# Business Requirements Document
## *NDC Airline Profile*

*11 June 2014*

## Document Status: Version 5.0 – FINAL

Workgroup members or interested parties should send their comments and requests to DDX Airline Profile Taskforce at DDX-TF-AP@iata.org and to DDX Steering Group at DDX-SG@iata.org

# Revision History

The change log describes the modifications in each version of the document. .

| Version | Date | Name | Description of Change |
|---|---|---|---|
| 1.0 | 29.11.2013 | GRS | Initiation |
| 2.0 | 05.12.2013 | GRS | Update User stories numbering – Inserted Use Cases as Appendix |
| 3.0 | 17.12.2013 | GRS | Minor edits following E. Runyon's comments |
| 4.1 | 18.02.2014 | GRS/TG | Creation of Functional Requirements section, withdrawal of UC Activation/Deactivation of push messages |
| 4.2 | 19.02.2014 | Team | Edit / Modification / Review of Functional Requirements, re wording |
| 4.3 | 21.02.2014 | GRS | Added XML TF's Message Model diagram |
| 4.4 | 26.02.2014 | A. Grintchenko | Inserted re-formatted Data Description (source: DDXWG 6 NDC Airline Profile BRD - Data Elements - V21FEB2014.xls), moved Error Handling to NFR section and added applicability table, other formatting changes and submission PDF. |
| 4.5 | 22.04.2014 | GRS | Rewriting following PADIS review comments (expanded In Scope section, cleaned out Data description from external references) |
| 4.6 | 06.05.2014 | Team | Following TF call, reviewed some of the elements (Data description), elucidated the use of the Airline Profile (graph), added Coordinates as fields of the Profile, amended the functional requirements. |
| 4.7 | 13.05.2014 | GRS | Split profile elements and message elements, inserted scenarii |
| 4.8 | 16.05.2014 | GRS + ER | Reshuffled 5.1 and 5.2, reviewed scenarii. |
| 4.9 | 16.05.2014 | Team | Addition of Radius to Data elements, and "Data Elements" line in Response body (§5.1). |
| 4.10 | 03.06.2014 | Team | Duplicated In Scope diagram |
| 5.0 | 04.06.2014 | Team | Edit, final review |
| 5.0a | 11.06.2014 | A. Grintchenko | Updated terms and definitions section (aligned with all NDC BRDs), removed Section 6 (Message Models – as was agreed at PADIS Messaging Week #3, common to all NDC BRDs, and to maintain as a separate document. Minor edits and submission PDF. |

# Table of Contents


1 Introduction ..... 4
2 Scope ..... 4
2.1 Principle of the Airline Profile ..... 4
2.2 Field of Application ..... 5
2.3 Airline Profile Elements ..... 8
2.4 Terms and Definitions ..... 8
3 Functional requirements ..... 15
4 Non Functional Requirements ..... 16
4.1 Error management ..... 16
4.2 Non-Functional Requirements Applicability ..... 17
5 Data Description ..... 20
5.1 Airline Profile Notification and Acknowledgement ..... 20
5.2 Data Elements of the Profile ..... 21
Appendix A: Airline Profile Use Cases ..... 32

# 1 Introduction

Airline Profile is an object within the NDC environment that will have a twofold objective:

- Limit the number of NDC queries that are received by one particular airline host system
- For Aggregators or ORA/POAs, identify who a particular shopping request can be sent to

The goal of this document is both to describe the Airline Profile (AP) object (including the elements contained in the Airline Profile) and the interactions between the Airline Profile Sender and the Airline Profile Receiver.

As the AP is absent from the current distribution environment in the form that is described below, and as it should be embedded in the global NDC initiative, a new schema addressing interactions with the Airline Profile must be set up.

# 2 Scope

## 2.1 Principle of the Airline Profile

As outlined above, the Airline Profile (AP) aims at streamlining the volume of NDC shopping requests sent to airline systems by Aggregators or Seller systems.

In more detail, the AP should cover the following business goals:

1. As an Airline, I want to be able to define who can access my system directly based on the characteristics of the customer shopping and the characteristics of the request.

    1.1. Airline NDC Capability - As an Airline, I can indicate at an overall level whether you, an identified Aggregator, Seller or an Offer Responsible Airline (ORA), can connect to me (Y), or not (N). I also want to be able to indicate whether there are specific circumstances under which you can connect to me for offers or other services since I may not be fully NDC capable.

    1.2. Airline Service - As an Airline, I want to indicate whether an Aggregator, a Seller or an ORA is able to access me directly for specific services

    1.3. Specific Points-of-Sale - As an Airline, I want to indicate whether Specific Points of Sale are authorized to access me directly or not

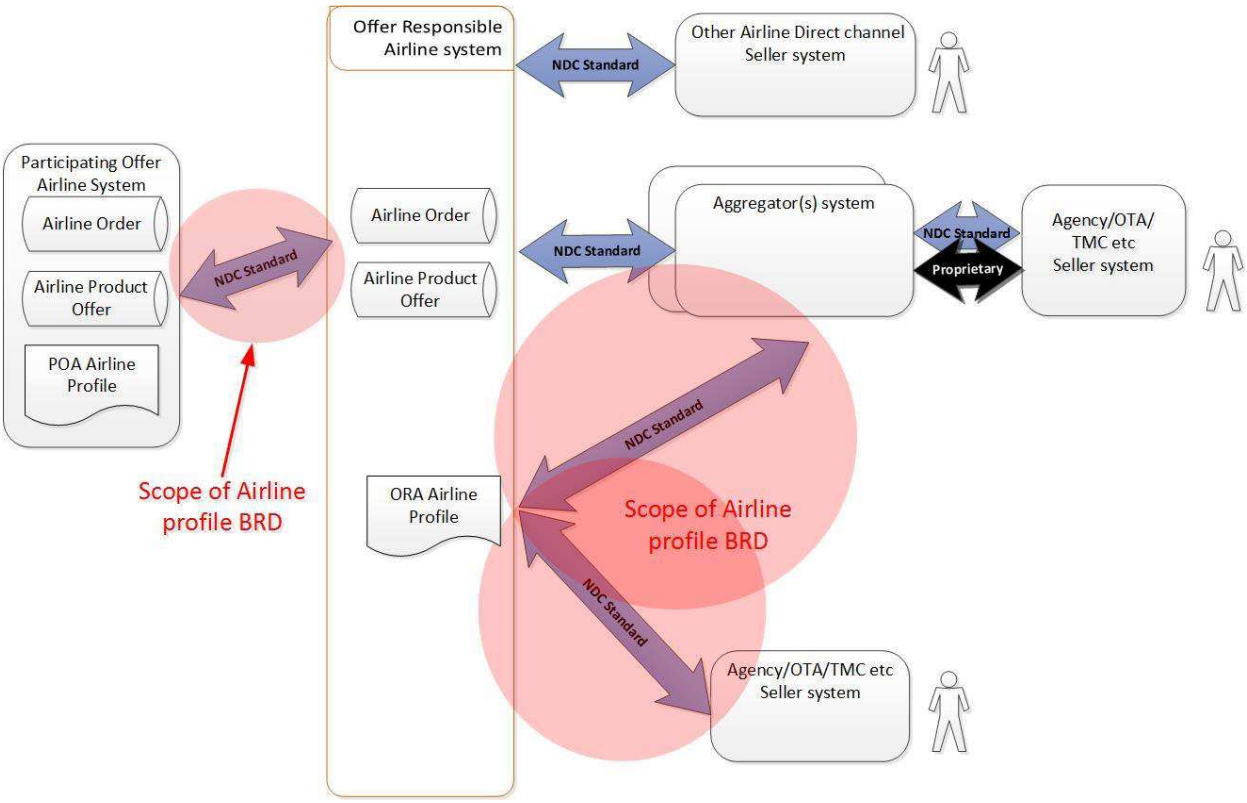
    1.4. Airline Markets - As an Airline, I want to be able to specify criteria by markets/routes

2. As an Airline, Seller or Aggregator, I want to be able to determine how and where to shop, based on my customers, their itineraries and other characteristics of the journey. More specifically, I want to know which airline systems I can access.

    2.1. As an Airline, Seller or Aggregator, I want to be able to store this information locally.

As an Airline, Seller or Aggregator, I want to make sure that the Airline Profile information I have is the most up to date.

## 2.2 Field of Application




*NB: Airline Profile is owned and controlled by the Airline. The picture above doesn't necessarily reflect where it actually resides.*

*NB2 : The arrow between the POA and the ORA reflects that the Airline Profile content is one of many NDC standard communication that will occur.*

### 2.2.1 In scope

The place of the Airline Profile within the shopping sequence is already documented in the Airline Shopping BRD. For instance, in steps 4 and 4A of the Use Case 0, or step 3 in the Use Case 1, step 2 in Use Case 2 etc. In essence, a Seller/Aggregator/ORA wishing to dispatch an NDC shopping request to an Airline needs first to determine which Airline would accept the NDC shopping request. Such Seller/Aggregator/ORA would need to go through the content of the potential Airlines' Profiles and draft the list of Airlines that would allow this shopping request to come to their systems.

Illustration of the uses of the Airline Profile is provided in the two graphes below. Fig. 1 describes the usage that an Aggregator or Agency/OTA/TMC seller system can do of an Airline Profile, while Fig. 2 represents the same interactions, but in the event an interline itinerary is involved, ie when the Offer Responsible Airline may act in a similar way as an Aggregator.

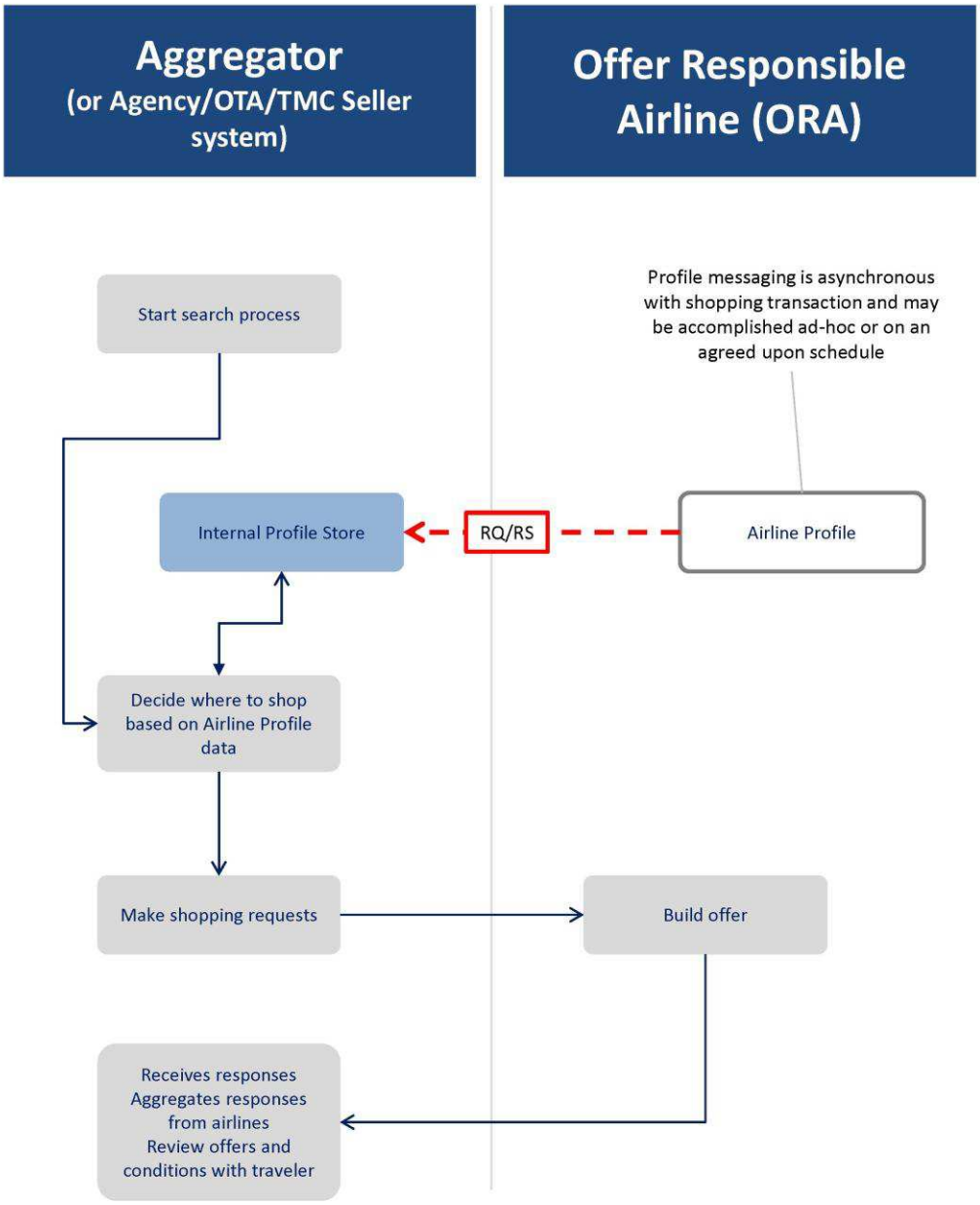



*Fig. 1 : Aggregator & ORA*

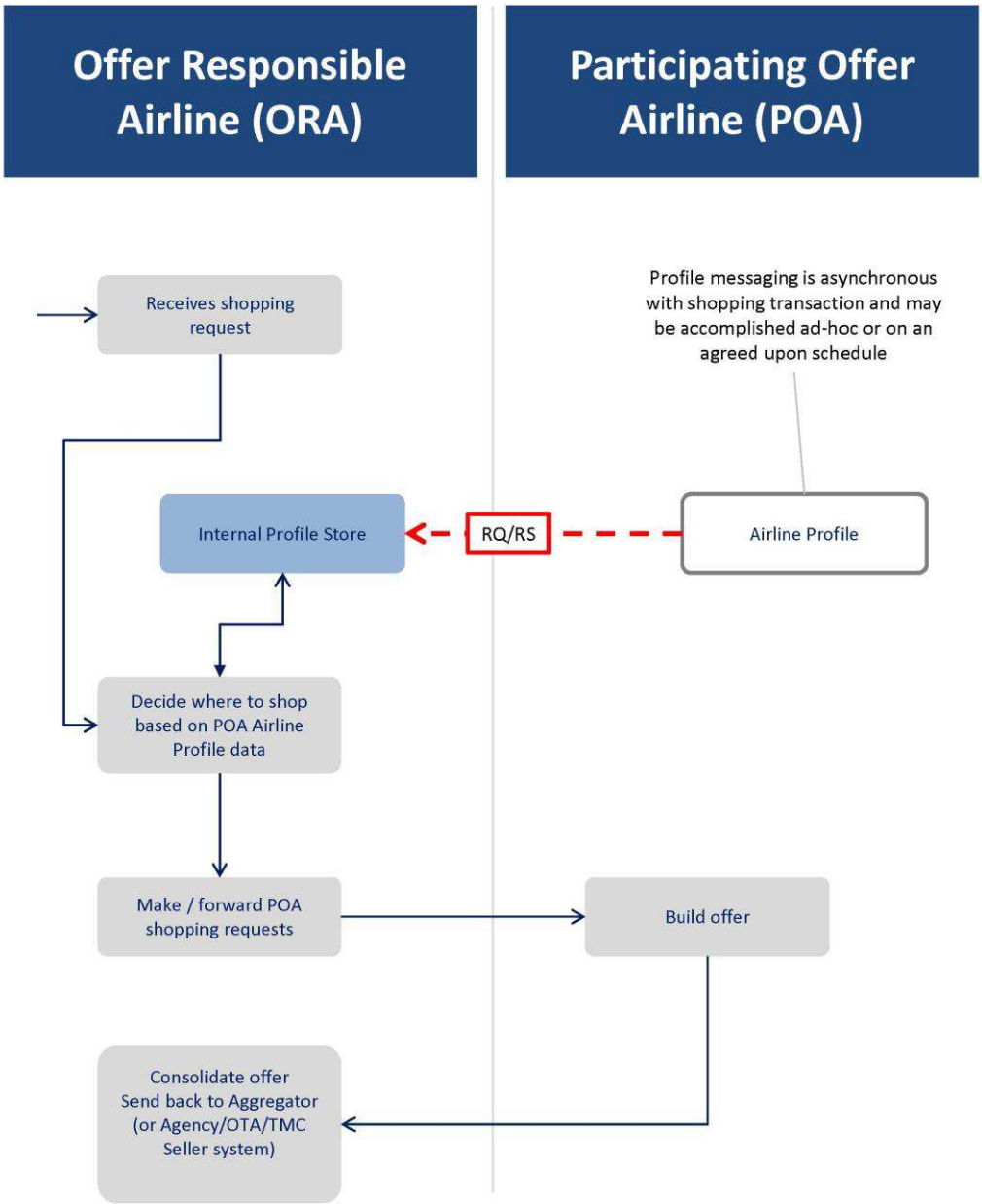



*Fig. 2 : ORA & POA*

The purpose of this BRD is to address the *actual exchange* of Airline Profile data. It is important to note that this may occur *asynchronously* from the processing of a shopping request (eg if the Seller/Aggregator/ORA chooses to locally cache the Airline Profile data). The two interactions documented in this BRD are the ones needed by the Seller/Aggregator/ORA to access Airline Profile Data :

- Seller/Aggregator/ORA requesting Airline Profile dataset
- Airline Profile dataset being pushed to Seller/Aggregator/ORA

### 2.2.2 Out of scope

The processing/interpretation of the Airline Profile Elements by the Airline Profile Receiver are out of scope of this BRD, and will be documented in the Implementation Guide.

The creation / update of the actual Airline Profile elements are out of scope.

The set up between the sender and recipient of the profile information (eg format of reception of the profile – link or XML, IP address or target location, etc.) is also out of scope. Furthermore, system access authentication is a process to be independently set up and managed by the individual parties and is considered out of scope for the data in the Profile.

## 2.3 Airline Profile Elements

As a record set, each profile will contain a number of elements. The current list of elements that may be contained in an AP is identified in Section 5, Data Description.

## 2.4 Terms and Definitions

Term and Definitions identified in this document and in other NDC Business Requirements Documents (ie. Airline Shopping, etc.) are maintained in a separate document *NDC Terms and Definitions*, owned by DDXWG Steering Group. Terms and definitions are included in this document as an excerpt from *NDC Terms and Definitions v.1.2* for easier reading and referencing.

| Term | Definition | BRD Reference |
|---|---|---|
| **Accountable Document** | Validated official document (such as any type of an airline ticket, or a Standard Traffic Document (STD) or payment voucher) that has a value and must be accounted for. | Order Management |
| **Acknowledgement** | Acknowledges the receipt of a message but does not imply acceptance of the message content | Order Management |
| **Affinity Shopping** | A wide search defining a range of criteria including specific interest, destination attributes and defined budget plus date and destination ranges. | Airline Shopping |
| **Aggregator** | The business function of distributing a Seller's shopping request to multiple Airlines and aggregating the subsequent responses. | Airline Shopping; Payment and Ticketing |
| **Airline** | Supplies product offers in response to receiving a request from a Seller. Airline refers to itself and any subcontracted entity providing a service to the airline | Airline Shopping; Payment and Ticketing |
| **Airline currency** | Miles, vouchers, residual value EMD, airline issued gift/cash card | Payment and Ticketing |

| | | |
|---|---|---|
| **Ancillary Services or Optional Services** | Ancillary Services are defined in PSC Resolution 787 as anything outside of product attributes (optional or discounted). Ancillary Services may be bundled in the product offer, or offered as additional, a la cart services. For the purposes of this document the term Ancillary Services is sometimes used interchangeably with the term Optional Services. | Airline Shopping; Interline Ancillary Shopping; Payment and Ticketing |
| **Anonymous Shopping** | No traveller personal data in the shopping request | Airline Shopping |
| **API** | Application Programming Interface | Airline Shopping; Payment and Ticketing |
| **Attribute Shopping** | A search specifying one or more attributes to get more focused results (eg equipment types, Seat types and characteristics, baggage allowance, meals, etc. | Airline Shopping |
| **Authentication** | The process by which a system identifies an individual or a business entity to make sure that the user or the business entity is who they claim to be, based on attributes that are sent in a message. | Airline Shopping; Payment and Ticketing |
| **Bilateral Interface Agreement** | A documented agreement made between the sender and receiver as the basis of the data exchange between systems  This agreement defines a number of features which are mandatory or optional within the specification (time outs, message order processing, reject processing) | Interline Ancillary Shopping |
| **Bilateral Time Limit** | A generic structure for time limits, that is subject to bilateral agreements between parties. | Airline Shopping (requires a change) and Order Management |
| ~~**Booking Time Limit**~~ | ~~*Booking time limit* is the amount of time within which the booking transaction must be completed (does not include ticketing).~~<br><br>**NOTE:** This definition in Airline Shopping is superseded with the revised definition of Offer Time Limit (revised) as provided in Order Management BRD | Airline Shopping (requires change) |
| **Cabin** | A compartment where passenger seats are installed | Interline Ancillary Shopping |
| **Campaign Identifier** | Campaign ID is a tracking code used by the airline's advertising analytics system to monitor and optimize the paid advertising by the airline across interactive marketing channels. By including the Campaign ID with shopping requests the online media publisher (MSE, OTA, affiliate partner, booking widget, etc.) can help guide the airline so that the airlines personalization of | Order Management |

| | | |
|---|---|---|
| | offers can align with any paid advertising that may be present on the publisher's display. | |
| **Card payment*** | Various forms of payment that include: credit card (includes UATP), debit card (PIN based or signature based), pre-paid debit/bank/gift card, cash card where the Airline is the merchant. Refer to IATA Resolution 728 Attachment A for full details on card types and codes. | Payment and Ticketing |
| **Cash payment** | Any payment that is collected by the agent and settled between the Airline and the agent. Refer to IATA Resolution 728 Attachment A for full details on card types and codes. | Payment and Ticketing |
| **CBT** | Corporate Booking Tool | Airline Shopping |
| **Check/Cheque*** | Personal or bank issued order for transfer of money. Refer to IATA Resolution 728 Attachment A. | Payment and Ticketing |
| **Commercial Agreement ID** | Code or ID referenced by ORA or POA in message exchange which refers to a previously created bilateral agreement. A SPA is an example. | Interline Ancillary Shopping |
| **Corporate ID** | An ID provided by an airline to uniquely identify a corporate location for which a commercial arrangement exists. | Order Management, plus change to Airline Shopping |
| **Deposit Time Limit** | Time by which a deposit must be paid for an Order. | Airline Shopping (requires change) and Order Management |
| **Distribution Channel Provider** | An entity that has the capability to interface with an airline's dynamic shopping API enabling distribution of airline product offers across one or multiple channels. For the purposes of this document it is assumed that such provider shall use industry standard NDC XML messages to communicate with airlines dynamic shopping API, and may act as a content aggregator. | Airline Shopping |
| **FQTV** | Frequent Traveler | Airline Shopping |
| **Group Booking** | An Order made under a group name without individual passenger names at the point of creation | Order Management |
| **Inventory Guarantee Time Limit** | The time that inventory for a specified product offer is guaranteed as available. The inventory held must be converted into a completed order before the time limit expires otherwise the guarantee is lost. Held Inventory is referenced by an Inventory Guarantee identifier (equivalent in business terms to the legacy ITAREQ 'Conversation ID'). In the context of Interline Ancillary Shopping, this term is defined as the time window (or | Order Management; Interline Ancillary Shopping |

| | | |
|---|---|---|
| | final date) identified by the ORA or POA where inventory will be held prior to booking. | |
| **Inventory Guarantee Identifier** | An unique identifier issued by an Airline to reference that inventory for a specified offer will be guaranteed as available for a period | Order Management |
| **Leg** | The operation between a departure station and the next arrival station | Interline Ancillary Shopping |
| **Marketing Carrier** | The carrier that sells with its own code as part of a code share agreement on a flight that is actually operated by another carrier. | Interline Ancillary Shopping |
| **Meta Search deep link** | A link to an airline's or OTA's itinerary purchase page enabling the user to purchase a specific itinerary offer. | Airline Shopping |
| **Meta Search shallow link** | A link to an airline's or OTA's shopping results page listing multiple flight options for a pre-specified city pair and dates, as well as upsell / cross-sell products | Airline Shopping |
| **MSE ( Meta search Engines)** | MSE redirect their users to an airline or Online Travel Agent for the creation of an Airline Order. A MSE is not involved in servicing the resulting order - this is done by the OTA or Airline. | Order Management |
| **Multi Leg Flight** | A flight comprised of more than one leg | Interline Ancillary Shopping |
| **Naming Time Limit** | Time by which an Order, must be completed with individual passenger names. | Order Management |
| **OAL** | Other AirLine | Airline Shopping |
| **Offer ID** | *Offer ID* facilitates the tracking and verification of individually priced<br>offer(s) selected from the shopping response. Only the *Offer IDs* of the ORA (Offer Responsible Airline) are returned in shopping responses.<br>*Offer ID* is unique to each individually priced offer in the shopping response even if the offer price is zero.<br>OfferID may be specific to individual passengers in the offer, and may be associated with a segment or a journey.<br>The set of Offer IDs returned in a response are referenced by a Shopping Response ID. | Airline Shopping; Payment and Ticketing |

| | | |
|---|---|---|
| **Offer item** | One or more products that has one price, eg a product bundle | Order Management |
| **Offer Responsible Airline (ORA)** | *Offer Responsible Airline*: The airline responsible for returning a combined offer, including participating airline offers, to the requesting entity | Airline Shopping; Interline Ancillary Shopping; Payment and Ticketing |
| ~~**Offer Time Limit**~~ | ~~*Offer Time Limit* is the amount of time within which offers in a shopping response maybe reserved. Upon expiring, a new shopping request must be sent.~~<br>**NOTE:** This definition in Airline Shopping is superseded with the revised definition of Offer Time Limit (revised) as provided in Order Management BRD | Airline Shopping (requires change) |
| **Offer Time Limit (revised)** | The time within which offers must be converted into completed Orders. On expiry a new shopping transaction is required. This definition supersedes both Offer and Booking Time Limit definitions in the Shopping BRD. Offer Time Limit is mandatory. | Order Management; Interline Ancillary Shopping; Payment and Ticketing |
| **Operating Carrier** | The carrier that holds the Air Operator's Certificate for the aircraft used for that flight | Interline Ancillary Shopping |
| **Order** | An Order is a uniquely identified record of the agreement of one party with another to receive products and services under specified terms and conditions. 'Order' supports the sale of a flexible range of airline products and services that are not necessarily journey based (eg subscription services). A 'PNR', 'super PNR' and 'ticket' are all today's versions of airline implementations of aspects of an Order.<br>An Order will contain 1 or more Order Items each with an identifier that is unique within an Airline's Order Management system. An Order may support non-homogeneity, ie each passenger in an Order may hold different sets of order items at different prices. | Order Management; Payment and Ticketing |
| **Order item** | A selected Offer item. | Order Management |
| **Order Management** | Order Management is the process of taking, amending, tracking and fulfilling requests for an airline's products and services. | Order Management |
| **OSI** | Other Service Information | Airline Shopping |
| **OTA** | Online Travel Agency | Airline Shopping |
| **Participating Offer Airline (POA)** | *Participating Offer Airline*: An airline other than the Offer Responsible Airline involved in a product offer | Airline Shopping; Interline Ancillary Shopping; Payment and |

| | | |
|---|---|---|
| | | Ticketing |
| **Payment Time Limit** | The deadline by which a commitment to pay must be made for the items in the order. This includes ticketless transactions and other accountable documents (ie EMD. Payment Time Limit and Ticket Time Limit may be the same in most cases; however, Payment Time Limit expands to include ticketless transactions and other accountable documents. Payment Time Limit is mandatory. | Order Management; Interline Ancillary Shopping; Payment and Ticketing |
| **Personalised Shopping** | Traveller consents to include personal data in the shopping request | Airline Shopping |
| **PNR** | Passenger Name Record | Airline Shopping; Payment and Ticketing |
| **Price Guarantee Time Limit** | Period for which an Offer price is guaranteed. On expiry an Offer may be re-priced up to the point an accountable document is issued. A Price Guarantee cannot extend beyond the Offer Time Limit unless the Order has been created. | Airline Shopping (requires change) and Order Management |
| **Product Bundle** | Where several products are offered for sale as one product.<br>**NOTE**: This definition has evolved in Order Management BRD, and has the same meaning as Offer Item | Airline Shopping |
| **Referrer Identity** | Identifies to the aggregator or the airline, the specific commercial contract under which a particular message should be tracked; for example, is the message related to (A) the *x* cents per click for traffic from Indonesia or (B) the y % per ticket for each booking that originates from Japan. | Order Management |
| **Seller** | Creates shopping requests to Airlines on behalf of a customer and displays the subsequent product responses for review | Airline Shopping; Payment and Ticketing |
| **Service Item** | An airline service item is a product or a service that can be separately delivered and uniquely described by an airline. It is referenced by an ID that is unique within an airline.<br>A service may be sold separately in a single offer/ order item or sold bundled with other service items in a single offer/order item (eg a return price consisting of inbound and outbound services). | Order Management |

| | | |
|---|---|---|
| **Service Time Limit** | Time limit for EMD creation. May be different from Payment Time Limit | Interline Ancillary Shopping |
| **Settlement providers** | Third parties that provide settlement services between agent and airlines. Could include ARC, BSP, TCH, MoneyDirect, eeNet, etc. | Payment and Ticketing |
| **Shopping** | A process whereby a Seller is able to request offers from the airlines (ie flight and ancillaries) based on its desired search criteria and receive offers corresponding to its request. There are various types of shopping, including, for example, Personalized/ Anonymous and Attribute/ Affinity shopping types as defined in this document. | Airline Shopping |
| **Shopping Basket** | A Shopping Basket is e-commerce software that allows visitors to an internet site to select items for eventual purchase | Airline Shopping |
| **Shopping Response ID** | *Shopping Response ID* facilitates the tracking of what was offered and is an identifier unique to the source airline for a set of product offers returned in response to a shopping request.<br>*Shopping Response ID* may be comprised of an *Offer ID* corresponding to an individual flight and/or ancillary service product offer that make up the offer. See Appendix D for scenarios illustrating use of this identifier. | Airline Shopping |
| **SSR** | Special Service Request | Airline Shopping |
| **Ticket Time Limit** | *Ticket Time Limit* is the amount of time which the booking maybe held until it must be ticketed or other accountable documents issued (eg EMD). | Airline Shopping |
| **Ticketing** | The process of issuing any type of an accountable document to fulfil an airline order. | Payment and Ticketing |
| **TMC** | Travel Management Company | Airline Shopping |
| **XML** | Extensible Markup Language | Airline Shopping |

# 3 Functional requirements

| Ref # | Category | Requirements | |
|---|---|---|---|
| 1.1 | Airline Profile Notification | Airline Profile Sender pushes Airline Profile or link to Airline Profile Receivers that have been activated/authorized, including Profile version number. | • AirlineProfileNotif (new message) |
| 1.2 | Airline Profile Acknowledgement | Airline Profile Receivers send a (Non) Acknowledgement that they have received the Airline Profile and version number received | • AirlineProfileACK or AirlineProfileNACK (new messages) |
| 2.1 | Airline Profile Request | Request from an Airline Profile Receiver to an Airline Profile Sender to send one or more Airlines' Profiles | • AirlineProfileRQ (new message) |
| 2.2 | Airline Profile Response | Airline Profile ad hoc content or Airline Profile link is sent to Airline Profile Receiver, including Profile Version, number of records in file and the order in which the records are to be applied within a Profile Owner's profile | • AirlineProfileRS (new message) |
| 2.2.1 | Airline Profile Response - Profile Owner | Ability to define which Airline is the Owner of the Profile Record | • AirlineProfileRS (new message) |
| 2.2.2 | Airline Profile Response - Receiver | Ability to define who the Receiver is of the Profile Record | • AirlineProfileRS (new message) |

| Ref # | Category | Requirements | |
|---|---|---|---|
| 2.2.3 | Airline Profile Response - Criteria | Ability to define whether a Receiver may send a Query to the Owner based on the following criteria:<br><br>- Route (Origin, Destination)<br><br>- Airline schedule/participation in Route (Inclusion as marketing and/or operating carrier)<br><br>- Point of Sale<br><br>o By Market<br><br>o By Type/ID | • AirlineProfileRS (new message) |
| 2.2.3.1 | Airline Profile Response - Default behavior | Ability to define the default behavior for each criteria element defining whether the absence of data indicates acceptance or inclusion. | • AirlineProfileRS (new message) |
| 2.2.4 | Airline Profile Response - Action | Ability to indicate which fares/services may be shopped via NDC for the given criteria<br><br>- Services Requested (Fares, Seats, Bags, Other) | • AirlineProfileRS (new message) |

# 4 Non Functional Requirements

## 4.1 Error management

These are error messages that need to be developed. However actually *sending* an error message is optional.

| Ref # | Description | Corrective action |
|---|---|---|
| 1 | Messaging error. Failure in the receipt or response to a profile request, bad syntax or format, incomplete XML , failure to authenticate Sender/Receiver, etc. | TBD as per XML TF |
| 2 | Content level error message. | |
| *2.1* | *Invalid codes (Airline, Airport Code, City code, etc.) within the Airline Profile* | *Error message may be sent to Airline Profile Sender, as well as new request for Profile.* |

| Ref # | Description | Corrective action |
|---|---|---|
| *2.2* | *Response not matching request (eg requested Airlines list)* | *Error message may be sent to Airline Profile Sender, as well as new request for Profile.* |
| 3 | Profile element in other messages (shopping, order, etc.) not matching terminology in current Airline Profile | |
| 4 | (Assumption : AirlinePRofileRQ carrying version number) Version number contained in AirlinePRofileRQ is up to date | Error message may be sent to Airline Profile Receiver notifying no update available |

## 4.2 Non-Functional Requirements Applicability

| Feature | Definition | Requirement Order Management |
|---|---|---|
| **Standard based and interoperable messaging protocol** | Messaging protocol must be based on industry standards to enable interoperability | Applicable |
| **Send Only** | Also called Push MEP is simple one-way messaging where a message is sent with no expectation of a response. | Conditional |
| **Receive only** | Also called Pull MEP is a message pattern where a non-addressable sender supports the ability to explicitly obtain messages from another application. This can be used for exchanges that are of “pull” type only | n/a |
| **Request/Response exchange** | Message pattern consists of one or more request/response pairs. The correlation between a request and a response is well defined. In this MEP the response maybe deferred and the requesting application may or may not block application processing until a response is received | Applicable |
| **Diagnostics/Routing** | Authentication, diagnostic, logging & routing information should be included in the message header and not the payload | Applicable |
| **Reliability** | Protocol capability to support assured and single delivery to the receiving application with no message loss | Applicable |

| Feature | Definition | Requirement Order Management |
|---|---|---|
| **Message acknowledgement/ delivery report** | Message exchange protocol acknowledgement provides guaranteed delivery in a sense that if there is any communication failure or any remote system unavailability, the message is transparently repeated until the application has received it. This is referred to as reliability feature necessary for business critical messages. Message loss may happen using application acknowledgement only in cases like application or system problems. It may however be complementary to reliability mechanism. Additionally there is also a notion of end to end delivery report that can be used to request a delivery notification form the end user generated by its messaging agent. This may be used for cases that a proof of delivery is required by the sender. | Conditional |
| **Fault management** | Capability to report permanent or transient problems or errors in message exchange and return this information to the sending application | Applicable |
| **Priority handling** | Capability to assign priority to messages and process accordingly – separate between processing and delivery related priority handling. | Applicable |
| **Data confidentiality** | Assurance that data remain secret except for those entities that have been authorized to access this data. (i.e. encryption/decryption). Identify any data elements that are subject to specific confidentiality requirements. For example payment card data will be subject to PCI compliance requirements, and personal data will be subject to PII (Personally Identifiable Information) compliance requirements. | Applicable to passenger personal data |
| **Requester Authentication** | Capability to confirm the identity claimed by a sender or entity | Supported in all Request messages. To include the identity of the source of the request (the identity of the selling entity, the staff member making the request and the Point of Sale channel) and any intermediaries that the request has passed through. |

| Feature | Definition | Requirement Order Management |
|---|---|---|
| **Message integrity** | Capability to ensure that data are preserved in its original form and not altered | Applicable to the message body |
| **Capability to target multiple recipients** | Ability to send a message to more than one recipient or applications | Applicable, eg to multiple directly connected airlines plus one or more aggregators |
| **Multi part Messages** | Communications do not support the transmission of messages in multiple parts. | Applicable |
| **Support for attachment (for rich documents (image, large files etc.)** | Ability to have digital attachments (to allow simpler management of attachments and optimized transport) | Attachments must not appear in the message – only links to them |
| **Message Compression** | Capability to compress (to save bandwidth) | Applicable |
| **Support for specific protocols** | Please indicate what messaging protocols you expect the industry will use to exchange the messages. | May need to support either or both SOAP and REST |
| **Response Time** | Communications must support a timeout function | Applicable |
| **Versioning** | Messages must comply with PADIS versioning specifications | Applicable |
| **Localisation** | Any localisation data elements must support the ability to provide a language identifier | Applicable |
| **Unique Message Identification** | Messages should provide the ability to support a unique message identifier | Applicable |
| **State** | Messages should have the ability to support both stateful and stateless modes of communication | Shopping messages will be stateless |
| **Message Expiration** | Communications should provide the ability to stipulate an expiration timestamp | Applicable |
| **Schema Language Locale** | Message schema must be written in en_us | Applicable |

# 5 Data Description

## 5.1 Airline Profile Notification and Acknowledgement

The following data elements describe the contents of the data utilized in the AirlineRQ/RS, AirlineProfile Notif and AirlineProfileACK/NACK where an Airline Profile sender can push a profile or link to a Profile to a Receiver and a Receiver can acknowledge receipt of the information. Further detail of the actual Airline Profile elements are described in Section 5.2.

| DATA GROUP | METADATA | ANNOTATION | FORMAT | SPECIFICATION | MESSAGE INCLUSION |
|---|---|---|---|---|---|
| Profile Request Response Header | RECEIVER ID | Identification of the Airline Profile Receiver : may be either an Aggregator Identity ID, a Travel Agency ID, or an Airline identity Code as defined in the Order Management Data Dictionary | | Airline Profile Receiver ID | AirlineProfileRQ/RS AirlineProfileNotifRQ/ACK/NACK |
| Profile Request Response Header | Profile Version – Time stamp | | | Format = Standard Time Stamp, ie YYYY-MM-DD HH:MM:SS | AirlineProfileRQ/RS AirlineProfileNotifRQ/ACK/NACK |
| Profile Request | AIRLINE | Identification of requested Airlines | 2AN | One or more Airline Code | AirlineProfileRQ AirlineProfileNotifRQ |
| Response Header | RECORD COUNT | The number of decompressed records contained in this file. | 9N | 0-999999999 | AirlineProfileRS AirlineProfileNotifACK/NACK |
| Response Body | Link | Link to Airline Profile Data Elements | | Actual location of Airline Profile Elements (if link used) | AirlineProfileRS |
| Response Body | Data elements | Data elements | | Actual Data Elements of the Profile (if no link used) | AirlineProfileRS |

| | | | | | |
|---|---|---|---|---|---|
| Response Body | Profile Version Received – Time stamp | Actual time stamp of the reception of the profile. | 6 | Format = Standard Time Stamp, ie YYYY-MM-DD HH:MM:SS | AirlineProfileRS<br>AirlineProfileNotifACK |
| ACK Response | AIRLINE PROFILE RECEIVED | Identification of received Airlines | | One or more Airline Code | AirlineProfileRS<br>AirlineProfileNotifACK |
| NACK Response | Failure Notice | Failure flag requesting resend the last message sent | | One or more Airline Code | AirlineProfileNotifNACK |

## 5.2 Data Elements of the Profile

The following list of elements does not necessarily comprehensively describe what services a particular airline may offer and should not therefore be taken as a comprehensive catalogue of services for that particular airline.

| FUNCTIONAL REQUIREMENTS LINK | METADATA | DESCRIPTION | FORMAT | SPECIFICATION |
|---|---|---|---|---|
| R 2.2 | Profile Version – Time stamp | | | Format = Standard Time Stamp, ie YYYY-MM-DD HH:MM:SS |
| | RECORD COUNT | The number of decompressed records contained in this file. | 9N | 0-999999999 |
| R 2.2.1 | PROFILE OWNER | Profile owner (Airline) | 2AN | The standard industry alphanumeric code for the airline. (Third position is currently blank for future expansion.) |
| R2.2 | SEQUENCE NUMBER | A number indicating the sequence (ascending) in which the entries would be looked through. | | 0000001-9999999 |

| | | | | |
|---|---|---|---|---|
| | TVL AGENCY | A tag indicating if the request may be sent by travel agencies. | | X = Must be a travel agency<br>Blank = No application. Check the rest of the table for restrictions. |
| | CXR/GDS | A tag indicating if the request may be sent by a specific carrier or GDS. | | Standard industry alpha-numeric airline code or CRS code. (Third position reserved for future expansion.)<br>Blank = Any CRS/CXR |
| R 2.2.3 | POS GEO SPEC: TYPE | A code indicating the type of geographic specification that will be found in the following fields. | | Blank or<br>A = Area S = State<br>SA = Sub Area C = City<br>N = Country<br>CO = Coordinates |
| | POS GEO SPEC: AREA | A one IATA numeric area designator. | | 1 = Western Hemisphere<br>2 = Europe, Africa, and the Near East<br>3 = Far East, Australia, and Pacific |
| | POS GEO SPEC: SUB AREA | Standard ISO/IATA sub area code | | |
| | POS GEO SPEC: COUNTRY | The standard IATA country code. | | Two alpha IATA country codes. |

| | | | | |
|---|---|---|---|---|
| | POS GEO SPEC: CITY | The standard industry city code. | | Three alpha IATA city codes. |
| | POS GEO SPEC: STATE | The standard state postal Code. | | Two alpha code. If coded, it will always be preceded by a country code. |
| | POS GEO SPEC: AIRPORT | The standard industry airport code. | | Three alpha IATA airport codes |
| | POS GEO SPEC : COORDINATES | Coordinates (Latitude, Longitude, as defined in the Data Dictionary) | | |
| | *POS GEO SPEC : COORDINATE RADIUS* | Radius (in miles) to use in conjunction with coordinates above | | |
| | POS NON GEO : TYPE | A code Indicating the type of CODE data to be found in the following fields: | | T = Pseudo Code/Travel Agency Code<br>I = IATA Travel Agency No.<br>H = Home IATA Agency No.<br>U = Home Travel Agency Code<br>X = Department/Identifier<br>V = CRS/CXR Department Code<br><br>L = LNIATA Number (CRT Address)<br>Blank = No application |
| | POS NON GEO : CODE<br>May be any one of the following: | | | |
| | *AGENT PSEUDO CITY CODE* | Up to a six character code for a pseudo | | |

| | | | | |
|---|---|---|---|---|
| | | code/Travel Agency (left justified) followed by spaces. | | |
| | *AGENT NUMERIC CODE (IATA NUMBER)* | An eight digit IATA assigned travel agency code. | | |
| | *DEPARTMENT/IDENTIFIER* | Up to a seven digit code indicating the airline department or CRS agency/department (right justified) with leading zeros. Space in packed byte 32 or unpacked byte 41. | | |
| | *CRS/CXR DEPARTMENT CODE* | Up to a six character code indicating the airline department or CRS agency/department (left justified) followed by spaces. | | |
| | *LNIATA NUMBER (CRT ADDRESS)* | Up to an eight character assigned complete line address (left justified) followed by spaces | | |
| | *AIRLINE SPECIFIC CODE* | | 2AN | One or more Airline Code |
| R 2.2.3 | DIRECTIONAL INDICATOR | | | 1 = From LOC 1 to LOC 2<br>2 = To LOC 1 from LOC 2<br>3 = Originating from LOC 1 to LOC 2<br>4 = Originating from LOC 2 to LOC 1<br>"Blank = No application" |

| | | | | |
|---|---|---|---|---|
| | OFFER GEO SPEC – LOC 1 | Identifies the Offer Origin Point. | | |
| | OFFER GEO SPEC – TYPE | A code indicating the type of geographic data that will be found in the following geographic location field: | | Blank or<br>A = Area<br>SA = Sub Area<br>N = Country<br>S = State<br>C = City<br>P = Airport<br>CO = Coordinates |
| | OFFER GEO SPEC – GEOGRAPHIC LOCATION | May be any one of the following: | | As specified below; or<br>Blank = No application |
| | OFFER GEO SPEC – AREA | A one-digit numeric area designator. | | 1 = Western Hemisphere<br>2 = Europe, Africa and the Near East<br>3 = Far East, Australia and Pacific |
| | OFFER GEO SPEC – SUB AREA | Standard ISO/IATA sub area code | | |

| | | | | |
|---|---|---|---|---|
| | OFFER GEO SPEC – COUNTRY | The standard IATA country code. | | Two alpha IATA country codes. |
| | OFFER GEO SPEC – CITY | The standard industry city code. | | Three alpha IATA city codes |
| | OFFER GEO SPEC – STATE | The standard state postal Code. | | Two alpha code. If coded, it will always be preceded by a country code. |
| | OFFER GEO SPEC – AIRPORT | The standard industry airport code. | | Three alpha IATA airport codes |
| | OFFER GEO SPEC - COORDINATES | Coordinates (Latitude, Longitude, as defined in the Data Dictionary) | | |
| | *POS GEO SPEC : COORDINATE RADIUS* | Radius (in miles) to use in conjunction with coordinates above | | |
| | OFFER GEO SPEC – LOC 2 | Identifies the Offer Destination Point. | | |

| | | | | |
|---|---|---|---|---|
| | OFFER GEO SPEC – TYPE | A code indicating the type of geographic data that will be found in the following geographic location field: | | Blank or<br>A = Area<br>SA = Sub Area<br>N = Country<br>S = State<br>C = City<br>P = Airport<br>CO = Coordinates |
| | OFFER GEO SPEC – GEOGRAPHIC LOCATION | May be any one of the following: | | As specified below; or<br>Blank = No application |
| | OFFER GEO SPEC – AREA | A one-digit numeric area designator. | | 1 = Western Hemisphere<br>2 = Europe, Africa and the Near East<br>3 = Far East, Australia and Pacific |
| | OFFER GEO SPEC – SUB AREA | Standard ISO/IATA sub area code | | |
| | OFFER GEO SPEC – COUNTRY | The standard IATA country code. | | Two alpha IATA country codes. |
| | OFFER GEO SPEC – CITY | The standard industry city code. | | Three alpha IATA city codes. |

| | | | | |
|---|---|---|---|---|
| | OFFER GEO SPEC – STATE | The standard state postal Code. | | Two alpha code. If coded, it will always be preceded by a country code. |
| | OFFER GEO SPEC – AIRPORT | The standard industry airport code. | | Three alpha IATA airport codes |
| | OFFER GEO SPEC - COORDINATES | Coordinates (Latitude, Longitude, as defined in the Data Dictionary) | | |
| | *POS GEO SPEC : COORDINATE RADIUS* | Radius (in miles) to use in conjunction with coordinates above | | |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC | Specifies that all travel on the itinerary must be wholly within the specified location. | | |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC - TYPE | A code indicating the type of geographic data that will be found in the following geographic location field: | | Blank or<br>A = Area<br>SA = Sub Area<br>N = Country<br>S = State<br>C = City<br>P = Airport<br>CO = Coordinates |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC | May be any one of the following: | | As specified below; or<br>Blank = No application |

| | | | | |
|---|---|---|---|---|
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC - AREA | A one-digit numeric area designator. | | 1 = Western Hemisphere<br>2 = Europe, Africa and the Near East<br>3 = Far East, Australia and Pacific |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC – SUB AREA | Standard ISO/IATA sub area code | | |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC - COUNTRY | The standard IATA country code. | | Two alpha IATA country codes. |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC - CITY | The standard industry city code. | | Three alpha IATA city codes. |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN LOC - STATE | The standard state postal Code. | | Two alpha code If coded, it will always be preceded by a country code. |
| | OFFER GEO SPEC – TRVL WHOLLY WITHIN - COORDINATES | Coordinates (Latitude, Longitude, as defined in the Data Dictionary) | | |
| | *POS GEO SPEC : COORDINATE RADIUS* | Radius (in miles) to use in conjunction with coordinates above | | |
| R 2.2.4 | BAGS - BG | Baggage | | X = Permitted<br>N = Not Permitted |

| | | | | |
|---|---|---|---|---|
| | SEATS - SA | Pre-reserved Seat Assignment | | X = Permitted<br>N = Not Permitted |
| | ALL OTHER | ALL OTHER | | X = Permitted<br>N = Not Permitted |

### 5.2.1 Scenarios for Profile

The following are for illustrations purpose only and is not intended to fully describe the complexity of a particular Airline Profile.

| | | | | | | | | | | | | | POS NON GEO : CODE | | | | | | | OFFER GEO SPEC – LOC 1 | | | | | | | | | | OFFER GEO SPEC – LOC 2 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenarios** | PROFILE OWNER | TVL AGENCY | CXR/GDS | POS GEO SPEC: TYPE | POS GEO SPEC: AREA | POS GEO SPEC: ZONE | POS GEO SPEC: COUNTRY | POS GEO SPEC: CITY | POS GEO SPEC: STATE | POS GEO SPEC: AIRPORT | POS GEO SPEC : COORDINATES | POS NON GEO : TYPE | *AGENT PSEUDO CITY CODE* | *AGENT NUMERIC CODE (IATA NUMBER)* | *DEPARTMENT/ID ENTIFIER* | *CRS/CXR DEPARTMENT CODE* | *LNIATA NUMBER (CRT ADDRESS)* | *AIRLINE SPECIFIC CODE* | DIRECTIONAL INDICATOR | OFFER GEO SPEC – TYPE | OFFER GEO SPEC – GEOGRAPHIC LOCATION | OFFER GEO SPEC – AREA | OFFER GEO SPEC – ZONE | OFFER GEO SPEC – COUNTRY | OFFER GEO SPEC – CITY | OFFER GEO SPEC – STATE | OFFER GEO SPEC – AIRPORT | OFFER GEO SPEC - COORDINATES | OFFER GEO SPEC – TYPE | OFFER GEO SPEC – GEOGRAPHIC LOCATION | OFFER GEO SPEC – AREA | OFFER GEO SPEC – ZONE | OFFER GEO SPEC – COUNTRY | OFFER GEO SPEC – CITY | OFFER GEO SPEC – STATE | OFFER GEO SPEC – AIRPORT | OFFER GEO SPEC - COORDINATES | BAGS - BG | SEATS - SA | ALL OTHER |
| **Scenario 1 :** I am Alaska Seaplane Service. I only want to receive NDC queries from these Points of Sale: 123456789, 234567891 | J5 | | | | | | | | | | | I | | 123456789, 234567891 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| **Scenario 2 :** I am Air China. I only want to receive NDC queries for routes from North America to China | CA | | | | | | | | | | | | | | | | | | A | | TC1 | | | | | | | N | | | | CN | | | | | X | X | X |
| **Scenario 3 :** I am Kenya Airways. I want to receive NDC queries for routes from NBO, from agencies in Kenya only | KQ | X | | N | | | KE | | | | | | | | | | | 3 | C | | | | | NBO | | | | | | | | | | | | | X | X | X |
| **Scenario 4 :** I am LATAM. I want to receive NDC queries, but I don't do seats. | LA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | N | x |

# Appendix A: Airline Profile Use Cases

## UC 1.0: Airline Profile Receiver receiving new or updated Airline Profile – Push model

| | |
|---|---|
| Use Case Name | Airline Profile Receiver receiving new or updated Airline Profile – Push model |
| Actors | Airline Profile Sender, Airline Profile Receiver |
| Description | Airline Profile Receivers receive Profile dataset on a recurring basis |
| Preconditions | Airline Profile Receiver is subscriber – outside of BRD scope, set-up phase |
| Precondition Use Cases | |
| Post conditions | Airline Profile Receiver has current & appropriate Airline Profile |
| Assumptions | |
| Normal Course of Events | 1. Airline Profile Sender extracts appropriate and current Airline Profile which would include any new, changed or deleted records<br>2. Airline Profile Sender schedules push<br>3. Airline Profile Receiver receives pushed Airline Profile or link and applies data using the current version number<br>4. Airline Profile Receiver sends an acknowledgment message |
| Data elements for Airline Profile Notification | All data elements of the appropriate profile or a link |
| Data elements for Airline Profile ACK | Reception status, Profile version number |

## UC 2.0: Airline Profile Receiver Makes RQ – Pull model

| | |
|---|---|
| Use Case Name | Airline Profile Receiver Makes RQ |
| Actors | Airline Profile System, Airline Profile Receiver System |
| Description | Airline Profile Receiver system makes Request to Airline Profile to determine if query qualifies as NDC for that particular airline |
| Preconditions | Airline Profile Receiver is approved |
| Precondition Use Cases | |
| Post conditions | Airline Profile Receiver gets Airline Profile dataset as a response |
| Assumptions | |
| Normal Course of Events | 1. Airline Profile Receiver system sends AirlineProfileRQ to Airline Profile System<br>2. Airline Profile System checks source and sends current and appropriate (ie corresponding to the Airline Profile Receiver) profile via AirlineProfileRS |
| Data elements for AirlineProfileRQ | IATA code, PCC code (ie identification variables) |
| Data elements for AirlineProfileRS | All data elements of the appropriate profile or a link |