



NDC: Reshaping legacy
business models and beyond

Abstract

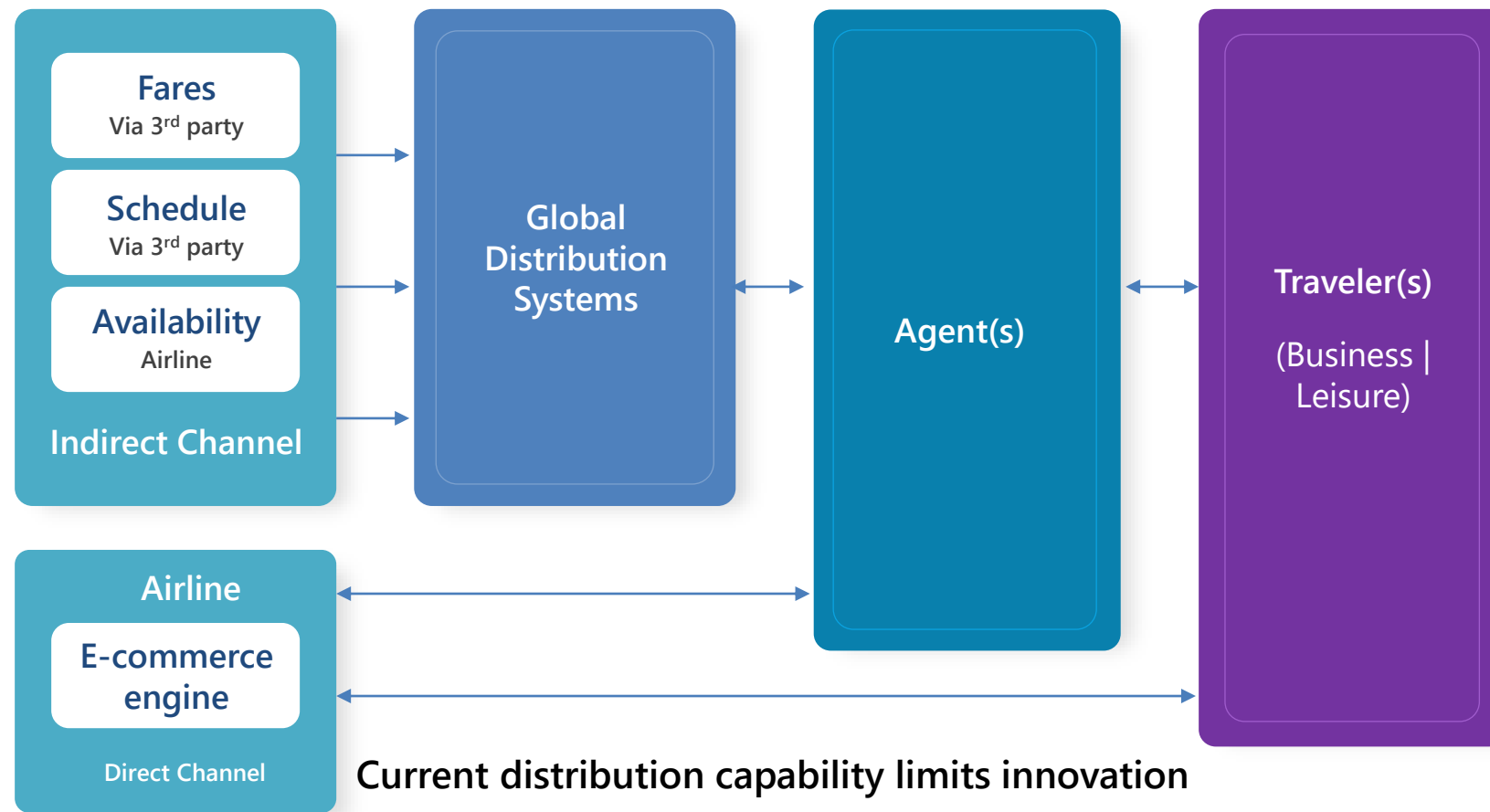
In the evolving and demanding business environment, the aviation industry was not left far behind to feel the heat. The radical changes in the aviation industry due to the low-cost business model and the rising oil prices put massive pressure on the network carriers to reduce their costs. As a result, these carriers looked for cost-cutting potentials in all the business segments. One of the biggest cost blocks they were facing was the distribution costs, especially the costs of the **Global Distribution Systems (GDS)**. This called for an evolved strategy, one that not just leverages emerging technologies but also renews existing processes and systems on the go - **New Distribution Capability (NDC)**.

This Whitepaper is aiming to provide insights into the opportunities that NDC brings in delivering seamless experiences to 'lead your now' plan of recovery and shaping your future beyond the pandemic.

Airline Distribution Overview

The process of distribution in the airline business was fairly a straightforward affair. Direct distribution required the customer to directly make the booking from the airline's website. Everything else in terms of Internet sales was considered third-party which came with a cost.

Flight Distribution today



From GDS to NDC – looking forward to the next-gen development

Back in the days, the travel industry heavily relied on Global Distribution Systems (GDS) to aggregate content, combine airlines schedules, fares, and to make all this information available for travel agents. This meant bookings were made through indirect channels that barely supported personalization and customization. This system lacked the provision to showcase the airline products.

With digital transformation taking precedence, things have changed drastically. For an airline business, creating personalized travel experiences is the epitome of being customer-centric. The need to engage technological capabilities demanded this industry to be more innovative and to meet the demanding needs of customers in terms of knowing the price, the value of the product, **IATA introduced the New Distribution Capability (NDC) in 2012 to handle the limitations of GDS.**

NDC is an XML standard created by the International Air Transportation Association (IATA) to allow airline service providers to deliver rich content and ancillaries to their customers. To understand it better, NDC is a communication protocol aimed at replacing the old EDIFACT protocol, that has been around since the 1980s and used by GDSs. NDC has been introduced to solve limitations of the existing programs in the distribution system and to represent the modernization of future air travel distribution.

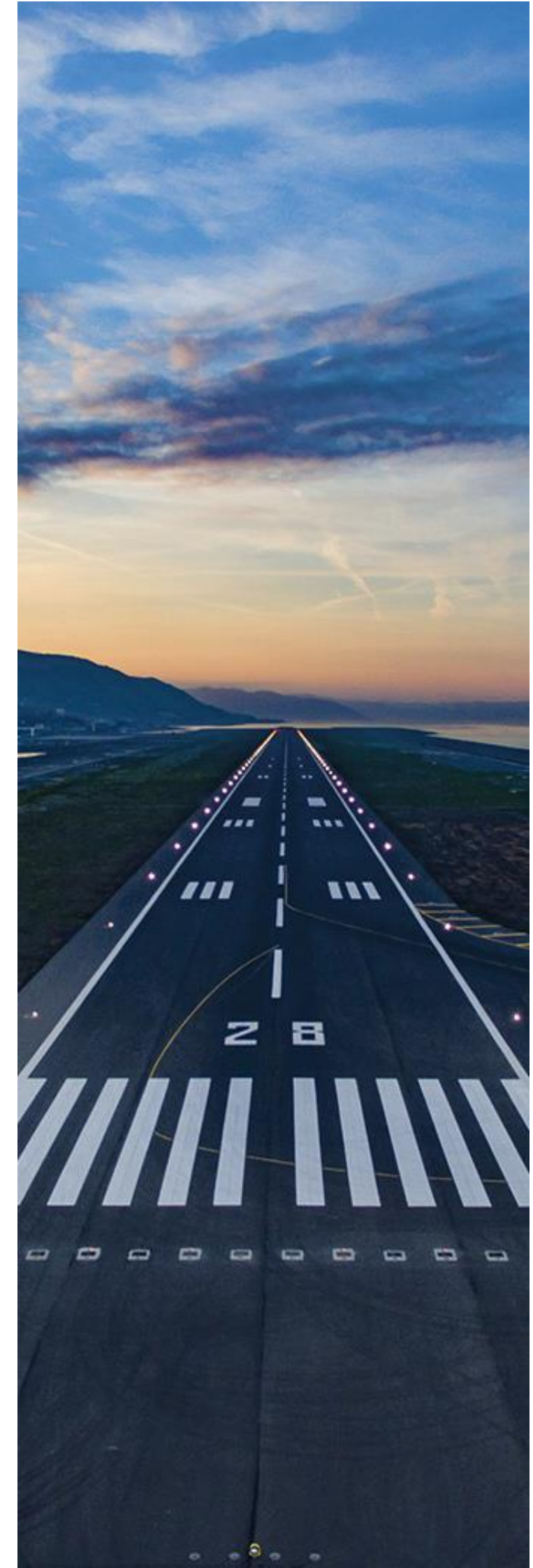
With NDC, airlines can now present a standardized format that provides brand differentiation, personalization and accelerated promotion response times.' Source IATA

NDC Certification. Messages Required

NDC Certification as of March 2019



NDC-Certified: Airlines, Sellers, Aggregators



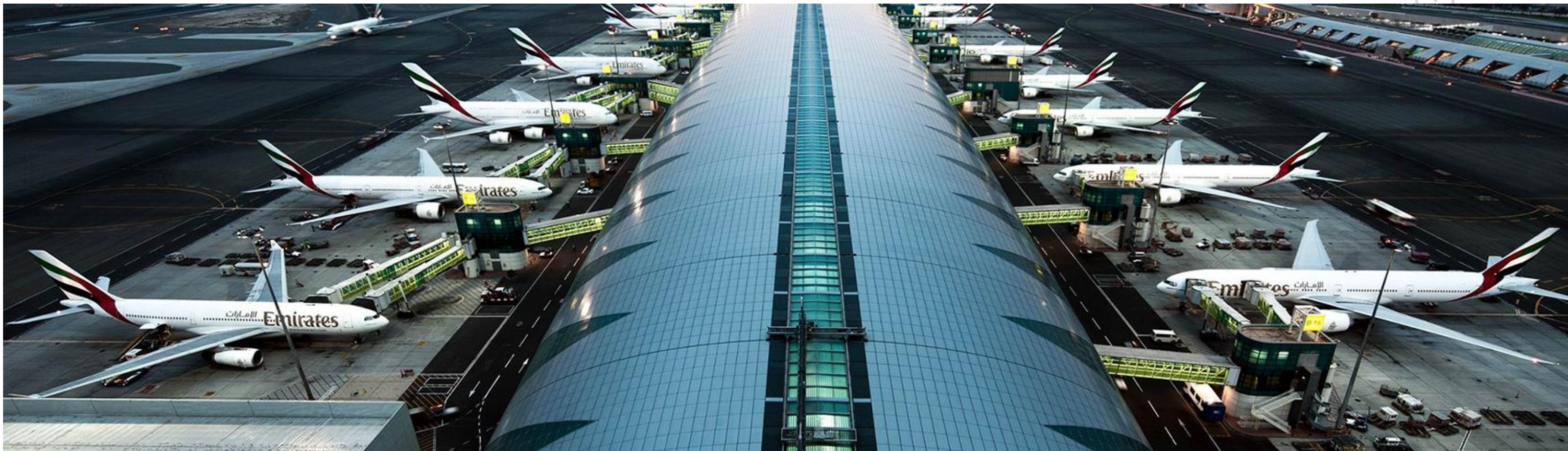
GDS Vs NDC

Global Distribution System (GDS)	New Distribution Capability (NDC)
GDS distributes fares to its user base loaded by a third-party. It has a standard format	NDC is distributed directly by the airline
Cost to the airline is about \$12 for a segment booked	Cost to the airline is about \$5 for a segment booked
Data transition is based on EDIFACT message	NDC is an XML-based data transmission standard promoted by the International Air Transport Association (IATA)
GDS is a computer System	NDC is a message set

Influencing growth with NDC

At Cybage, powered by NDC, we enable you with the capability to transform your business model and influence growth. The NDC standard encourages innovation with greater flexibility, scalability, and time to market. Through this, you can present a uniform format that provides brand differentiation, personalization, and accelerated promotion response time.

As the industry moves beyond the global crisis, NDC opens new opportunities of renewed safety, security, and hygiene along with dynamic pricing. The model can also be extended to the safety and security products that will become a necessary measure in a post-COVID-19 world, especially when it comes to gaining the trust of your customers.



Renewing Opportunities

NDC is a resilient standard that lets you converge data from multiple sources to improve personalization, this data provides rich customer insights can renew opportunities in two key areas of the travel industry.

Distribution Channel

We are in the midst of an industry renovation. This phase has highlighted several optimization opportunities for suppliers and direct sellers of the distribution channel, actual suppliers of travel and leisure inventory, and travel agents alike.

Information Assets

And while the industry owns a wealth of data from customer interactions, the data often does not deliver any business value. This useful information is usually straddled across reservation and loyalty system data.

NDC is shaping travel like never before

Travel is shaped by personalized services and eCommerce. The service provided by the front desk and guest relation teams, personalized interactions across digital and social channels, and the convenience of online transactions, determine the travel experience. Businesses need to enhance the quality of service at every touchpoint. Here are a few ways NDC helps you do just that:



○ ***Access to customer information for personalized experience***

The third-party service providers and GDS providers are so deeply ingrained in the distribution systems that the airlines' customer data does not find its way in the hands of inventory owners. The outcome results in losing out on valuable customer data. This subsequently creates bigger challenges in offering personalized services to your travelers.

But NDC can confer you with in-depth customer data that can form the crux of the much-anticipated personalization. With the relevant customer data and ancillary products, you are free to combine services with flights to create customized packages.

○ ***Autonomy in content and pricing***

While the traditional GDS can only share prices and schedules, NDC supports rich content. Rich content includes a variety of extra details-optional ancillary services that can be added to the flight, images, and text to catch the attention of customers, and many more.

Pricing autonomy is one such personalization benefit. Traditionally, most airlines distribute their fares through a third-party provider called ATPCO. This third-party provider acts as an intermediary between the revenue management and distribution channels due to which the airlines miss the dynamic pricing opportunity. Dynamic price is the ability to create ticket prices and packages based on a customer's personal information and history. The new XML standard-NDC, allows you to build your own APIs and changes the prices independently while adding value to their offers and adjusting prices individually for each customer.

○ ***Relevant services, ancillaries, and discounts***

Airlines that distribute the flight data via GDS's EDIFACT are unable to include ancillaries in their offers. This results in generic products either inclusive or exclusive of ancillary services being sold by the airlines resulting into financial losses. But that does not have to be the case for you. With NDC you can offer personalized products to passengers and sell their ancillary products based on passenger's requirement.

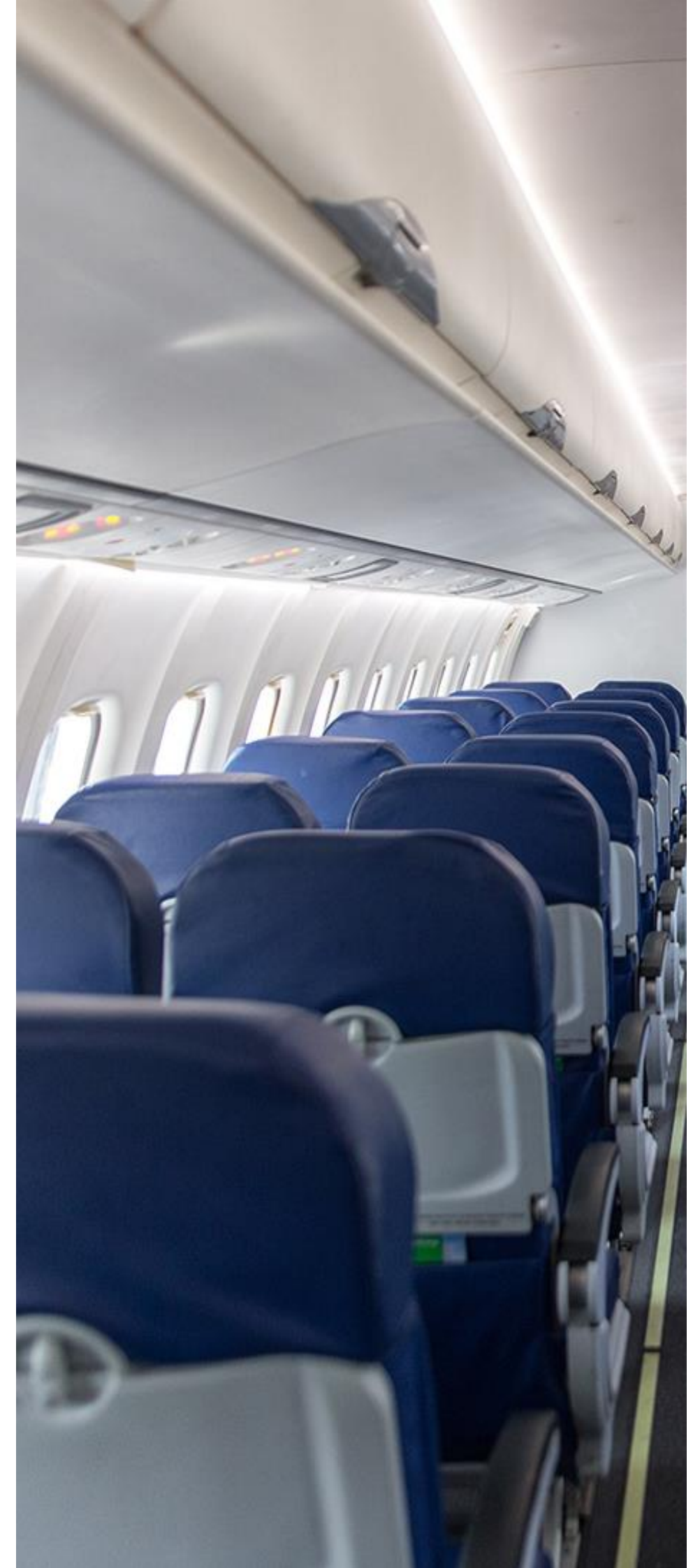
○ ***Product differentiation***

The traditional GDS model permitted airlines to display only prices and schedules. For travelers, it is easy to compare the prices through tariff metasearch engines and OTAs. However, if you are still latched onto the GDS model that means you are missing out on the opportunity to market your ancillary services and being product competitive. Rich content supported by NDC lets you include all ancillary service details ultimately conferring the ability to be competitive about your products in the market.

○ ***Reduced dependency on legacy systems***

Legacy Passenger Service Systems (PSS) are used by most of airlines to store reservation information, fares, and schedule. The key role of PSS is to show the seats available for a given flight. As it is based on older technologies, PSS may have poor performance, restrictions, and lags modernization.

The NDC-driven platform acts as an intermediate engine between the legacy systems and other applications.



NDC Expertise @ Cybage

It has been over a decade that Cybage has been dealing with airline related APIs. Our industry leading team is working with Sabre, Amadeus, and other leading airlines to ensure our customers maximize the benefits that NDC brings. We have also integrated low-cost carrier APIs with FareLogix platform for selling their inventories. Cybage has an experienced team of NDC SMEs supported by technically strong teams across various technologies.

Following are a few scenarios where some eminent travel industry players have benefitted from Cybage's NDC expertise:

- Cybage has vast experience of booking engine projects in T&H domain, be it airlines, hotels or OTAs. Cybage holds a good position in creating grounds up or improvising the booking engine products per business needs
- At Cybage we have an in-house UI team that can be leveraged for designing and building the new UI to show the availability of data as per the NDC standards
- Cybage UI team along with the SME team can build a user-friendly UI design

Cybage NDC Knowledge

NDC Schema	Levels	Description	Cybage Knowledge
Offer Management	Level 2	AirShoppingRQ/RS	✓
		BaggageAllowanceRQ/RS	✓
		BaggageChargeRQ/RS	✓
		BaggageListRQ/RS	✓
		OfferPriceRQ/RS	✓
		SeatAvailabilityRQ/RS	✓
		ServiceListRQ/RS	✓
Offer and Order Management	Level 3	AirShoppingRQ/RS	✓
		OrderChangeRQ/OrderViewRS	✓
		OrderCreateRQ/OrderViewRS	✓
Full Offer and Order Management	Level 4	AirShoppingRQ/RS	✓
		OrderChangeRQ/OrderViewRS	✓
		OrderCreateRQ/OrderViewRS	✓
		OrderChangeNotif/Acknowledgement	✓
		OrderReshopRQ/RS	✓
		OrderListRQ/RS	✓
		OrderRetrieveRQ/OrderViewRS	✓
		OrderCancelRQ/RS	✓
		OrderRulesRQ/RS	✓
		OrderHistoryNotif/Acknowledgement	✓
		OrderHistoryRQ/RS	✓

Cybage has worked on	Level 1	Level 2	Level 3	Level 4
LH - Lufthansa				✓
LX - Swiss				✓
OS - Austrian Airline				✓
SN - Brussels Airlines				✓
QF - Qantas Airways				✓
AA - American Airlines				✓
UA - United Airlines				✓
OA - Olympic Air				✓
QR - QATAR Airways				✓
AC - Air Canada			✓	
DY - Norwegian Air			✓	
A3 - Aegean Airlines			✓	
EK - Emirates		✓		
ET - Ethiopian Airways	✓			
EY - Etihad Airways	✓			
AM - Aero Mexico	In progress			
CM - Copa Airlines				
LA - Latam				

▪ **Building connectivity between airlines and required GDS, ADS or new entrants**

Cybage has exposure to the NDC messages schemas for all four levels. These are being currently used by FareLogix platform for which Cybage works as an extended team. This knowledge can be utilized for building the connectors between Airline and GDS, ADS or new entrants based on the new XML schema based on the NDC standards.

- NDC Shopping
- AirShoppingRQ/RS
- BaggageAllowanceRQ/RS
- BaggageChargeRQ/RS
- BaggageListRQ/RS
- OfferPriceRQ/RS
- SeatAvailabilityRQ/RS
- ServiceListRQ/RS

- NDC Order Management (Payment & Ticketing)
- AirDocIssueRQ/OrderViewRS
- AirDocHistoryRQ/RS
- AirDocDisplayRQ/RS

- NDC Order Management (Booking & Servicing)
- OrderChangeNotif/Acknowledgement
- OrderChangeRQ/OrderViewRS
- OrderCreateRQ/OrderViewRS
- OrderHistoryNotif/Acknowledgement
- OrderHistoryRQ/RS
- OrderListRQ/RS
- OrderRetrieveRQ/OrderViewRS
- OrderCancelRQ/RS
- OrderRulesRQ/RS
- OrderReshopRQ/RS

- Other message pairs
- AirlineProfileRQ/RS
- AirlineProfileNotif
- AirDocNotifRQ
- FareRulesRQ/RS
- FileRetrieveRQ/RS
- InvGuaranteeRQ/RS
- InventoryReleaseNotif/Acknowledgement



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- BaggageListRQ/RS
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- SeatAvailabilityRQ/RS
- ServiceListRQ/RS

- NDC Order Management (Payment & Ticketing)
- AirDocIssueRQ/OrderViewRS
- AirDocHistoryRQ/RS
- AirDocDisplayRQ/RS

- NDC Order Management (Booking & Servicing)
- OrderChangeNotif/Acknowledgement
- OrderChangeRQ/OrderViewRS
- OrderCreateRQ/OrderViewRS
- OrderHistoryNotif/Acknowledgement
- OrderHistoryRQ/RS

- OrderListRQ/RS
- OrderRetrieveRQ/OrderViewRS
- OrderCancelRQ/RS
- OrderRulesRQ/RS
- OrderReshopRQ/RS

- Other message pairs
- AirlineProfileRQ/RS
- AirlineProfileNotif
- AirDocNotifRQ
- FareRulesRQ/RS
- FileRetrieveRQ/RS
- InvGuaranteeRQ/RS
- InventoryReleaseNotif/Acknowledgement





Conclusion

The leading travel companies are inching away and are eliminating the middlemen. They are moving in the direction of directly interacting and delivering to their customers in full throttle. You too can be one of them by simply honing a similar efficiency by adapting the NDC capabilities in its whole glory. NDC is a win-win situation for you and your customers. While it lets you offer seamless omni-channel experiences to your customers, the customer themselves can choose services throughout their journey.

As we all get past the 'COVID-19' phase, the travel and hospitality industry will have to gear up to materialize an individual's goals with optimum accuracy. The NDC implementation is instrumental in realizing seamless omni-channel experience and improved accessibility to analytics to deliver superior customer experiences.

Reference links:

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