Subject: NDC Identity Management Business Requirements
Submitted by: LX (for LHG), BA, AY and IATA Management

Background
At the June 2018 PDMG meeting, airlines reiterated the importance of finding a solution to address the challenge where each airline identifies the same agent differently. This makes onboarding agents a bottleneck to scaling NDC. It also has an impact on aggregation and interlining.

IATA currently provides codes for accredited agents and proposed to transform the current Travel Industry Designator (TIDS) to make it a Standard Travel Intermediary Identification Program.

- The gateway to Industry participation (not limited to IATA accredited participation)
- Grant a code to all Industry Stakeholders
- Code assignment no longer based on segregation IATA accredited vs. non IATA accredited agent as it is no longer representative of the new “state of our industry”
- Accessible to non-agent players (such as reservation intermediaries and service providers in the NDC world)

The PDMG endorsed the use of TIDS to address the challenge where each airline identifies the same agent differently (non IATA accredited agents).

The PDMG also endorsed further work to address other aspects such as dealing with mass onboarding of agents, agent authorization etc. This document reflects requirements captured from 3 Leaderboard airlines/groups (AY, BA, LHG).

Business need
Establish an industry-wide approach to identify and enable authentication of all parties involved in a distribution chain (including accredited and non-accredited agents of airlines and other parties) and industry-wide approach to identification of corporates.

This will allow airlines to streamline and automate authorization processes such as automatic enrollment of agents (APIs) or distributing offers specific to agents and corporates they serve; and measure agent performance irrespective of the channel they use to interact with airlines. It will also allow agents and other parties (aggregators, SMEs, OTAs ...) in the distribution chain to simplify the set-up and commercial processes with airlines.

Detailed business requirements are shown in the attached.
Proposed solution

The proposed solution assumes the introduction of global identification of parties involved in the distribution of airline services. The solution will be implemented progressively, starting from existing industry capabilities.

- In Stage 1, consistent with the above PDMG decision, parties in the distribution chain will be identified by either IATA Agent numbers or IATA TIDS numbers (both part of the same numbering scheme).
- In Stage 2: a global scheme will be introduced to identify parties in the distribution chain to one additional level of granularity. This additional level of granularity will serve to serve to further identify entities within those parties.
- Stage 3 will involve identification and implementation of a technology solution to facilitate modern identity management practices based on digital cryptography.

Details of the requirements as well as an initial outline of a proposed technical solution are shown in the attached.

Proposed action

The following actions are proposed as next steps:

1. Implementers to provide additional input (via Implementation Forum)
2. Shop-Order Board to validate the business requirements identified in the enclosed document.
3. ATS Board to note the activity and provide architectural guidance.
   a. Specifically, its Technology Architecture Group is requested to validate the outline of the proposed technical solution and provide assistance when addressing any open questions.
4. IATA Management (product team) to conduct preliminary feasibility study and revert with the results.
5. Once the above is completed, it is recommended to establish a combined project team (Shop-Order Board, ATS Board and IATA Product team) to continue detailing the plan.
NDC Identity Management Business Requirements and Solution Outline

Objective
Establish an industry-wide approach to identify and enable authentication of all parties involved in a distribution chain (including accredited and non-accredited agents of airlines and other parties) and industry-wide approach to identification of corporates.

This will allow airlines to streamline and automate authorization processes such as automatic enrollment of agents (APIs) or distributing offers specific to agents and corporates they serve; and measure agent performance irrespective of the channel they use to interact with airlines. It will also allow agents and other parties (aggregators, SMEs, OTAs...) in the distribution chain to simplify the set-up and commercial processes with airlines.

In scope
- Identification of all business parties involved in the airline distribution chain. This includes corporates.
- Identification of entities within those parties, where more granularity is required for the purpose of granting authorization to access or receive specific information, or for analysis of commercial performance.
- Identification is required to facilitate commercial authorization decisions.

Out of scope
- End point addressing to distribute notifications to agents or other parties in the distribution chain
- The solutions for making technical and systems authorization decisions (that may be derived from the commercial authorization decisions) are not being addressed.
- Identification of the individual traveler

Key terms
- **Identification**: ability to identify the parties involved in a given transaction (and what role they are playing)
- **Authentication**: ability to validate that the party is who they claim to be.
- **Authorization**: ability to grant permission to access something (see an order, request a change) or receiving something (receive a specific offer). Note: Authorization decisions are always with the airline, objective of this exercise is to enable airlines making such decision)
Sample Use Case
[@airlines, we recommend to include a concrete scenario, a few paragraphs with a specific user story taking it from onboarding of an agent, through offer creation and sale up to a duty of care intervention for a specific traveler (not a generic process).

Business requirements
Requirements below are shown as a numbered list of individual statements made by or validated by business users and business user priorities. They may be grouped for convenience but there is no specific analysis or structure implied.

<table>
<thead>
<tr>
<th>ID</th>
<th>Group</th>
<th>Requirement</th>
<th>Priority</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identification</td>
<td>Identify IATA accredited agency (could be branch)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Identification</td>
<td>Identify agency not accredited by IATA (could be a branch)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Identification</td>
<td>Identify non-IATA accredited agency but authorized to act on behalf of an IATA accredited agency the agency (consolidator)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Identification</td>
<td>Consolidator involved in the transaction</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Identification</td>
<td>Identify linkage of an Agent to Consolidator entity</td>
<td>COULD</td>
<td>This may be included in the message rather than this solution</td>
</tr>
<tr>
<td>6</td>
<td>Identification</td>
<td>Identify customer-facing party involved in a transaction</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Identification</td>
<td>Identify airline-facing party involved in a transaction</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Identification</td>
<td>All intermediaries involved in a transaction between airline and traveler</td>
<td>COULD</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Identification</td>
<td>Identify all parties in the distribution chain where commercial agreement with ORA exists</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Identification</td>
<td>Identify Corporate being served</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Identification</td>
<td>Identify TMC involved in a transaction</td>
<td>MUST</td>
<td>Must be known in set-up (and linked by airline to corporate being served)</td>
</tr>
<tr>
<td>12</td>
<td>Identification</td>
<td>Identify an entity of party (seller, agent) which has a specific role or requires a specific privilege (e.g. plays a TMC role and can serve corporate A, B and C, can ticket but cannot book)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Identification</td>
<td>Identify OTA involved in a transaction (if it is not a seller)</td>
<td>COULD</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Identification</td>
<td>Identify OTA involved in a transaction (if it is a seller or the last participant)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Identification</td>
<td>Identify OBT involved in a transaction (if it is the last participant)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Identification</td>
<td>Identify aggregator or NDC services provider (if it is the last participant)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Identification</td>
<td>Identify service provider (like a limo driver)</td>
<td>COULD</td>
<td>Next stage should cover identification of services providers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(airlines without codes, hotels, rail, and other)</td>
<td></td>
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<tr>
<td>---</td>
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<td>---</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Identification</td>
<td>Identify the individual traveler</td>
<td>N/A</td>
<td>Not in scope of this project</td>
</tr>
<tr>
<td>19</td>
<td>Identification</td>
<td>Identify the geographic location of the seller</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Consistency of identifiers</td>
<td>Ensure the identifier of parties is consistent across the industry (same code for same party uses by all)</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Consistency of identifiers</td>
<td>Ensure the identifier of entities within parties (departments or functions) is consistent across the industry</td>
<td>COULD</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Consistency of identifiers</td>
<td>Ensure the identifiers of corporates is consistent across the industry</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Consistency of identifiers</td>
<td>Ensure the identifiers of entities within corporates (GEOS/functions/departments) is consistent across the industry</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Consistency of identifiers</td>
<td>Identify individual travelers consistently</td>
<td>N/A</td>
<td>Not in scope</td>
</tr>
<tr>
<td>25</td>
<td>Authentication</td>
<td>Allow the airline to authenticate the last participant in a transaction</td>
<td>SHOULD</td>
<td>Authentication is an advanced feature of the target solution, not MVP. Airline can use other means to authenticate.</td>
</tr>
<tr>
<td>26</td>
<td>Authentication</td>
<td>Allow the airline to authenticate the seller in a transaction</td>
<td>SHOULD</td>
<td>Authentication is an advanced feature of the target solution, not MVP. Airline can rely on last participate to conduct the authentication</td>
</tr>
<tr>
<td>27</td>
<td>Authentication</td>
<td>Allow the airline to authenticate all parties involved in the distribution chain</td>
<td>COULD</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Confidentiality</td>
<td>Ensure that certain part of the offer (such as commercially sensitive information) is only visible to those parties in the distribution chain authorized to see it</td>
<td>SHOULD</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Enabling business functions</td>
<td>Allow the airline to on board parties involved in distribution chain and configure their authorization on using the “entity” level.</td>
<td>MUST</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Enabling business functions</td>
<td>Ensure the offer is returned only to the parties that requested it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Enabling business functions</td>
<td>Ensure the offer reflects the contractual agreements associated with parties involved in the distribution chain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Enabling business functions</td>
<td>Ensure the order is retrieved only to the parties that are involved in it</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Notes

- “Seller” is the party displaying the offer to the customer.
- “Last participant” is the party receiving the information directly from the ORA
- All parties referenced below are parties involved in the distribution chain of a given transaction at the time when they need to be identified.
- MUST – Target solution is not valid if this requirement is not supported.
- SHOULD - Target solution has substantially higher value for the market if this requirement is supported
- COULD – Nice to have. Alternative solutions outside the scope of this document may exist.
- N/A – Not applicable in the context of this project. Requirement mentioned during sessions but recognized as not applicable in the context of this project. Captured to demonstrate it was considered and to facilitate future revision/extension

Conceptual solution

Assignment of identifiers

The conceptual solution assumes the existence of industry identifiers for two types of parties (Party in the distribution chain and Corporation).

These identifiers are globally unique. Assignment of those identifiers is managed by a single identity management organization. Identifiers are assigned on the basis of globally agreed criteria. Identifiers can be removed or invalidated if the party no longer meets the criteria.

All airlines can access the information about the party’s assigned identifiers and validate at any point in time whether the assignment is valid. Whether or not such identifiers coexist in the same “range” is not addressed here.

Party in a distribution chain and an entity within a party

Once a party is assigned an identifier, they can create a number of units associated with this identifier. These units may designate specific roles and business processes. The meaning of units will remain confidential to the party creating such entities. Their sole purpose is to facilitate authorization decisions by airlines.

During onboarding, airlines will assign the “meaning” to the entities so that their systems can perform commercial authorization decisions (what commercial agreement to apply, what entity can access what order).

For backwards compatibility, these entities could be also mapped to the current PCCs used by some airlines and systems. In any case, this information would only be visible to the owner of the identifier and airlines or systems that assigned a ‘meaning’.
Corporation and an entity within a corporation

Similar principles apply. However, to facilitate interlining, it is important that Corporates use the same entities with all airlines.

Performing authentication and facilitating authorization

Current business requirements discussion identified a need for a more advanced technology solution to facilitate authentication of identified parties. It is assumed that such a solution would be combined.

Progressive implementation roadmap

Stage 1:

- Use current IATA accredited agent numbers and Travel Industry Designators (TIDS) numbers to identify parties involved in the distribution chain.
- Lower level granularity is not addressed.
- Identification of corporates is not addressed.

Stage 2:

In Stage 2, a global scheme will be introduced to identify parties in the distribution chain to one additional level of granularity. This additional level of granularity will serve to serve to further identify entities within those parties. [Requirements in this document]

Stage 3:

Stage 3 will involve identification and implementation of a technology solution to facilitate modern identity management practices based on digital cryptography.
NDC Identity Management Business Requirements – Use Cases

FINNAIR

Use case: IATA travel agent (offline, leisure) connects via NDC aggregator

Identification of both NDC aggregator and seller/agent is important but does not happen at the moment.

Onboarding of an IATA travel agent (offline, leisure) connecting via NDC aggregator involves participation of the NDC aggregator in question:

1. Agent contacts NDC aggregator to get access to airline NDC content.
2. NDC aggregator makes an agreement with the agent and gets approval from airline to open access to their content.
3. IATA number and PCC reserved for the NDC aggregator are used for distribution of the content (current state).

In Shop and Order phases:

1. The agent logs in the NDC aggregator's selling platform with their ID (assigned by the NDC aggregator).
2. ID used is validated by the aggregator.
3. The agent requests offers as according to pax types and the airline returns offers as per the request. The agent’s industry defined unique identifier needs to be passed to the airline in the request.
4. The NDC aggregator displays airline's returned offers including special fares for the particular agent based on the identifier (based on fares filed in ATPCO / current state).
5. The agent selects an offer matching the customer needs and proceeds to book by adding pax details.
6. The agent requests final price/pax type (OrderCreateRQ).

Order Creation and Settlement phase:

1. The agent inserts customer details to create an order and proceeds to payment phase,
2. Form of payment credit card is used (ref. payment platform), settlement outside of BSP,
3. Batch reporting to NDCLink, sales recorded to NDC aggregator, no link to agent/seller,
4. PRA system recognizes the sales as per IATA number and PCC reserved for the NDC aggregator (no agent/seller level identification yet available).
Leisure Distribution Flow Scenario 2 (Complex)
Customer search on OTA, tickets issued with Consolidator, content from Aggregator

Players in the distribution chain:
- TRAVELLER
- MSE
- OTA
- CONSOLIDATOR
- AGGREGATOR
- AIRLINE

Identification and Onboarding:
- Personal Info
- PCC (new)
- IATA Number
- PCC
- Channel Identifier (e.g. P1)
- Airline Codes (LH, DL, LX, SN)

PCC Setup
Initial certification

This is a sample case containing possible involved parties. Distribution chain can easily differ in real scenarios depending on the solution needed.