment) for international flight;
- Option of not offering a particular FOP for a particular origin country;
- Option of not offering a particular FOP for a particular origin airport;
- Option of not offering a particular FOP for a particular destination country;
- Option of not offering a particular FOP for a particular destination airport.

2.1.3   Payment and Ticketing

This section covers the services that airlines use to present passengers with the forms of payment that are available for an itinerary, to collect payment information, to authorize the payment information, and to ticket the booking. These services are available to both initial booking and post-booking (such as exchanges) situations.

2.1.3.1   PNR Remarks

An enhancement to the /purchase service that gives airlines the ability to add remarks, SSRs, and OSIs to the PNR in the B2C flow. Also supports the retrieval of remarks for display to passengers.

The ability to show SSR and OSI via PNR Retrieval, and the ability to add remarks in the MYB, MTO, and BNPL flows, will not be part of Phase 1.

2.1.3.1.1   Highlights

Airlines can add remarks, SSRs, and OSI to a PNR with the following sequence of *Digital Connect v2.0* service calls:

1. The passenger shops for flights and builds an itinerary.
2. When the passenger is ready to purchase the itinerary, the airline/application adds field values for all applicable remarks, SSRs, and OSIs to the /purchase POST request.
3. The airline submits the /purchase POST request, which adds the remarks to the PNR.

Airlines can display SSRs and OSIs to passengers with the following sequence of *Digital Connect v2.0* service calls:

1. The passenger specifies a PNR for review.
2. The airlines submits a /pnr GET request; the results will include remarks in the PNR. The airline can format the information for display to the passenger.

2.1.3.1.2   API Modifications

Service Name	Operation	Change
/purchase	POST	The /purchase service was enhanced to allow custom remarks, SSRs, and OSI to be added via the purchase body request of the POST method. New fields added to /purchase request allow remarks to be passed in the body: • Basic Remarks (5TEST REMARK) • Historical Remarks (5H-TEST HISTORICAL REMARK) New fields added to /purchase request allow OSI to be passed in the body.
/pnr	GET	New added fields allow remarks to be passed in the body: • Basic Remarks (5TEST REMARK) • Historical Remarks (5H-TEST HISTORICAL REMARK)

2.1.3.2   Fraud Check

Digital Connect v2.0 will introduce some enhancements:

- The option to perform a FraudNet fraud check and advise passengers when the fraud check results in a status of "review".
- The fraud check feature is a passive fraud prevention process in which the payment details and user contact information are sent to the fraud check provider for verification. The airline can specify, via configurations, if fraud check is performed before or after ticketing of the PNR.
- The results of the fraud check are returned in the /purchase response:
  o The /purchase response has a new field (fraudCheckResult) that returns the result of the fraud check.
  o If the result is "review" (or some other value that requires passenger action) the airline can then display a message to the passenger.
  o Typically, when the status returned is "review," the airline/application will prompt the passenger is to present the credit card at time of check-in.

- The passenger will be advised when he needs to present his credit card for review:
  o At the time of purchase,
  o At the time of PNR retrieval.

- Cybersource and Accertify Device ID Updates
  Airline will be able consume the device fingerprinting feature from Cybersource or Accertify.

2.1.3.2.1   API Modifications

Service Name	Operation	Change
/purchase	GET	A new field (fraudCheckResult) was added to indicate the results of the fraud check. The airline can evaluate this and take appropriate action, such as advising the passenger that it will be necessary to display the credit card used for the purchase at check-in time.

2.1.3.3 Dynamic 3D Secure

Increased support for third-party payment providers, by giving airlines the option to incorporate Dynamic 3D Secure fraud checks on payments made via a payment service provider (PSP).

2.1.3.3.1   Highlights

Airlines can now offer Dynamic 3D Secure functionality to passengers with the following sequence of *Digital Connect v2.0* service calls:

1. Airline calls /paymentOptions GET and obtains a list of payment options for the current itinerary, including any applicable local card. (The current itinerary is the list of flights selected by the passenger and held in the current session.)

The airline formats this information for display to the passenger.

2. The passenger chooses the Credit Card as the payment option.
3. The airline calls /purchase POST with payment type "CREDIT_CARD" in order to retrieve data needed for ADYEN payment authorization.
4. The airline calls /purchase POST with payment type "CREDIT_CARD" using the data retrieved from headers after redirecting from the ADYEN authorization page.
5. The airline initiates the purchase and ticketing process by calling /purchase POST; if authorization is successful, the /purchase service will create a PNR, EMD(s), etc.
6. The response indicates whether the purchase is successful.

The airline formats this information for display to the passenger.

2.1.3.3.2   API Modifications

Service Name	Operation	Change
/paymentOptions	GET -- Returns payment combinability mapping. This information will allow the airline to display proper payment methods and will allow to the airline to display valid combinations of multiple forms of payment. It also provides information about which products are paid separately so we can provide more flexibility to a passenger.	Contract in the /paymentOptions service has been changed with the below classes: "RedirectUrlData" - should contain data regarding redirect URLs and needs to be provided for the first purchase request "Received3rdPartyData" - should contain regarding the data retrieved from headers after redirecting from the 3rd party authorization page and needs to be provided for the 2nd purchase request. "RedirectData" - contains RedirectUrlData.
/purchase	POST - will authorize the payment, and, if successful, will book the itinerary and issue the PNR. It will also purchase any ancillaries and issue corresponding EMDs.	Contract in the /purchase service has been changed with the below class: ThirdPartyRedirectInfo" - provided result of the 1st purchase request needed for redirecting to the 3rd party authorization page.

2.1.3.4   Option to Allow Multiple Loyalty IDs on Multi-Carrier Itineraries

Digital Connect v2.0 will introduce some enhancements:

• Frequent Flyer - the passenger will be able to add several Frequent Flyer numbers when the itinerary consists of multiple carriers

2.1.4   Post-booking Operations

This section covers the services airlines use to give passengers access to booked itineraries and potentially update, cancel, exchange, etc., those itineraries. Generally, the passenger must retrieve a PNR for a specific itinerary before making any changes. *Digital Connect v2.0* adds and enhances the functionality in this area in the following ways.

Note that any changes that require additional payment (such as an exchange to a higher value ticket or addition of ancillaries) will also require Payment and Ticketing functionality, which obtains payment information from passengers, authorizes the payment, and tickets the booking, may also be used by post-booking operations, and is therefore covered separately.

2.1.4.1   Cancel and Refund (Manage Your Booking: Cancel and Refund flow)

Digital Connect v2.0 will introduce some enhancements:

Digital Connect v2.0 services allow airlines to support the following scenario in the MYB:CR (Manage Your Booking: Cancel and Refund) flow:

- Cancel and refund will be supported for PNRs that were paid with single FOP (Credit Card only), being refunded to original form of payment. All ancillaries and seats which are existing in the booking will be forfeited.

The passenger can retrieve a booking either by supplying basic PNR information or by logging in to a frequent flyer account. If the user is logged in all the reservations are visible. The passenger can select itinerary to be canceled.

If the passenger is not logged in and clicks a link to request that it be canceled an Airline prompts the passenger for information that identifies a PNR (The passenger enters path with PNR info).

2.1.4.1.1   Highlights

To make use of the services - cancel booked flights and get refund use the services in the following order:

1. PNR Retrival and 'Cancel and Refund Flow' Initialization

The passenger can retrieve a booking either by supplying basic PNR information or by logging in to a frequent flyer account. If the user is logged in all the reservations are visible. The passenger can select itinerary to be canceled.

If the passenger is not logged in and clicks a link to request that it be canceled an Airline prompts the passenger for information that identifies a PNR (The passenger enters path with PNR info).

The /pnr/cancelAndRefund service GET operation initializes Cancellation process, checks (validates) MYB rules (separate for logged-in and guest user) and returns information for the PNR specified by the parameters (PNR locator, first name, last name and email).

If the PNR is found all the flight details will be returned (including the payment details).This request will create a session and a conversation. Response header will provide Execution key that will be used to keep session information later on. (e.g. Execution : e1s1)

2. Cancellation

Airline by calling /pnr/cancelAndRefund/cancel request, GET operation, obtains information about refund targets and cancel fees (GET request is based on the information stored in the session). This service works only for VCR – no information about ancillaries and seats. Ancillaries and seats from the original reservation will be forfeited.

3. Confirmation

If the passenger accepts the calculated refund amount the airline calls /pnr/cancelAndRefund/confirm request, POST operation to finalize the 'Cancel and Refund' process and to get the cancellation refund.

2.1.4.1.2   API Modifications

Service Name	Operation	Change
/pnr/cancelAndRefund	GET - Retrieves PNR, validates MYB rules and initializes Cancel flow.	New service has been added.
/pnr/cancelAndRefund/cancel	GET - Obtains information about refund targets to be displayed for the customer on cancel review page.	New service has been added.
/pnr/cancelAdnRefund/confirm	POST - Finalizes the cancel process.	New service has been added.

2.1.4.2 Exchanges (Manage Your Booking: Change Itinerary flow)

Digital Connect v2.0 will introduce some enhancements:

With *Digital Connect v2.0*, airline will be able to support exchanges in the MYB:CI (Manage Your Booking: Change Itinerary) flow:

- Only simple PNRs without any ancillaries, seats and insurance are to be supported during an exchange.
- Only single credit card FOP to be supported during an exchange.
- Only additional collection and even exchanges (plus residual value scenario - refund to single FOP = credit card only).
- Ability to add seats (paid or free) during an exchange.
- Ability to add ancillaries during an exchange.

- The passenger can modify the passenger details and SSRs while selecting a new booking or modifying an existing booking.

To make use of the services - exchange booked flights use the services in the following order:

The passenger can retrieve a booking either by supplying basic PNR information or by logging in to a Frequent Flyer account. If the passenger is logged in, all their reservations are visible. The passenger can select itinerary to be exchanged.

If the passenger is not logged in and clicks a link to request that it be canceled an Airline prompts the passenger for information that identifies a PNR (The passenger enters path with PNR info).

1. Exchange Initialization

If the PNR is found, all the flight details are returned, including the payment details, such as forms of payment used.

After the passenger selects one or more flights to be exchanged, the airline calls pnr/exchange request, GET operation to initialize Exchange process.

This request will create a session and a conversation.Response header will provide Execution key that will be used to keep session information later on. (e.g. Execution : e1s1)

2. Search Flight:

When the passenger selects search criteria the airline submits a /pnr/exchange/products/air/search request, POST operation to get a list of flights matching the search criteria. Airline displays the returned flights to the passenger.

The response will also include a ShoppingBasketHashCode for each flight.

3. Select Flight

After the passenger selects one or more flights, the airline calls the /pnr/exchange/products/air POST operation to add the flights to the itinerary and store the itinerary in the session.

4. Shopping cart:

At any time after an itinerary has been stored in the session, the airline can call a /pnr/exchange /products GET operation to obtain a current list, with prices of products that the passenger has added to the itinerary. This information can be used to build and display a shopping cart.

5. Change Passenger Details:

After an itinerary has been stored in the session, the airline can call /pnr/exchange /passengers, POST operation to change some passengers details (FF number, Contact Details, Email address, Travel Doc info).

6. Add Ancillaries:

If the original reservation contains ancillaries (paid Ancillaries with EMD(s) issued) the airline need to check if the re-association criteria are met:

- same carrier code (operating),
- origin and destination points,
- direct to indirect flight exchange,
- connecting flight to connecting flights exchange (same connecting point),
- price.

Full Exchange – OneWay – Unflown:

a. EMD-S for FOP Surcharge – no re-association involved,
b. Free to paid – verification only – the passenger is able to select new ancillaries,
c. Paid to paid:
  i. The passenger already has ancillaries in the original reservation -> Validation that same ancillaries were selected for all segments ☐ Ancillaries (AEs) are re-associated to the OLD EMD (no new EMD); OLD EMD is re-associated to NEW VCR after exchange;
  ii. The passenger adds new ancillaries -> Ancillaries (AEs) are added to the PNR, NEW EMD is created.

Full Exchange – RT – all segments are Unflown:

a. EMD-S for FOP Surcharge – no re-association involved,
b. Free to paid – verification only – the passenger is able to select new ancillaries,
c. Paid to paid:
  i. The passenger already has ancillaries in the original reservation -> Validation that same ancillaries were selected for all segments ☐ Ancillaries (AEs) are re-associated to the OLD EMD (no new EMD); OLD EMD is re-associated to NEW VCR after exchange;
  ii. The passenger adds new ancillaries -> Ancillaries (AEs) are added to the PNR, NEW EMD is created.

After checking the re-association criteria, the airline calls /pnr/exchange /products/ancillaries operations to show passengers the ancillaries available on the flights they have exchanged and to add any ancillaries selected by the passenger to the itinerary.

7. Add Seats:

After an itinerary has been stored in the session, the airline calls /pnr/exchange /products/seats operations to show passengers the seats available on the flights they have exchanged and to add any seats selected by the passenger to the itinerary.

8. Payment Options:

After the passenger has completed exchange process with changing the itinerary in the session (including exchange process for the ancillaries and seats) the Airline calls /pnr/exchange/paymentOptions to retrieve available FOPs .

9. Purchase:

After the passenger has completed exchange process with changing the itinerary in the session, (including exchange process for the ancillaries and seats), the airline has collected payment data from the passenger, the airline submits a /pnr/exchange/purchase request, POST operation.

The /pnr/exchange/purchase request will submit billing data to the FOPs supplied by the passenger and, if payment is authorized, create a PNR.

2.1.4.2.2   API Modifications

Service Name	Operation	Change
/pnr/exchange	GET	New service has been added. New service initializes exchanges process
/pnr/exchange/products/air/search	POST	New service has been added. New service obtains lists of available flights that match search criteria supplied by passengers and displays those flights to passengers for their selection
/pnr/exchange/products/air	POST	New service has been added. New service adds air transportation products to an itinerary
/pnr/exchange/products/ancillaries	GET POST	New service has been added.
/pnr/exchange/products/seats	GET POST	New service has been added.
/pnr/exchange/products	GET	New service has been added. New service returns an updated breakdown for the current itinerary; the application can use it to format an updated shopping cart after the passenger adds upgrades to a booking.
/pnr/exchange/paymentOptions	GET	New service has been added. New service determines which forms of payment are applicable to the products the passenger has selected and added to the itinerary

Service Name	Operation	Change
/pnr/exchange/purchase	POST	New service has been added. New service submits an exchanged booking for payment authorization and ticketing.

2.1.4.3 Book Now Pay Later Purchases – (Manage Your Booking: Book Now Pay Later flow)

Digital Connect v2.0 will introduce some enhancements:

With *Digital Connect v2.0*, airline will be able to support the completion of BNPL purchases:

- An option to purchase on-hold PNRs which contain seats and/or ancillaries, and/or insurance (important: only insurance sold as an ancillary when an Airline is a Merchant of Record can be put on-hold).
- An option to add ancillaries, seats and/or insurance when completing the purchase of an on-hold PNRs which do not contain any of them.

Please note: if there is any seat booked in the on-hold PNR passenger will not be able to change it or add any new one during the purchase. The same goes for ancillaries and insurance.

2.1.4.3.1   API Modifications

Service Name	Operation	Change
/pnr/bnpl	GET	A new service that retrieves PNRs for on-hold bookings. Once the booking is retrieved, passengers can pay and complete the booking. If the booking does not have any associated ancillaries or seats, other services in the BNPL Completion flow allow the passenger to add them.
/pnr/bnpl/products/ancillaries	GET, POST	A new service that allows passengers to add ancillaries to a booking that has been on hold. If the booking has no associated ancillaries, the GET operation will return a list of ancillaries available for the itinerary, and the POST operations will add any ancillaries selected by the passengers to the itinerary.
/pnr/bnpl/products/seats	GET, POST	A new service that allows passengers to add seats to a booking that has been on hold. If the booking has no associated seats, the GET operation will return a seat map showing seats available for the itinerary, and the POST operations will add any seats selected by the passengers to the itinerary.
/pnr/bnpl/products	GET	A new service that returns an updated breakdown for the current itinerary; the application can use it to format an updated shopping cart after the passenger adds ancillaries or seats to an on-hold booking.
/pnr/bnpl/paymentOptions	GET	A new service that returns the payment options available to a passenger who is ready to pay for an on-hold booking. Functionality includes determining payment combinability and

Service Name	Operation	Change
		determining which items can be paid for separately, giving the passenger flexibility in choosing FOPs.
/pnr/purchase	POST	A new service that submits an on-hold booking for payment authorization and ticketing.

2.1.4.4 Flat Fee Upgrades (Manage Your Booking: Flat Fee Upgrade flow)

Digital Connect v2.0 will introduce some enhancements:

Digital Connect v2.0, airline will be able to support the display and purchase of flat fee upgrades in the MYB:FFU (Manage Your Booking: Flat Fee Upgrade):

- Set of services allowing customer to upgrade the booking based on availability in the certain configured booking class and ancillary.
- *Digital Connect v2.0* covers only payment with Credit Card.

2.1.4.4.1 API Modifications

Service Name	Operation	Change
/pnr/upgrade	GET	A new service that retrieves PNRs for passengers interested in evaluating upgrades. Once the booking is retrieved, the other services in the flow can determine available upgrades for display to passengers.
/pnr/upgrade/products/ancillaries	GET, POST	A new service that allows passengers to view any possible ancillary upgrades to their booking . The GET operation will return a list of ancillary upgrades available for the itinerary, and the POST operations will add any upgrades selected by the passengers to the itinerary.
/pnr/upgrade/products/seats	GET, POST	A new service that allows passengers to view any possible seat upgrades to their booking . The GET operation will return a list of seat upgrades available for the itinerary, and the POST operations will add any upgrades selected by the passengers to the itinerary.
/pnr/upgrade/products	GET	A new service that returns an updated breakdown for the current itinerary; the application can use it to format an updated shopping cart after the passenger adds upgrades to a booking.
/pnr/upgrade/paymentOptions	GET	A new service that returns the payment options available to a passenger who is ready to pay for an upgraded booking. Functionality includes determining payment combinability and determining which items can be paid for separately, giving the passenger flexibility in choosing FOPs.
/pnr/upgrade/purchase	POST	A new service the submits an upgraded booking for payment authorization and ticketing.

2.1.4.5 Modify Trip Options (Manage Your Booking: Manage Trip Options flow)

Digital Connect v2.0 will introduce some enhancements:

Creating JSON services to support MYB:MTO flow (Refund and New Sale") and new MYB:MTO flow:

- Original handling for ancillaries ("Refund and New Sale"): when the passenger would like to change quantity, the previously purchased ancillaries are refunded/forfeited (based on AE ancillary indicator) and new ancillaries (with new quantity) are purchased – these are two separate actions ("refund/forfeit" and "new sale").
- Original handling for seats ("Refund and New Sale"): when user would like to change seat(s), the previously purchased seat(s) are refunded/forfeited (based on AE ancillary indicator) and new seats are purchased – these are two separate actions ("refund/forfeit" and "new sale").
- Additional handling for baggage ancillaries ("Ability to purchase additional baggage"): when user would like to increase count/weight of baggage the originally purchased baggage ancillaries are left asa they are and new purchase transaction (for additional baggage ancillaries) is performed.
- An ability to pay for the changes made to either seats or ancillaries – the passenger will see what Forms of Payment can be used to pay for changes and/or additions of seats or ancillaries - to purchase Ancillaries or seats that have been added or changed.

2.1.4.5.1 API Modifications

Service Name	Operation	Change
/pnr/mto/ancillaries	GET	A new service that retrieves PNRs for passengers interested in modifying their ancillaries and/or seats. Once the booking is retrieved, the other services in the flow can determine available options for display to passengers.
/pnr/mto/seats	GET, POST	A new service that retrieves PNRs for passengers interested in modifying their seats. Once the booking is retrieved, the other services in the flow can determine available seat options for display to passengers. Note that when the application uses this service to initiate the modify trip options:seats flow, there is no option to modify ancillaries.
/pnr/mto/products/ancillaries	GET, POST	A new service that allows passengers to view any possible ancillary options for their booking . The GET operation will return a list of ancillaries available for the itinerary, and the POST operations will add any upgrades selected by the passengers to the itinerary.
/pnr/mto/products/seats	GET, POST	A new service that allows passengers to view any possible seat options for their booking . The GET operation will return a list of seats available for the itinerary, and the POST operations will add any upgrades selected by the passengers to the itinerary.
/pnr/mto/products	GET	A new service that returns an updated breakdown for the current itinerary; the application can use it to format an updated

Service Name	Operation	Change
		shopping cart after the passenger changes the trip options for a booking.
/pnr/mto/paymentOptions	GET	A new service that returns the payment options available to a passenger who is ready to pay for a modified booking. Functionality includes determining payment combinability and determining which items can be paid for separately, giving the passenger flexibility in choosing FOPs.
/pnr/mto/purchase	POST	A new service that submits an modified booking for payment authorization and ticketing.

2.1.5   Frequent Flyer / Loyalty

This section covers the services airlines use to give passengers access to frequent flyer/loyalty programs. *Digital Connect v2.0* adds and enhances the functionality in this area in the following ways.

2.1.5.1   Login

Digital Connect v2.0 will introduce some enhancements:

With *Digital Connect v2.0*, support for passenger login is enhanced in the following way:

- Airlines have an option to expose the SSO token during the login sequence.
- An enhancement for the login contract that allows a successful login with account credentials to retrieve a list of all active reservations.

2.1.5.2   Passenger Profile

Digital Connect v2.0 will introduce some enhancements:

With *Digital Connect v2.0*, support for passengers working with their frequent flyer profiles is enhanced in the following ways:

- *Digital Connect v2.0* services make it possible to give passengers the ability to create, retrieve and update a profile, so this information is stored for future use.
- *Digital Connect v2.0* adds password reset functionality (in case the passenger has forgotten the password).
- Profile Service will also permit the passenger to logout (if the passenger already logged in). It is up to carrier to prohibit logout during Redemption booking.
- Support for Login with just username (loginID) / no password (trusted connection) in the B2C and MYB flow

- *Digital Connect v2.0* adds an update profile service that makes it possible to give passenger the ability to add, update, and delete credit card information from their profiles.
- *Digital Connect v2.0* adds services that support a one-click method of payment this is an option to retrieve saved credit card information from CI profile through JSON services (via a method of passing masked credit card information to the airline so that they can display the data to the passenger). The passenger will have an option to use this credit card for payment without providing its full number. The passenger will still need to supply the correct CCV at time of purchase.

2.1.5.2.1   Profile creation.

The passenger now has an option to create a profile that will stored passenger information for future use. For the profile creation the passenger must provide certain information because of PPP/CI requirements. Email address is mandatory, by default User name, password are configured as required.

 The airline can configure an confirmation emails to be sent to the passenger after a successful account creation. The email is sent to the primary passenger's email address if the account was created while making a reservation or to the profile email addresses if the account was created in the User Portal.

Highlights

Airlines can offer passengers an option to create profile with the following sequence of *Digital Connect v2.0* service calls:

1. The passenger clicks the Create Profile link. The airline opens profile create page
2. The passenger fills all the required data and and indicates that profile should be created. The airline calls /profile POST and creates passenger profile.

API Modifications

Service Name	Operation	Change
/profile	POST - Creates passenger profile.	New service has been added.

2.1.5.2.2   Profile Creation in path

Airlines can offer passengers an option to create profile during booking process (B2C flow).

There will be no new services - this functionality would be a part of /purchase service. It would not affect booking process (with /purchase service) even if the profile creation process fails.

In Purchase service request an additional input is required to create profile as below:

- 'profileInput': In case Profile creation is not required, this object should not be passed/set at all in purchase request.
- 'create': Should always be set to 'true' to create profile.
- 'username'/'password': Value should be passed if profile creation require username/password. Can be handled through configuration.

The /purchase response will return successful profile creating message. The airline can configure sending confirmation emails to the passenger after a successful account creation. The email is sent to the primary passenger's address if the account was created while making a reservation.

API Modifications

Service Name	Operation	Change
/purchase	POST	Request enhanced with an additional input:"profileInput"("create", "username","password")

2.1.5.2.3   Profile Retrieval

Highlights

Airlines can offer passengers an option to retrieve their profile information with the following sequence of *Digital Connect v2.0* service calls:

1. The airline prompts the passenger for login credentials (username and password); the passenger supplies them.
2. The airline logs the passenger in with the /login POST service.
3. The airline retrieves the passengers profile with the /profile GET service. The airline displays the profile information to the passenger.

There is an option to login with just username (without password). The airline should set the "password" parameter to "optional".

API Modifications

Service Name	Operation	Change
/profile	GET - Retrieves the profile information.	New service has been added.

Highlights

Airlines can offer passengers an option to retrieve and update their profile information with the following sequence of *Digital Connect v2.0* service calls:

1. The airline prompts the passenger for login credentials; the passenger supplies them.

2. The airline logs the passenger in with the /login POST service.

3. The airline retrieves the passengers profile with the /profile GET service.
The airline displays the profile information to the passenger.

4. The passenger adds, updates, or deletes profile information and indicates that updates should be saved.

5. The airline updates the passenger's profile with a /profile/update POST request.

API Modifications

Service Name	Operation	Change
/profile/update	POST	New service has been added. Updates a passenger's profile with information input by the passenger

2.1.5.2.5   Password Reset

Highlights

Airlines can offer passengers an option to reset their profile password with the following sequence of *Digital Connect v2.0* service calls:

1. Airline displays prompts for passenger login.
2. The passenger supplies login(username) and click Forgot password link
3. The airline send /profile/resetPasswordKey POST with the "username" as a parameter. The airline retrieves the passenger profile and email address (if found). In the response the airline gets "resetPasswordKey".
4. The airline send an email with a reset password link.
5. The passenger provides the new password. The airline calls /profile/resetPassword POST with new password and "resetPasswordKey" (to match it with a proper profile).

Service Name	Operation	Change
/profile/resetPasswordKey	POST	New service has been added. Requests for a change password key to be sent to the passenger's email
/profile/resetPassword	POST	New service has been added.Resets the passenger profile password.

2.1.5.2.6   Logout

The /profile service has been enhanced to permit logout. It is up to carrier to prohibit logout during the Redemption booking.

Highlights

1. The airline prompts the passenger for login credentials; the passenger supplies them.
2. The airline retrieves the login information with the /login GET operation.
3. The passenger clicks the Logout link.
4. The airline calls /login DELETE to delete the passenger information. If the passenger is successfully logged out the response returns the result of the logout operation.

2.1.5.2.7   One-click method of payment.

Now supported is the option to implement a one-click method of payment, which is based on the passenger saving credit card information in the passenger's profile, retrieving the credit card information from the passenger's profile when the passenger is shopping, and submitting the credit card information when the passenger chooses the one-click payment method. Supporting this is a new method of passing the masked credit card information to the airline so that they can display the data to the passenger. The passenger will have an option to use the stored credit card for payment without viewing or providing the full number.

Prerequisites

The passenger must be logged in.

Highlights

Airlines can offer a one click payment option to passenger with the following sequence of *Digital Connect v2.0* service calls.

1. The airline prompts the passenger for login credentials; the passenger supplies them.
2. The airline logs the passenger in with the /login POST service.
3. The airline retrieves the passengers profile with the /profile GET service. The airline displays the profile information to the passenger.
4. The passenger adds, updates, or deletes credit card information.

5. The airline updates the passenger's profile with a /profile/update POST request.

The second stage is retrieving and using the credit card information in a one-click transaction when the passenger is booking an itinerary:

1. The airline prompts the passenger for login credentials; the passenger supplies them.
2. The airline logs the passenger in with the /login POST service.
3. The passenger shops for flights and builds an itinerary.
4. When the passenger is ready to purchase the itinerary, the airline provides the option for a one-click purchase.
5. If the passenger selects the one-click option, the airline submits a /profile GET request, which retrieves the saved card information, with masking.
6. The airline submits a /purchase POST request, which passes the saved credit card information, in masked format. The payment and ticketing process will then refer to the profile information held in session, internally match the masked card information (using the last four digits, the card code, and the expiration date) to the actual card information, and submit the authorization using the full card information.

API Modifications

Service Name	Operation	Change
/profile	GET – Returns user profile with saved credit card information.	Modify /profile to return saved credit card information.
/profile/update	POST - Updates user profile with saved/new credit cards.	Modify /profile/update JSON service to update credit card information in existing profile. JSON service will support updating, adding and deletion of credit cards. Contract will require all credit card information to be sent for all saved cards that were retrieved in the original GET /profile JSON call (retrieving profile). This means unchanged cards will be required as input in the /profile/update service along with the modified card information.

2.1.5.3 Business Loyalty

Digital Connect v2.0 provides support for collection business loyalty information:

Support for collecting business loyalty program information, adding it to the current itinerary, and when the passenger purchases the itinerary, adding it to the PNR.

Business loyalty program information can be collected in two ways:

- If the airline's frequent flyer program has a corporate version, the passenger's loyalty program information can be stored in the passenger's profile (in this case the loyalty program information is retrieved automatically when the passenger logs in)
- If the passenger participates in a loyalty program such as BlueBiz, Target, or SkyBonus, the airline can prompt the passenger for this information along with other passenger details

2.1.5.3.1   Highlights

Airlines can manage business loyalty information with the following sequence of *Digital Connect v2.0* service calls:

In short to accomplish the scenario functionality, the airline can:

1. If the passenger has a frequent flyer account that is a corporate loyalty account:
   a. The passenger supplies frequent flyer credentials, and the airline uses the /login POST service to log the passenger in.
   b. The airline uses /login GET service to retrieve the passenger profile details.
   c. The airline uses /passengers POST service to add the corporate loyalty account information to the current itinerary/session.
2. If the passenger has corporate loyalty program other than the airline's own program, the passenger can supply it when passenger details are collected:
   a. The airline prompts the passenger for passenger details, including a corporate loyalty program.
   b. The airline uses /passengers POST to add the corporate loyalty program, along with other passenger details, to the current itinerary/session.
3. When the passenger completes the itinerary and decides to purchase, the airline initiates the purchase and ticketing process by calling the /purchase POST operation with all the information in the current itinerary/session.
4. If payment is successfully authorized, the purchase and ticketing process adds the business loyalty information to the PNR.

2.1.5.3.2   API Modifications

Service Name	Operation	Change
/passengers	POST - operation adds and updates passenger information for an itinerary. Use this for initial collection of passenger data, and also for making any changes that the passenger may make further in your page flow. GET - returns passenger details for all passengers currently associated with the itinerary.	"Business Loyalty" field was added to the /passengers service contract: in POST, adds loyalty program information to the current itinerary; in GET, returns a business loyalty program already associated with the itinerary.
/profile	GET - Returns logged in user profile with saved Credit Cards.	"SpecialRequests" field was added to response in /profile service contract; returns information

Service Name	Operation	Change
		about the passenger's frequent flyer program/corporate.
/purchase	POST - will authorize the payment, and, if successful, will book the itinerary and issue the PNR. It will also purchase any ancillaries and issue corresponding EMDs.	"Business Loyalty" field was added to response in /purchase service contract; in POST, passes loyalty program information to the purchase and ticketing process which adds it to the PNR.
/pnr	GET - Returns information from a PNR that can be displayed to the passenger. A PNR can be specified by PNR identifier alone, or a combination of PNR identifier and passenger name, passenger email, and so on.	"Business Loyalty" field was added to response in /pnr service contract; in GET, returns the business loyalty program information as part of the PNR details.

2.1.6   Shopping cart

Digital Connect v2.0 will introduce some enhancements:

This section covers the services airlines use to display a shopping cart. *Digital Connect v2.0* adds and enhances the functionality in this area in the following ways.

- An option to display special fare indicators in the shopping cart.
- The tax breakdown to be shown in the shopping cart by segment / leg.

Note that the shopping cart can be displayed in both booking and post booking operations.

2.1.7   Rules Engine

The Rules Engine allows airlines to customize many aspects of the services they are using. This section covers how *Digital Connect v2.0* provides access to and uses the Rules Engine.

2.1.7.1   Highlights

Rules Engine to be pin to each service (as per Configuration) to set up special behaviors of the system e.g.:

- Option of not offering a particular FOP (Form of Payment) fop X minutes before departure,
- Option of not offering a particular FOP on some flow,
- Option to change passenger validation based on O&D (Origin & Destination),
- Option to configure available FOPs per currency of payment,
- Option to control the specific FOPs available to a Point of Sale,

A set of rules can be executed before and/or after each call to a *Digital Connect v2.0* service.

Configuration mutation with rules engine (B2C & MYB): Possibility to attach rule to service in the particular flow – for example to offer PayPal payment in B2C but not in MYB: CI.

Release Features (Web Check-in) 3

3.1 Summary of Features

Digital Connect v2.0 includes the following new and enhanced features for Web Check-In services.

3.1.1 PNR Lookup Enhancement

The /pnrlookup service, which retrieves PNR information at the beginning of the Web Check-In flow, has the following enhancement:

- The ability to obtain all ancillary and bag air extras associated with a booking, including price information. The airline can use this to identify all unpaid items associated with the itinerary.

3.1.1.1 API Modifications

Service Name	Operation	Change
/pnrlookup	GET	New fields for the ancillary and bag AEs associated with a booking. Includes prices and indications of whether the items are paid.

3.1.2 Ancillaries can be Purchased During Check-in Process

The service that retrieves processes payment information in the Web Check-In flow has the following additions and enhancements:

- The service can now process all unpaid items, including ancillaries and bags. As well as collecting for previously unpaid items, this enhancement makes it possible for passengers to purchase ancillaries and additional bags while they are checking in.
- Option to add custom remarks or SSRs and OSI to the PNR and to retrieve them after a successful purchase.

3.1.2.1 API Modifications

Service Name	Operation	Change
/pay	POST	New fields that support payment of all unpaid items, including ancillaries and bags.

Service Name	Operation	Change
		New fields for custom remarks, SSRs, and OSI, so that the application can add them to the PNR as part of the /pay request.

3.1.3   Custom Boarding Pass/XML Boarding Pass

The /paxcheckin and /pnrlookup services have the following enhancement:

• An option to return the boarding pass in either XML or .png format.

Note that to obtain boarding passes in XML format, the custom boarding pass functionality must be enabled.

3.1.3.1   API Modifications

Service Name	Operation	Change
/pnrlookup /paxcheckin	GET POST	New fields that support the XML boarding pass, which includes support for TSA Precheck and digital signatures.

3.1.4   TSA PreCheck Status is Obtained

The /paxcheckin and /pnrlookup services include the following enhancement:

- When the custom boarding pass functionality is enabled, the information returned by the /checkin and /pnrlookup services includes a field indicating whether the passenger has qualified for TSA PreCheck status.
- If the passenger has qualified for TSA PreCheck, the airline can include this information in the boarding pass.

Note that the custom boarding pass functionality must be enabled, in order to include digital signature that must accompany the TSA PreCheck notification.

3.1.4.1   API Modifications

Service Name	Operation	Change
/pnrlookup /paxcheckin	GET POST	New fields that support the XML boarding pass, which includes support for TSA Precheck and digital signatures.

3.1.5 Digital Signature is Obtained

The /paxcheckin and /pnrlookup services include the following enhancement:

- When the custom boarding pass functionality is enabled, the information returned by the /paxcheckin and /pnrlookup services includes a field for a bar code that includes a digital signature.
- The digital signature serves to confirm the authenticity and integrity of the boarding pass.
- The digital signature information is provided per-segment and per-passenger.

Note that the custom boarding pass functionality must be enabled.

3.1.5.1 API Modifications

Service Name	Operation	Change
/pnrlookup /paxcheckin	GET POST	New fields that support the XML boarding pass, which includes support for TSA Precheck and digital signatures.

Contacting Customer Care 4

4.1   About Sabre Airline Solutions Customer Care

Sabre Airline Solutions® maintains the *Sabre*® *Global Customer Care* help desk that is available for all customers 24 hours a day, 7 days a week. *Customer Care* analysts facilitate the resolution of issues, questions, and requests for *Sabre Airline Solutions* products and services.

When you contact *Customer Care*, an analyst collects specific information about the issue, opens a service request in the tracking system, and then documents the issue to track handling and resolution. This logging and tracking process facilitates complete and accurate communication, which improves the resolution process, implementation process, and design of future enhancements to ultimately prevent recurrence of the issue.

Customer Care analysts manage all service requests throughout the service request's life cycle, from beginning to end. The analysts are committed to resolving all service requests in a professional and timely manner. They coordinate with subject matter experts to resolve issues and escalate as needed to ensure resolution. The analyst does not close a service request until it is fully resolved and communicated back to you.

4.1.1   Sabre Community Portal / eService Tool

Sabre Airline Solutions maintains the *Sabre*® *Community Portal* at community.sabre.com that offers:

- Access to the eService tool, from which you can submit and track service requests.

- Access to Sabre hosted applications.

- Training and documentation information.

- Application release notes and patches.

- User forums, news, and events.

4.1.1.1   Registering for Community Portal Access

Access to the *Community Portal* is generally provided within 24 to 48 business hours. If your organization has a Delegated Administrator to approve the request, your access may be granted faster.

To register for Community Portal access

1. Go to community.sabre.com.

2. Click **New Account**.

   The New User Registration page appears.

3. Enter required information.

4. Click **Submit**.

   Once your request is approved, you will receive an email with additional information. Follow the instructions within this email to complete the registration process.

4.1.1.2 Requesting Access to eService

Access to eService is generally provided within 24 hours.

Note   You should only enter low or medium impact issues in the eService tool. If you have a high or critical impact level issue, you must call *Customer Care* for immediate attention. If you use eService to submit a critical impact level request, the service request will be excluded from time-to-resolution calculations.

To Request Access to eService

1. Login to community.sabre.com.

2. On the Home page, in the **Support Services-eService tool** area, click **Request Access**.
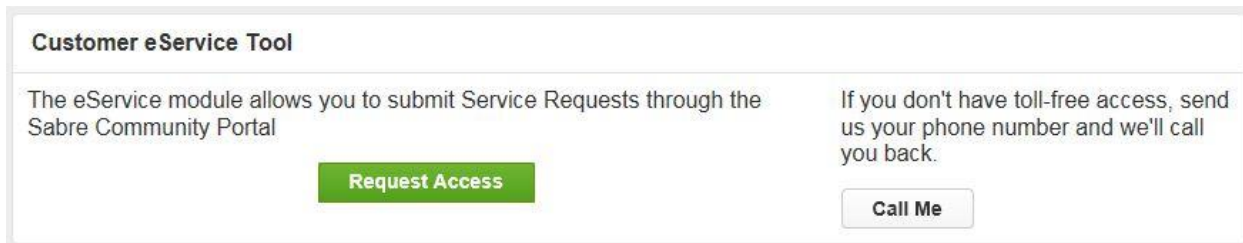
4.1.2 Telephone

Note   To ensure the most expedient response, you must submit all critical and high impact issues directly by phone to *Customer Care*.

Call *Customer Care* at the following toll free number for your country:

Country	ITFS Number
Antigua	888-832-4738
Argentina	0800-666-1664
Australia	1-800-081-993
Austria	800291705
Bahamas	1-800-389-0417
Bahrain	800-00-002 (WSC 5050)
Belarus	880-0114 PIN 375
Belgium	0800.77.029
Bolivia	800-10-0350
Brazil	0800 891 9210
Brunei	800-013 PIN 673
Canada	1-866-598-1706
Chile	800 412555

Country	ITFS Number
China Telecom	4001.202.315
China Network Co.	4001.202.315
Cyprus	800-96110
Colombia	01 800 954 1326
Czech Republic	800-700-117
Denmark	80885884
Egypt - Cairo	8000000491
Egypt - Other	8000000491
El Salvador	800-0000-0011
Estonia	800.0111.665
Finland	0800 914 860
France	0800-909-657
Germany	0800-181-7245
Greece	00800-16-122-055-533
Hong Kong	800-908-742
Iceland	800 8667
India	000 800 100 6116
Indonesia	001-803-016-1722
Ireland	1-800-657-198
Israel	1809 246 033
Italy	800-787-417
Jamaica	18664026835
Japan	0053-116-0811
Korea	0030 813 1943
Malaysia	1800 813 609
Malta	800-90112 PIN 356
Mexico	1-800-123-8537
Netherland Antilles	US ATT Direct Access, then 888-832-4738
The Netherlands	0800-023 2237
New Zealand	0800-450-960

Country	ITFS Number
Norway	800-18-798
Pakistan	00 800 12 001 PIN 5046
Paraguay	009 800 598 1 0004
Peru	0800-52-226
Philippines	1-800-111-00338
Philippines	1-800-111-00339
Russia	810-800-240-31012
Saudi Arabia	1800-11 PIN 5671
Serbia	0-800-190-138
Singapore	800-101-1651
Spain	900-995-926
Sweden	0200-285-836
Switzerland	0800 894 534
Tahiti	888-832-4738
Thailand	1800 156 203 7722
Trinidad and Tobago	888-870-9002
UK	8000288446
Uruguay	2-518-6642
USA	1-888-421-8889
Venezuela	0800-100-3851
Vietnam	1-201-0288, wait for ATT recording, then 866-947-9059

You can also use the **Call Me** button when you need a *Customer Care* analyst to call you back. You can access the **Call Me** button from the following two locations on the *Community Portal*:

• On the **Home** page, in the **Support Services-eService tool** area.

• On the Contacts page, in the **Customer Care** area.

When calling in an issue, the *Customer Care* analyst will ask a number of basic questions to initiate a diagnosis of the issue. Questions may include:

• What is your name and telephone number?

• What is a valid email address?

• What is an alternate contact name and telephone number?

- What is your company name?

- What is the issue description?

- Which application and module were you using when the error occurred?

- What is the applications version number?

- What is the impact on your company's operations?

- Is the application completely disabled?

- Have you restarted the application?

- What error messages are you encountering, if any?

- What sequence of events (keystrokes/button clicks) led to the issue?

- Has the issue occurred before? If Yes, when?

- Does the issue occur on other workstations?

- Have you rebooted the workstation? (Cold/Warm)

- What logon ID were you using?

4.2 Customer Impact Levels

When you submit a service request, you specify the level of impact that the issue causes to your business. The following table defines the customer impact levels:

Impact Level	Conditions
1 – Critical	- System failure causes extreme business impact to operationally critical procedures. - Key personnel are unable to perform operational tasks due to system outage. - Current business practices cannot be performed due to system failure and continued work stoppage has severe financial consequences. - Time critical functionality necessary to continue operations and resolution must be made as soon as possible. - 90 – 100% of users are impacted by system failure.
2 – High	- System failure causes significant business impact. - Workaround exists, but is impractical or labor intensive for extended outage duration. - The financial consequence is significant. - 50 – 90% of users are impacted by system failure.
3 – Medium	- Impact to system is noticeable, but has little or no consequence to productivity. - Issue exists in a non-business critical function. - Workaround exists or is not necessary. - Less than 50% of users are impacted.

Impact Level	Conditions
4 – Low	• Functional impact is negligible or non-existent. • Functionality (or system change) not necessary for business to continue.

4.2.1   Severity Levels

After you submit a service request, a *Customer Care* analyst reviews it and sets the severity level according to the following guidelines:

Severity Level	Description
1	A complete loss of service. The system is inoperable. Work cannot continue.
2	A severe loss of service. Issue affects a critical business function. However, work can continue in a restricted operating mode.
3	A moderate loss of service. A workaround is available.
4	No loss of service. Issue is minor. No workaround is required.

4.2.2   Product Availability Levels

All products are classified into the following product availability levels:

Availability Level	Application Type	Description
High	Real time and operational (such as, crew tracking/assignment applications).	Any outage or issue that has a major impact on a customer's ability to conduct day-to-day business operations.
Normal	Business management/planning (such as, planning and scheduling and yield management applications).	Any outage or issue that can potentially affect a customer's ability to conduct day-to-day business operations.