Baggage Information Exchange (BIX)

Guidance Document

Baggage management is rapidly evolving, with new processes being continuously introduced. The current messaging standards, which have been in place since 1985, do not provide an easy way to support baggage system integration and innovation. Baggage message failure or rejection are one of the major causes of baggage mishandling.
New standards of Baggage messaging are being implemented based on IATA Airline Industry Data Model (AIDM), making it easier for the Airlines, Airports and Baggage handling vendors in the industry to understand and communicate baggage information with clarity.

What is the new messaging standard?

Baggage Information Exchange (BIX), the new messaging standard, uses the AIDM as a basis for constructing Baggage Messages using a business capability language, e.g., XML (Extensible Markup Language), JSON (JavaScript Object Notation) or other equivalent languages. The new messaging standard is also used in other areas outside the Baggage world, e.g., NDC and Cargo. BIX also defines the mode of communication for exchanging messages in a more secured and standard way to keep up with current and evolving IT systems.

Why do we need BIX?

A messaging system with well-defined and extensible standard is fundamental building block for disparate systems across the industry to work coherently, efficiently and continuous enhancement. The salient features of messaging system include transparency, ease of understanding, avoiding misinterpretation and to be able to selectively distribute and process without impacting operations, performance and availability of autonomous systems.

What are the advantages of BIX?

- **Reduce cost of messaging**: The new messaging standard will enable the use of modern, scalable and low-cost, cloud-based infrastructure and services to reduce the per-transaction cost of messaging. Furthermore, it provides a human readable, version-controlled data structure which is simpler to work with than its predecessor.
- **Improve data content**: The new messaging standard allows new passenger services and functions by including more data content than its predecessor and providing greater access to the data. New data could be introduced faster by evaluating on experiment basis, between two or more interested parties and share the stats of pros & cons with the BWG committee for approval.
- **Reduce complexity**: The new messaging standard significantly reduces the number of different message formats and a creates a drastically simpler way of determining what the message format is, resulting in connected systems that are more reliable, and economical to maintain and enhance.
- **Improve resilience**: The new messaging standard would improve the resiliency of baggage messaging by ensuring that any failures are localized to system affected, easily recoverable with minimum impact to the dependent systems. This occurs because BIX replaces communication via a central authority with communication via multiple point-to-point connections.
- **Improve security**: Current messaging lacks data security, while the new messaging standard can provide end-to-end encryption and signature of data exchange to ensure the security and authenticity of the information.
- **Enabling new product offering**: There is an additional range features and attributes in the new messaging standard for end-to-end bag journey solutions, e.g. arrival tracking, baggage pre-clearance, mishandled bag image recognition, passenger applications etc.
- **Backward compatibility**: Introduce new fields and formats with flexibility to keep current and old formats allowing systems at slower pace to catchup. Systems could produce and process messages selectively without any impact to new or modified fields.

What shall be taken into the consideration when implementing the new messaging standard?

- During the transition period when both 1745 and 1755 standards co-exist in the industry, message conversion solutions (between 1745 and 1755) serve the purpose to exchange the information between these heterogeneous standards.

Where can I find out more?

- IATA Recommended Practice 1755 Baggage Logistics and Conformance Event Services (part of IATA PSC Manual)
- XML Schemas available for download from www.iata.org
- Baggage XML extranet: https://www.iata.org/whatwedo/ops-infra/baggage/Pages/baggage-xml.aspx (Registration) - 1745 to XML Mapping guidelines, Case studies, Pilot Results
- IATA Baggage Information Exchange sub-group is working on the Baggage new messaging standard Implementation guide available as of Q2 2019