

Impact of NDC on Distribution Processes and Architecture



A thought paper from ITC Infotech's
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Summary – The switch from EDIFACT to XML and JSON

New Distribution Capability (NDC) is rewriting the future of airlines and is not limited to mere incremental value addition. Quite clearly, distribution processes need to acquire an 'active' status, moving away from inflexible distribution procedures that are presently reactive or responsive in nature. Processes that are inter-related in the distribution network need to be pro-active, and accommodate not just the passengers, but the changing needs, for the all-important 'differentiators' required to cruise through the headwinds of competition. The changes in distribution in the past have largely been incremental, rather than fundamental. NDC is neither fundamental nor incremental, but an unfettered game changing transition to a standard, where possibilities exist for reining in expenses and opportunities can be capitalized for sustainable profits owing to revenue diversification through technology driven innovations. Unshackled by the limitations of software or hardware, this XML standard offers flexible options to create and share information in desired formats.



Highlights from industry performance in 2017

Buoyed by rising demand, airlines have emerged out of a downturn, with strong financial performance. Shadowing the rising fortunes of airlines are challenges that need to be tackled to prevent the good run from going south. Globally, demand has risen by a whopping 7% YoY, touching a staggering 4 billion pax in 2017. Similarly, cargo movement swelled by 9.1% YoY as airlines enjoyed a healthy 8.1% earnings before taxes. On the other hand, external challenges such as sluggish global GDP growth rate, and rising crude oil prices, offer headwinds.

Evolving competitive landscape has kept airlines on the toes, with low cost carriers (LCCs) becoming mainstream carriers across the globe, and ultra, low-cost carriers (ULCCs) mushrooming in US/ Europe. LCCs account for 28.9% of global capacity, and even higher at 40% in Europe . This underscores the compelling pricing advantage that LCCs enjoy vis-à-vis legacy airlines. It necessitates traditional, GDS-based airlines to actively explore revenue diversification strategies.

Barometer of change – the dynamics of sales channels

The dynamics of sales channels offer interesting insights. Sales figures by channels need to be interpreted in the context of the emerging needs of passengers on flights—the figures cannot be read in isolation. Personalization holds a mirror to the future of sales channels, and the figures will witness a dramatic slide if differentiated customer experiences are not rolled out.

Direct sales by airlines netted 40% of overall sales and come with the opportunity to offer personalized experience to passengers on flights. Global Distribution Systems accounted for 60% of all sales but come with the disadvantage of being unable to distinguish and identify specific needs of passengers to offer personalization.

Google and the OTA have been acknowledged as having a significant role in sales, much to the discomfort of airlines, as they lose control over relationship with passengers. The future of the sales figures will hinge to a very large extent on how each channel offers better personalization options. This will swing the figures in the future more than any other aspect. To put it differently, competition will ensure that airfares of different airlines will remain similar. This will turn the focus on personalization as a driver of sales in the future, more than other factors.



NDC – the new discourse emerging from the inertia of distribution channels

Despite the glamour of aviation, airlines have been unsuccessful to a large extent in presenting brand differentiators. Apart from the social recognition behind brands, notions and perceptions about actual services are difficult to shake, mainly due to the similarity of service offerings within the full-service legacy model. It is hard for a flyer to distinguish how one airline differs from the other, while the opposite may be true. This is where NDC will have an impact, showcasing signature features of airlines through

the dissemination of rich content to passengers. The availability of information at the right time will help passengers to take a decision, after the necessary rounds of comparisons, tradeoffs and factoring other individual requirements. NDC will be the conduit for airlines to reach out to passengers via indirect sales channels, to cross-sell services, and target 60% of untapped sales volume.

The problem of plenty transforms into plenty of problems

Presently, air ticketing faces a unique problem—a problem of plenty. Globally an average traveler browses through 22 websites before making a purchase decision for an air ticket. This is not just a reflection of the number of competitors and the possible price point differences, but on a more practical perspective, passengers rarely, if ever, find all the information that they seek from the third-party websites. This problem of plenty effectively turns into plenty of problems, leaving air travelers befuddled for a considerable period leading up to the transaction or purchase of tickets. By virtue of being an overarching platform, NDC offers travelers the perfect blend of options to meet pricing preferences. Pain points in existing systems come with deeply

entrenched processes, which effectively mean that any efforts to bring about cosmetic changes of offering passengers greater choice are likely to result in additional complications. However, true customer experience will remain a mirage if customers are not offered the experience they seek. The IATA commissioned study showed that as much as 38% of business travelers and 41% of leisure travelers looked forward to an easy shopping experience. This effectively sets the broader mandate—the need for a system that disseminates information while offering options for travelers in making travel related arrangements.

2. <http://www.iata.org/pressroom/pr/Pages/2012-12-13-02.aspx>

3. <http://www.iata.org/pressroom/pr/Pages/2012-12-13-02.aspx>

4. <https://www.iata.org/whatwedo/airline-distribution/ndc/Documents/ndc-future-airline-distribution-report.pdf>

Unveiling seven high impact areas of NDC

The solution centric NDC will inject greater efficiency and streamline processes in different phases of the transaction lifecycle. Seven areas where NDC will help airlines to re-imagine offerings with better strategies by leveraging the platform and technologies are:

Shopping



By offering API connectivity, NDC offers airlines a deal clinching opportunity to share complete information about the flight and ancillary services –extra legroom, comfort class upgrades, extra baggage fees and meals. And this will be made available from a single source. Effectively, this offers options for greater personalization for individual travelers based on identities, nature of travel –business/leisure and frequency of travel. This personalization offered through the single source for content eliminates the need for travel agents to spend more time on transactions. And for the travelers, it translates into high speed bookings, where personal preferences are factored in automatically, based on transaction/ flying history.

Booking



As a data communication standard between various stakeholders in the distribution process, this XML standard will permit airlines to disseminate all information, by bridging connectivity between airlines and travel agents. Travel agents will receive access to all information about products of airlines', including important information that was unavailable earlier to all. Travel agents earlier had to take a circuitous route to seek and share information regarding rates for baggage, privileges during boarding and pre-assigned seats. NDC cuts a direct path for travel agents to connect with airlines API, receiving all information about transactions in a single window.

Payment & tracking



The standard functions as an enabler for airline distribution and payment, lending a technology driven modern touch to the transaction. Newer and alternative forms of payment are now accepted, fraud prevention measures are subsumed by the standard, and card processing is enhanced. NDC helps modernize ticketing and delivery process through PNR and e-ticket, the latter offering validation of payment and a system to track delivery. The standard permits sellers to transmit all transaction details to Airlines which fulfill obligations

of regulatory compliance. And airlines benefit from the ability to rely on standard payment processes, despite other different and disparate methods of payment collection by the travel agent(s).



Document issuance

NDC will transition from EMD (Electronic Miscellaneous Documents) which had more of a scattershot effect in the earlier systems to a more standardized and properly coded documentation. The standard permits transmission of relevant documents to the travel agent on processing of payment. This also immediately facilitates the clearance of payment from banks, without the need for settlement from the seller. The unified standard offers relief in an ecosystem that is riddled with the complexities of different tools, data sets and disparate processes relied on by various stakeholders. This single system will seamlessly integrate all stakeholders with standardized transmission codes, lending greater clarity to the transaction in addition to speeding up the process.



Servicing

In addition to the elimination of barriers, NDC empowers airlines to permit travelers to make changes on-the-go. The retail focused approach means that travelers can supplement their purchases with additional services and products. This option of a la carte bookings of services and products greatly enriches the travel experience and has been made possible largely due to the streamlined flow of data and rich content. Travel agents can now conclude the bookings of pax, by accommodating requests for change by the travelers or modifications in the bookings. This simplified option permits travelers to slice and dice their choice of products, ancillary offerings, while allowing travel agents to communicate and conclude the transactions successfully, by factoring in all changed requirements.



Interlining

Dispensing with the need for bilateral prorate arrangements, NDC offers airlines the channel to seek and receive information about payments that need to be settled for participatory effort in helping to fulfill the needs of a traveler through interlining. This effectively means that airlines can instantly transmit a message, a request for

information about the interlining requirement and receive a confirmation with quote for the service. This moves the interlining settlement from back end operations, and gives stake holders a clear picture, removing the need for separate prorate arrangements and settlement mechanisms. This liberates airlines from tedious processes and throws open interlining arrangements with all airlines in a smooth, transparent, seamless and efficient manner.

NDC – wooing customers with better experiences

NDC helps airlines and travel agents to target their prospects and customers better with contextual and rich content, which will offer the customers a chance to make a comparison, supported by contextual information. This effectively means that customers will now be able to view the different offerings across parameters such as price, ancillary offerings, points that can be earned, and other privileges that come with a particular flight and cost. This effect of wooing customers translates into better revenues for airlines. As a consequence of retail focused approach, airlines offer travel agents and their customers to shop easily. By removing barriers

during the transaction process, airlines and travel agents will find it easier to conclude transactions. Orders get processed seamlessly and fetch airlines payments in a more transparent and efficient manner. The faster settlements translate into better cash flows, helping manage costs and operations better. With streamlined interlining, airlines will find it easier to fulfill the needs of travelers, without having to enter into separate prorate arrangements with one or multiple airlines. A simple upfront transmission of request over the NDC standard will transparently handle the requests and offer clarity on the participatory effort and costs.

Migrating to NDC standards – the requirements in architecture and processes

The switch to the NDC standards mandates a change in architecture and processes followed by airlines. There are caveats for migration and airlines need to be ready to make the changes. Different stakeholders are certified on three different levels in the NDC Registry maintained by IATA – Level 1, Level 2 and Level 3.

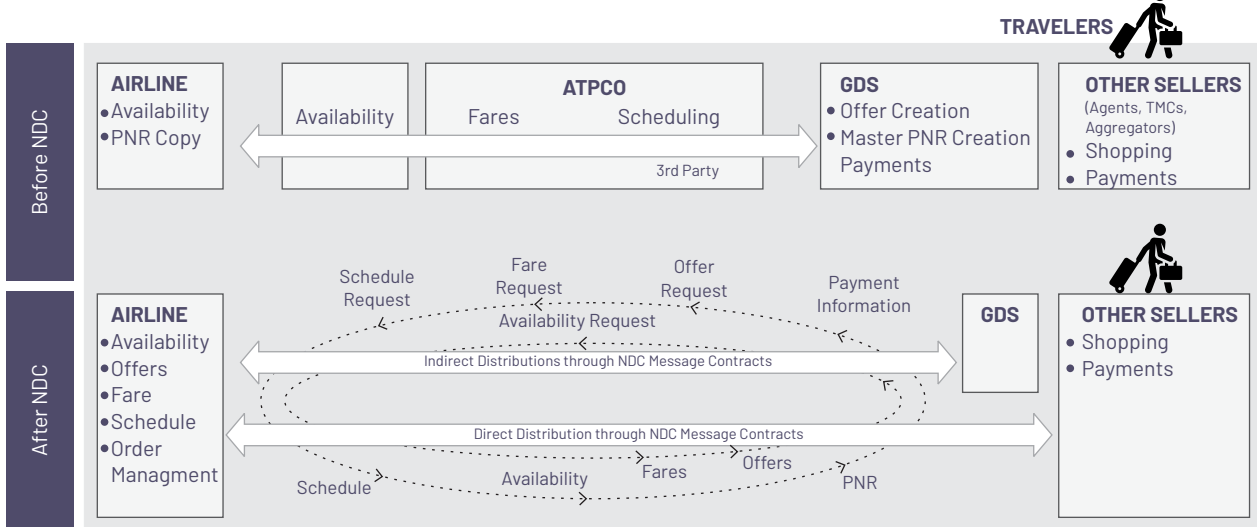
Level	Functionality	Description
Level1	Post booking ancillaries Airline Profile	Implementation of APIs baggage allowance, baggage charges, Baggage list, seat availability, service list, service price, Airline profile notification and airline profile
Level2	Offer Management	Implementation of APIs for airline shopping, order, and servicing
Level3	Offer and Order Management	Air shopping, order create and order view

Airlines need to upgrade architecture from the outmoded Passenger Service System (PSS) centric to NDC standards and the legacy IT systems need to be upgraded to Application Programming Interfaces (APIs). The need is to build solutions that conform to a universal standard, which is a lot easier than building and then trying to integrate or find compatibility. The architecture needs to be overarching, and open ended to support various facets of the retailing experience. For instance, the architecture needs to support sales driven, flight purchase process fully –

Booking, Payment & Ticketing, Servicing, Interlining and Ancillary Services. This means that the architecture should come with capabilities of supporting shopping, offer management, order management, servicing, interlining as well as B2B, B2C and B2D interfaces. This needs to be built in a manner that will permit it to be intermeshed smoothly and seamlessly with GDS and OTAs. Capability of the architecture needs to be scaled up to handle more volumes as a result of more message transmissions to and from the network.

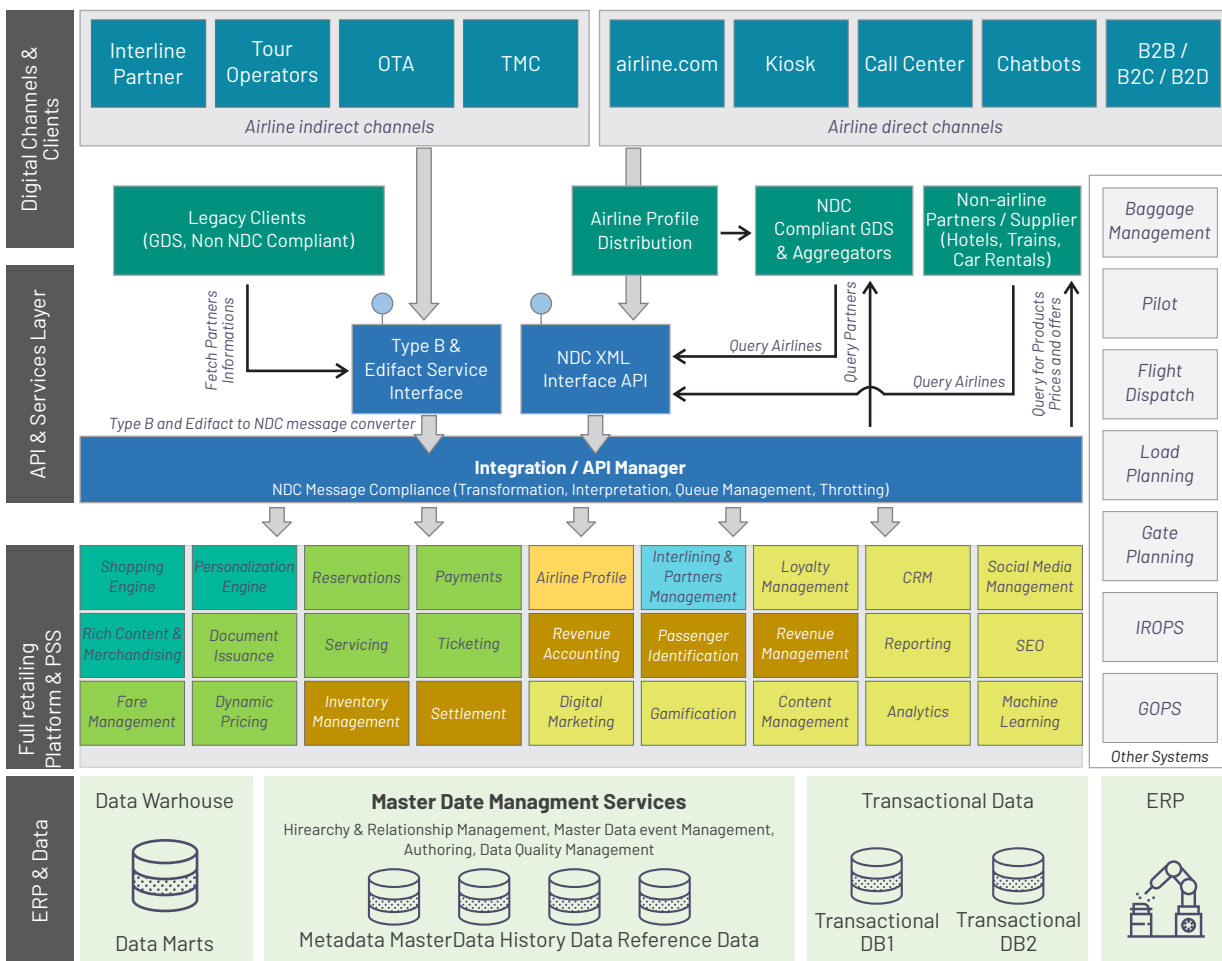
Airline distribution in pre and post NDC standard

Migrating to NDC standards – the requirements in architecture and processes



Typical NDC architecture of airlines with full retailing platform

Migrating to NDC standards – the requirements in architecture and processes



Legends

- NDC Shopping & Offer Management
- NDC Order Management
- Legacy PSS & Operational Systems
- Services & Interfaces
- NDC Airline Profile
- NDC Interline
- Customer Engagement
- ERP & Data
- Legacy Clients
- Systems of engagement
- Other Airline Systems



ITC Infotech and NDC

As a key player in the operations enablement scene, ITC Infotech leverages the convergence of native experience in airlines, retailing and API management to help stakeholders migrate to NDC architecture and build solutions that will seamlessly function with that of other entities in this game changing platform. ITC Infotech offers end-to-end NDC migration services and Enterprise Architecture Consulting. Our proven experience and transformation success stories stem from our unrivalled experience in PSS, e-Commerce, Loyalty Management, Master Data Management. Our proprietary Digital Transformation Readiness Assessment Framework helps us to look beyond existing architecture, going granular into various facets of enterprises, to evaluate the intrinsic readiness of an organization, to make the switch to elevated standards.

Digital Transformation Readiness Assessment is an exercise driven by comprehensive framework based on our understanding of digital priorities in airlines industry, powered by a technology discovery and assessment platform that allows identification of key gaps towards DigitalGoals of the enterprise.

About ITC Infotech

ITC Infotech is a specialized global full service technology solutions provider, led by Business and Technology Consulting. ITC Infotech's Digitaligence@work infuses technology with domain, data, design, and differentiated delivery to significantly enhance experience and efficiency, enabling its clients differentiate and disrupt the business.

The company caters to enterprises in Supply Chain based industries (CPG, Retail, Manufacturing, Hi-Tech) and Services (Banking, Financial Services and Insurance, Airline, Hospitality) through a combination of traditional and newer business models, as a long-term sustainable partner.

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