

The Skyscanner guide to NDC

Enable the future of airline retailing to benefit from upsells in 30 days

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The rise of online and mobile-based retailing has radically transformed consumer shopping habits. Now, through the introduction of the New Distribution Capability (NDC) standard, airlines are able to participate in this revolution. With NDC, airlines have the capability to move from a legacy IT environment to an Application Programming Interface (API)-based world where developers can build cutting edge travel and shopping apps in only 40 hours. We welcome Skyscanner's guide to NDC to help airlines start their NDC journey.

Yanik Hoyles | Director NDC Program, IATA

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Together with IATA we have produced this guide to share our knowledge and experience of working with NDC technology and highlight the very important benefits for the aviation industry in its adoption. This document provides a key summary and evidencing of the benefits NDC brings to market and airlines already pioneering its use, along with existing solutions and important considerations and examples of the NDC messages and flows.



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In the aviation industry, direct booking vs third party distribution has always been an either/or choice. Those days have come to an end. Emerging platforms like voice and bots, coupled with evolving online marketplaces, mean the lines are blurring. So the point where an intermediary's relationship with the traveller ends and an airline's begins is no longer as clear as it once was.

After months of consultation with our partners, we have successfully employed NDC to offer airlines and other travel brands the best of both worlds. We facilitate the benefits of ancillary up-sell and branding control, coupled with access to a growing and engaged audience of travellers across new platforms and markets.

Quite simply, I believe it's the future for airlines.

Gareth Williams | CEO, Skyscanner

Foreword

Now 5 years since its inception, IATA's New Distribution Capability (NDC) provides a coherent and feature-complete messaging standard for multi-channel retail. And recent NDC releases provide the industry with an API capable of powering global search and sales through a flexible and dynamic content distribution standard.

In 2015, Skyscanner became the first global travel metasearch to allow airlines to take direct bookings via a third party using NDC. In 2016, we became IATA NDC Level 3 certified. Since then, working closely with Amadeus, Open Jaw Technology, Farelogix and many other travel technology partners, we have helped enhance the standard through each iteration since its pilot release.

At Skyscanner we believe the time has come to offer a fresh form of direct booking in the industry. Moreover, we are convinced that a standards-focused approach to distribution will, in the near future, deliver real benefit to airline suppliers, travel retailers and travellers themselves.

In the last decade, significant shifts have taken place across both technology and user behaviour. As travellers have experimented with new ways to discover trips, the airline industry has begun experimenting with more direct ways of presenting products to travellers. One carrier who has embraced the shift to mobile is KLM; prompting CEO Pieter Elbers to comment, "I envisage a future where consumers do not visit KLM's website". While most airlines have embraced social media to the extent that they push air ticket deals via these platforms, some still offer mobile experiences with more limited functionality than their desktop sites; and the majority are yet to fully engage with more cutting-edge platforms such as bots.

The airline marketplace that Skyscanner offers is already leading the field for connectivity to airline inventory. Much more than the simple facilitation of the booking, it gives airlines the opportunity to brand their experience more fully within the search and booking funnel. In effect, it is a store front, promoting strong ancillary upsell and control over brand messaging.

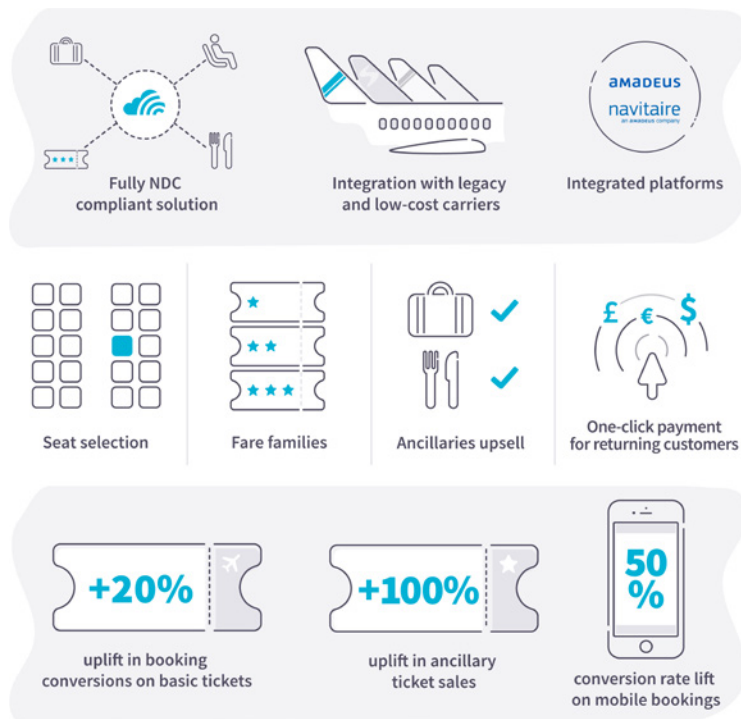
With an NDC integration in place, Skyscanner can be shown the most dynamic form of airline fares, plus ancillary options, allowing us to interact fully with airline brands in the course of their online shopping journey. Not only does this empower carriers to showcase their brand and upsell products to increase bottom-line profit, but we believe that travellers prefer this seamless process.

Many leading airlines are already seeing the benefits of using NDC to support Direct Booking on Skyscanner, including British Airways, Iberia, Finnair and Scoot. We provide them with an instant way to capitalise on our traffic and effortlessly convert browsing to booking with an average 20% conversion uplift (50% in mobile conversions) in addition to a 100% uplift on ancillary revenue.

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This relationship with Skyscanner will improve the experience for customers booking flights through travel search engines and they will be able to view more information about their flight from cabin choice to aircraft type. We all know consumers are more sophisticated and demand a more seamless experience, and this initiative lets us deliver that while still maintaining a direct relationship between the customer and British Airways.

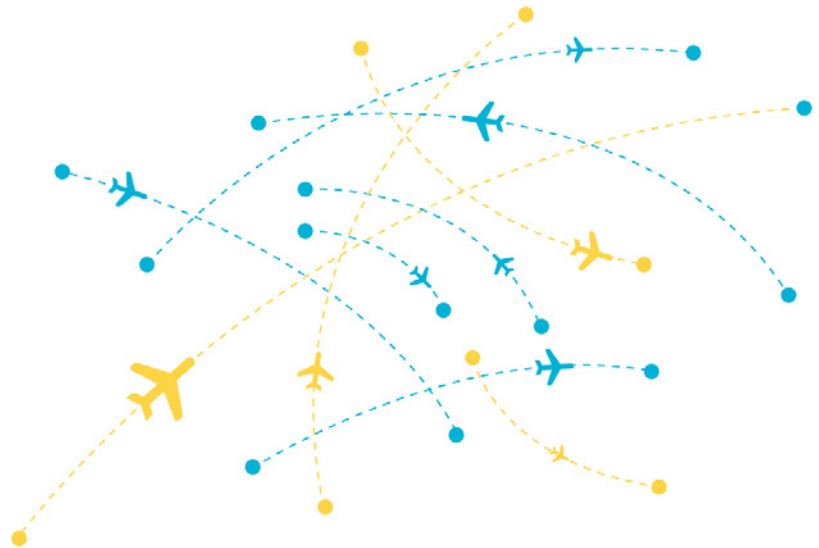
British Airways



Why invest in NDC technology?

Today's travel retail world is complex and the barriers to entry are high. Although there are many excellent travel solutions, their reliance on a fragmented array of data from a variety of sources, each distributed by third parties, means that new entrants struggle to make impact. Additionally, flight inventory is retrieved and managed using simple legacy systems, designed to work in a world of expensive mainframes and high cost data transfer.

Set one level above these primitive systems, fare distribution, pricing engines and mark up tools work to determine what travellers must pay. On top of these flight pricing tools sit more recent API layers designed to aggregate and enrich inventory, and combine it with other products and services that airlines wish to offer.





The lack of a unified standard across this complicated ecosystem means that retailers and sellers operate different workflows, with different tools and data dependencies. Each player in flight distribution is likely to have invested heavily to compete in today's connected marketplaces – with each solution tailored to their existing technology stacks. Yet the innovative nature of these solutions, whilst impressive, can be detrimental to the scope of what can be done in the future as custom dependencies tend to be expensive to review and replace.

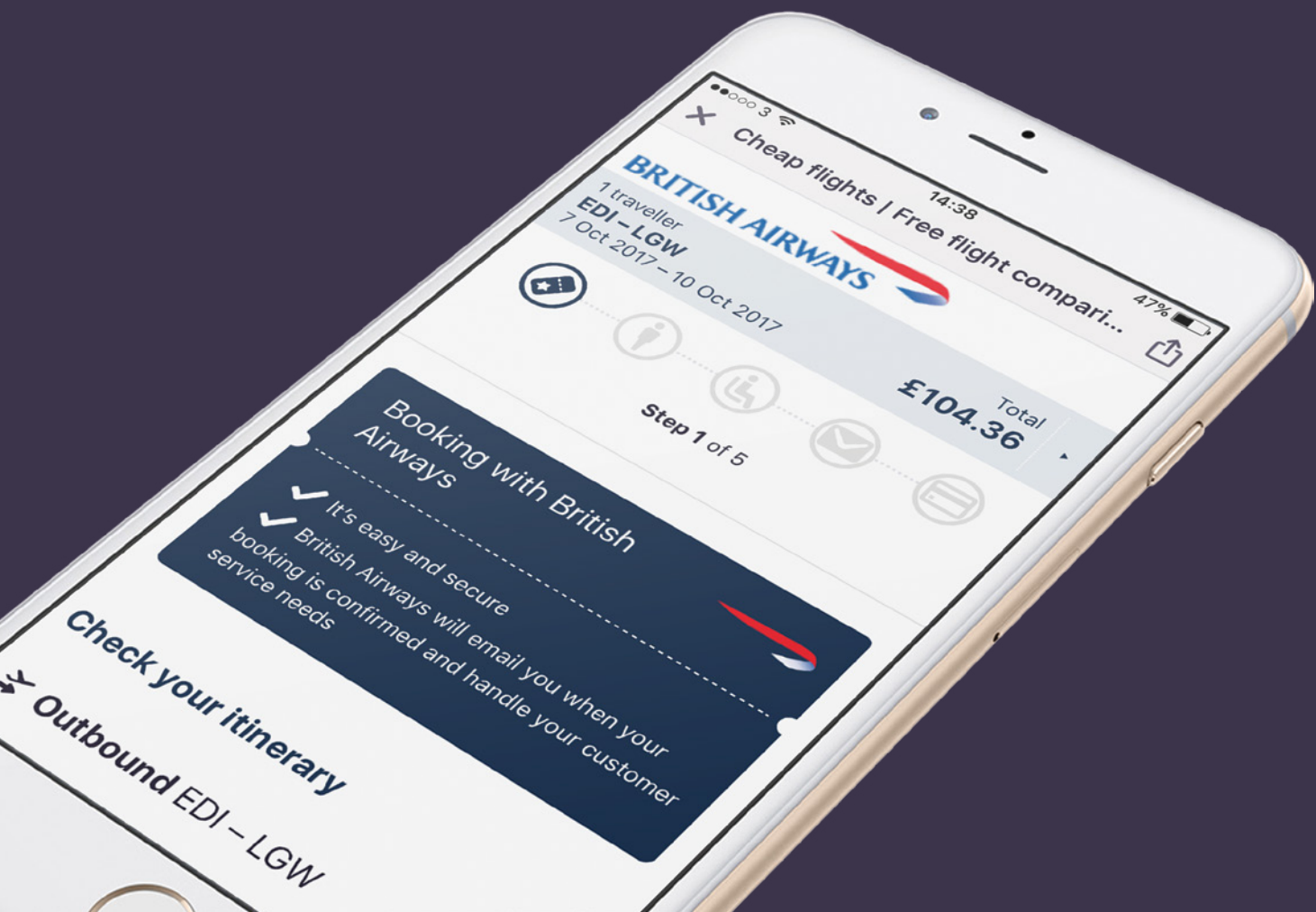
As a travel industry supported standards program, NDC is designed to unify this informational ecosphere: bringing commonality, simplicity and lower barriers to entry. And because it is a public standard, it can be used by anyone - from a tech start-up serving a niche travel need, to established players like Skyscanner, enhancing our existing marketplace through new traveller focused products such as Direct Booking.

NDC takes travel content distribution to the next level, modernising the way products can be sold by travel agents, corporations and beyond.

By design, NDC messages support product differentiation such as fare families, ancillary services, seat selection and personalisation, complementing them with rich content and media. This capability enhances the travel retail experience, allowing airlines to differentiate themselves and their product on platforms such as Skyscanner. In turn, marketplaces such as Skyscanner can focus on what we do best – helping the traveller make the right purchasing decisions through product comparison. With NDC, Skyscanner can move a step beyond search, providing an innovative booking experience that help bring traveller and supplier closer together.

In the next sections, we will evaluate the different areas of product value: personalisation, rich media, ancillary products & services. Then we will look at the technical value of NDC: time to market, and the potential for innovation. Finally, we will outline some important considerations about your NDC integration: offer ownership, localisation, payments, interlining and new distribution channels.





Cheap flights | Free flight comparison

14:38

47%

BRITISH AIRWAYS



1 traveller
EDI - LGW
7 Oct 2017 - 10 Oct 2017



Step 1 of 5

Total
£104.36

Booking with British Airways

✓ It's easy and secure
✓ British Airways will email you when your booking is confirmed and handle your customer service needs



Check your itinerary

Outbound EDI - LGW

Enhancing product value

Much of today's air product is encapsulated within two key structures – the airfare and the ancillary. These are distributed separately, yet commonly sold together at the point of booking. In the not too distant past, airfares were inclusive of all travel services. But in recent times, many have been unbundled and sold separately. Examples of this include additional optional fees payable for checked or hold baggage entitlement, priority seat allocation, or advanced meal and beverage purchases. Meanwhile, modern planes offer even more facilities in the cabin: on-demand entertainment, WiFi, and mobile reception. And outside the cabin, en-route to their destination, travellers seek to complement existing purchases with additional services that improve their travel experience.

Airport transfers, expedited security, lounge access, and more all form part of the traveller's journey, and they expect to be able to purchase these additional services at some point during it.

Whilst these features all add to the complexity of today's distribution, shopping, comparison and booking ecosystems, NDC can simplify such processes.

NDC messaging supports a retail-focussed approach to distribution. It's designed to meet traveller needs, and to demonstrate demand for these needs back to retailers, through direct messaging. Whilst an artificial divide between fare and ancillary is no longer necessary, if an airline believes that travellers desire bundled products and services then a hypothesis can

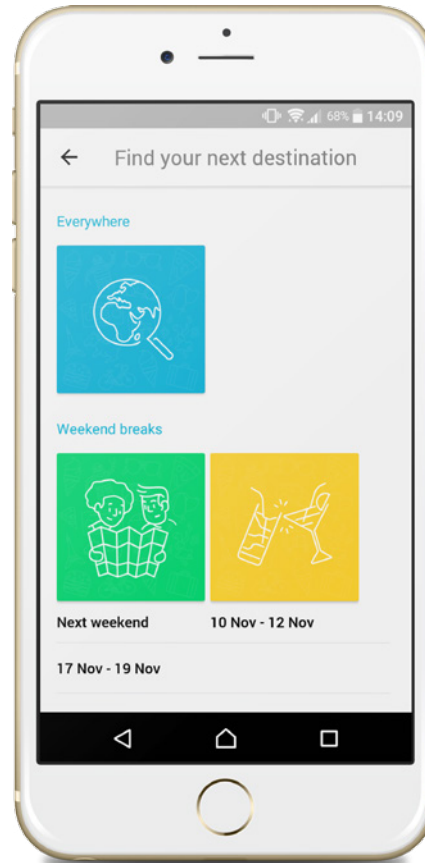
be made, and solutions can be generated and tested quickly and effectively.

Ultimately, products and services that are packaged well, presented in the right context and offered at the right time are more likely to add value to the traveller – and consequently airlines capable of achieving this are more likely to benefit. And there are three key ways NDC can support this enhanced approach to retailing: personalisation, ancillary products and services, and rich media.

Personalisation

A core objective for personalisation is to enable and drive travellers to identify who they are, and where they are, in the context of their journey. This helps airlines to satisfy traveller needs where they arise. With a greater understanding of who is travelling and what they need, airlines are better equipped to deliver the right message at the right time.

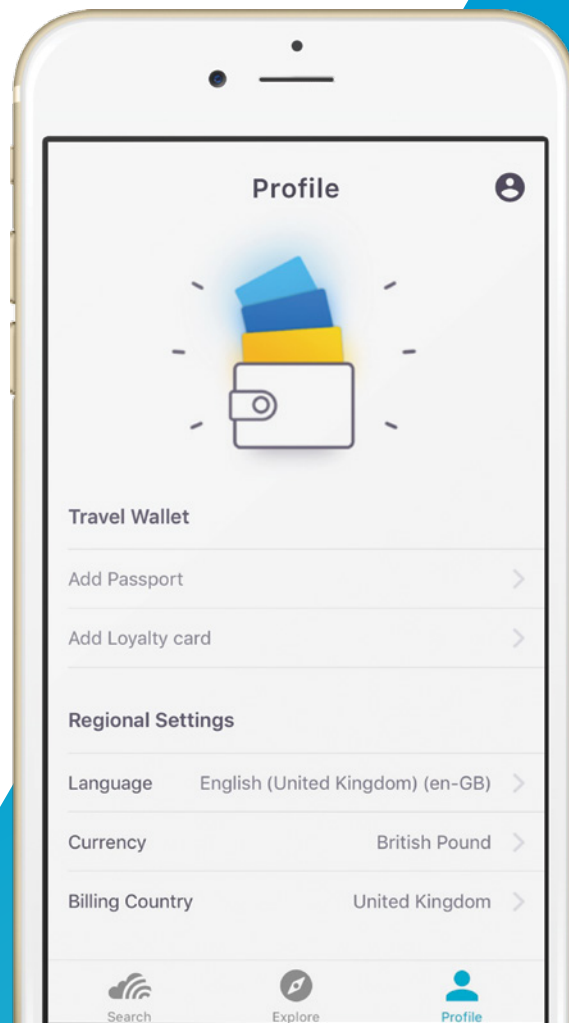
With NDC, personalisation breaks into two key ideas: the anonymous traveller and the identified traveller. Whilst both are easily understood concepts, it is a good idea to be clear how these are complimentary, yet differ from one another.

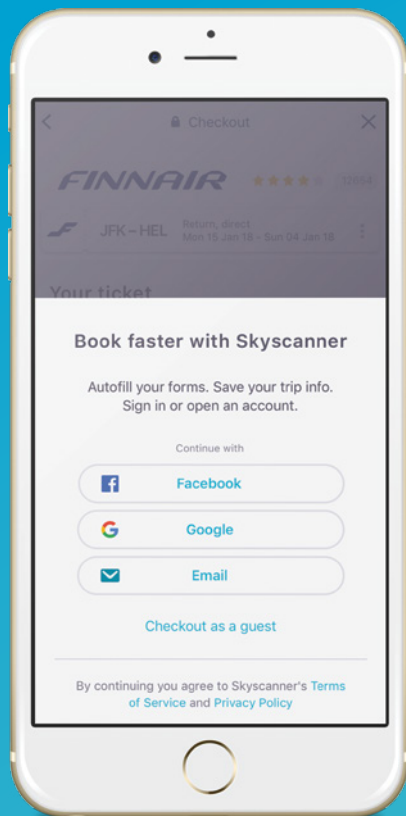


The Anonymous traveller is an unidentified user, but one who can also provide some context about themselves beyond where and when they wish to travel. This means that they are not completely unknown. For example, each of the 60+ million unique monthly Skyscanner visitors is given the opportunity to set their location, language, and currency prior to searching.

As a seller, Skyscanner can include this information directly in shopping messages, allowing a retailer to effectively target their response.

Whilst it may not be possible to fully meet every desired combination, it does give retailers the opportunity to serve travellers culturally relevant offers in a preferred language and currency. The ability to tailor offers this way up front, is likely to increase the ability for a seller to form a relevant and consistent booking experience for an airline – which can contribute to improved conversion rates.





The NDC standard helps to move beyond this, towards **identified travellers** (not anonymous, but not necessarily a frequent flyer) by allowing Skyscanner users to provide further information that may add context to an airline offer.

Travellers that supply such additional information give airlines the opportunity to provide tailored offers that meet individual traveller's needs.

Aside from purely personalised offers, this functionality also supports reward pricing for frequent flyers. Allowing a traveller to input their frequent flyer entitlement whilst booking could impact the price that they are offered or the services they are entitled to. NDC supports messaging flows that acknowledge this state change – from unknown to known – in a way that benefits both airline and traveller. The airline knows they can apply a benefit to a booking mid purchase; and the traveller is rewarded for identifying themselves before they come to pay.

Looking forward, it is easy to see how this same mechanism could help airlines retarget travellers who have abandoned previous booking attempts, and guide them towards completion through targeted offers.

Ancillary Products and Services

Ancillary products and services offer airlines an opportunity to differentiate themselves and meet traveller demand for relevant services throughout their journey. But with the disparate nature of the products on offer, and the lack of a standard for simple comparison, it has been challenging to aggregate and showcase ancillaries at scale. Adopting a standard schema approach, with diversity and flexibility built in, will enable airlines to serve traveller demand for comparison. Thus allowing both parties to establish marketplaces that showcase ancillary products and services. Working with NDC as their key channel retail API solution will enable an airline to offer context, relevant products and services. Further, it will ensure travellers can tailor journeys to their needs, driving higher revenue levels through improved product targeting.





One of the easiest ways to sell additional services through NDC messages is to complement existing fares with optional **‘a la carte’ products and services**, presented to the user separately during the booking process. These optional extras are supplementary to the flight booking, allowing a user to tailor their purchase to include only what they need.


NDC messages enable this by supporting offers made at many different points within a booking funnel, even post booking.

Additionally, most ancillary products and services can be sold separately or attached to a flight. Either type can be bundled together to create a **product bundle**, the most common type in the market today being the ‘fare family’.





These product bundles allow airlines to offer a core range of flight products, designed to meet demand for different price points. Each product bundle represents a different level of service and is priced accordingly. This allows the traveller to compare attributes they find important and to choose what suits them best.

Be it a 'basic' fare with no frills attached, a standard fare similar to the full-service ticket of today, or a fully flexible business targeted bundle, the NDC API allows services to be packaged into different offers.


But product bundling does not need to be introduced independently of a la carte offers. Paired well together, the two concepts offer powerful and complimentary tools. Some partners experimenting with product bundles packaged in the NDC format have seen an increase in up-sell rates of more than 50%, clearly demonstrating that users recognise the value of the up-sell options and are willing to purchase them. A good example of this in practice is the seat selector.









☒ **Economy Campaign** **\$430**

-  x 2 Cabin (10kg 23x36x56cm)
-  x 1 Checked (23kg 90x75x43cm)
-  Standard legroom (31")
-  Fresh meals provided

[Details](#)



☐ **Economy Saver** **\$1,090**

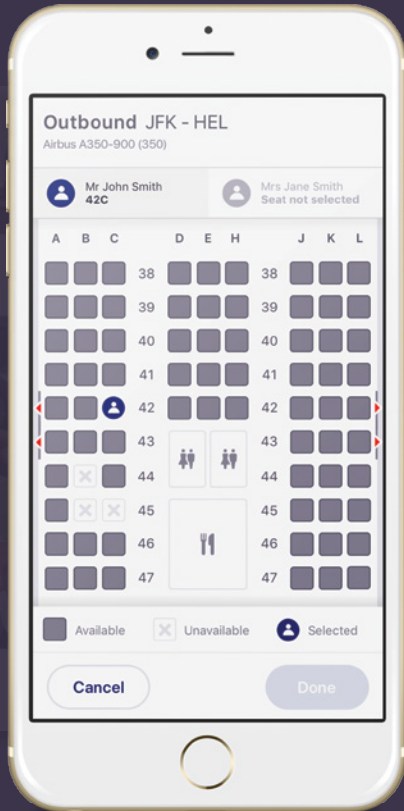
-  x 2 Cabin (10kg 23x36x56cm)
-  x 1 Checked (23kg 90x75x43cm)
-  Above average legroom (35")
-  Fresh meals provided
-  Priority Boarding
-  Power outlet

[Details](#)

Combining Product Bundles and A la Carte Offers: Seat Selector

NDC messaging enables an airline to retail seat offers via the channel for any type of flight, be it multi-leg, multi cabin or even interline. Seat selection is now a popular purchase at the time of booking, and dynamic pricing can be used to reward frequent travellers or to entice travellers to commit to an upgrade. The NDC API supports a flexible approach to this critical product offering, and opens this flexibility up to the channel.

The NDC schema opens up much of the fare family bundle flexibility, which is already available through airline direct channels, to new distribution channels without the risks associated with building them from third party sources. As a result, standardised NDC messages direct from the airline become the go-to source of information regarding products, bringing the traveller and airline closer together.

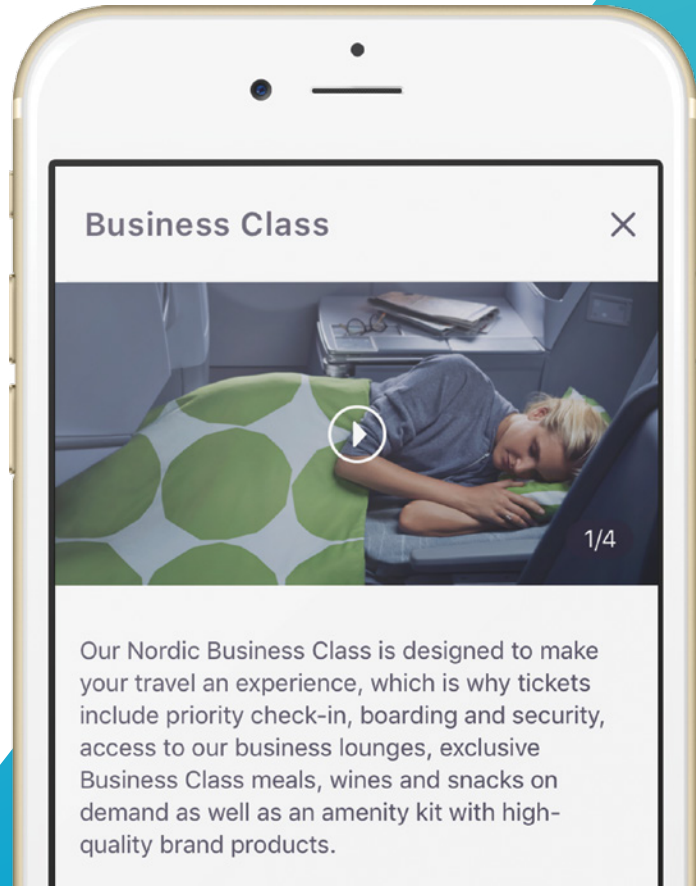


Rich media

A key feature of the NDC API format is agility, particularly when it comes to the distribution of rich media content. Videos, pictures and text descriptions can be transmitted via the NDC API at different points in the traveller's user journey. This enables airlines to own not just their channel offering, but also context and information that helps the traveller to make decisions.

Airlines put a lot of effort into differentiating their products and services beyond the physical attributes of a specific plane in their fleet. In this way, information available through the NDC API covering seat pitch, cabin layout and service availability helps the traveller when they are comparing different options.

NDC formats rich media handling allows airlines to pass through more than just product attributes and descriptors.





Baggage

 x 2 Cabin (10kg 23x36x56cm)


 x 3 Checked (23kg 90x75x43cm)


Comfort


 Cradle recliner (40")


 A350 (Widebody)

Amenities

 Wi-Fi

 Power & USB outlets

 Premium fresh meal

 On demand & live TV

An NDC message can also carry images and text to complement an airline's services, working to inspire the traveller with a flavour of what is on offer.

Airlines can then start to closely manage the images they project through their channels. This allows sellers to focus on delivering excellent user experience and design through the planning and booking process, without worrying about aggregating airline content and branding from disparate sources of varying quality and accuracy.

Technical value

As a universal API standard, NDC seeks to support one-to-many connections between an airline and its existing retail channels or any third-party channels created to serve traveller needs. Simplification and deduplication of sales channels should lead to a more cost and resource efficient solution, because only a single connector type must be built and maintained to support multiple channels.

From the perspective of newer API consumers – those who have yet to focus on the travel market – building to a universal standard reduces the level of effort needed to enter the market, as well as the burden of repeatedly connecting to different suppliers.

Time to market

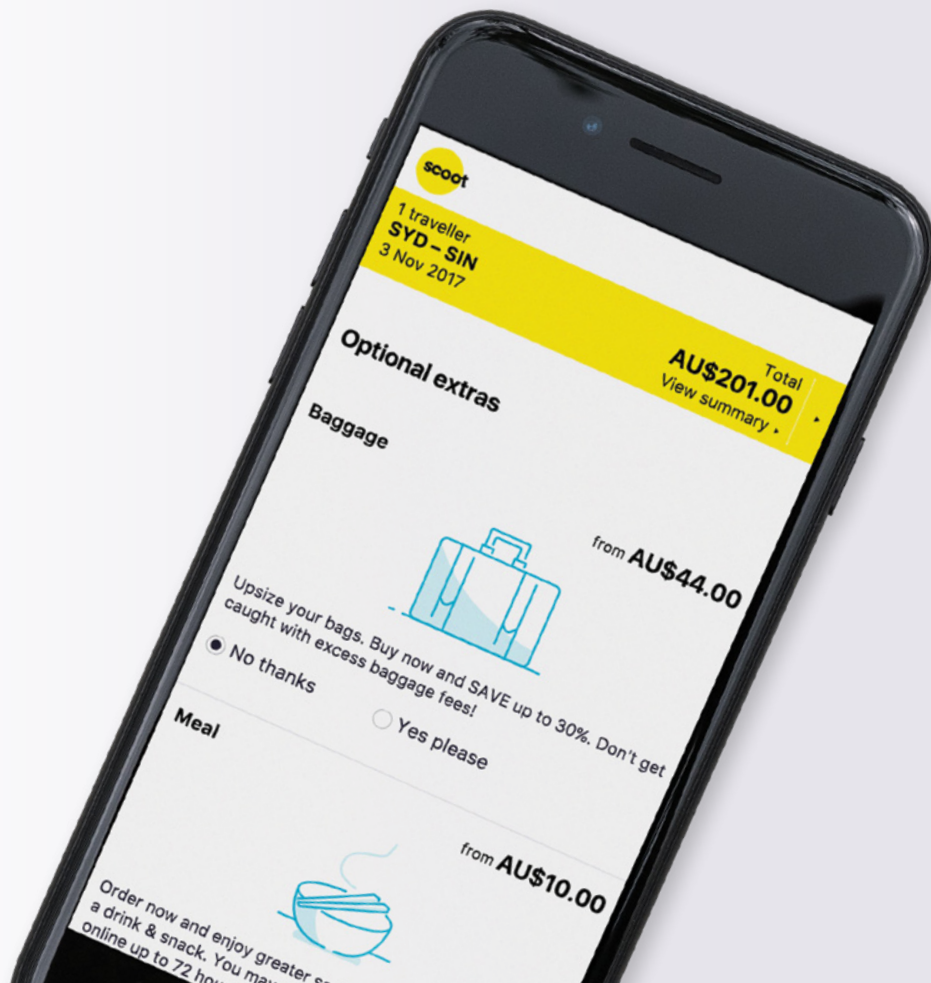
Once developed and productive, an airline's NDC connector should provide the required flexibility to scale quickly, as it opens connections to more sellers – be those OTA, traditional travel agents, TMCs or newer channels such as metasearch. Instead of each channel being a bespoke development connected to specific gateways, a single NDC connector reduces time to deploy to new marketplaces, by cutting implementation times down from months to weeks.

Once an NDC connector is in place, a key benefit is the ability to iterate on products and services fed through

the connection. Feedback from new ideas and experiments powered by new product bundles, services, or rich content, will allow airlines to significantly reduce time to market with their latest ideas and time to analysis with regard to impact. New product offers can be tested and validated in a continuous and agile way, using the common formats within the NDC message structures.

Innovation

NDC allows the airlines to think about what travellers demand, how to package offers to meet this demand, and how to test this demand through an agile distribution pipeline. As discussed in the previous section, ancillary services can be distributed as a la carte services, product bundles or a mixture of the two. This allows airlines, their technology providers and new entrants to start innovating with the products they offer, and to gauge the impact as they do so more readily. With the support of a variety of different types of rich media and metadata, product and service descriptions will be able to support rich content such as illustrations, unique branding, and personalised content – all sourced by the offer responsible airline.



Important considerations

When evaluating the potential value of an NDC powered solution, there are a few key points to consider: an understanding of existing architecture, including offer ownership, and its limitations; a knowledge of the importance of content localisation; and an appreciation of the challenge of handling direct payment. Awareness of the importance of such considerations up front will help shape a smoother journey to delivering NDC powered solutions.

Offer ownership

Of the above-mentioned considerations, the key to a successful NDC journey is an understanding of the full implication of offer ownership.

Today, most products offered to the traveller through the channel, including the fare and optional extras, have been constructed from third party sources. Routes, times and availability are determined via GDS calls. Prices can be found through a variety of different fares sources. And the fare and product attributes are obtained through a range of even more sources.

Adding interline partners to the mix can further complicate matters. The resulting purchase is often a hybrid that may be missing critical attributes, such as whether a bag is included, the order

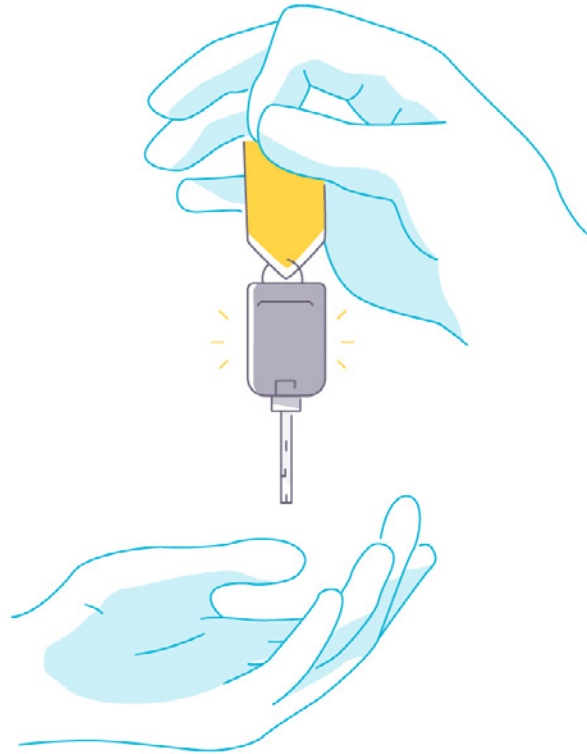
is refundable, or the traveller is entitled to accrue miles.

In today's world, the job of "getting the offer right" sits with agencies and agency systems. With NDC, however, the balance of responsibility for offers shifts to the airline. If a traveller needs to know something, then the airline must provide an answer, because they own the product and are therefore responsible for the service.

In the world of NDC, airlines are also directly responsible for their offers and for any resulting orders. If there is an interline partner involved in an itinerary, one airline takes responsibility for the order, hence the term 'Offer Responsible Airline'

or ORA. The ORA constructs offers using its own sources of truth for availability and price, together with what is provided by any other airlines who choose to participate. The offer, order, and associated identifiers belong to the Offer Responsible Airline and not a third-party GDS, distribution, or ticketing system.

This change in order ownership provides airlines with a great opportunity to retain control over the products and services they offer. But this comes with the greater responsibility of meeting other critical requirements, including localisation, currency and relevance.

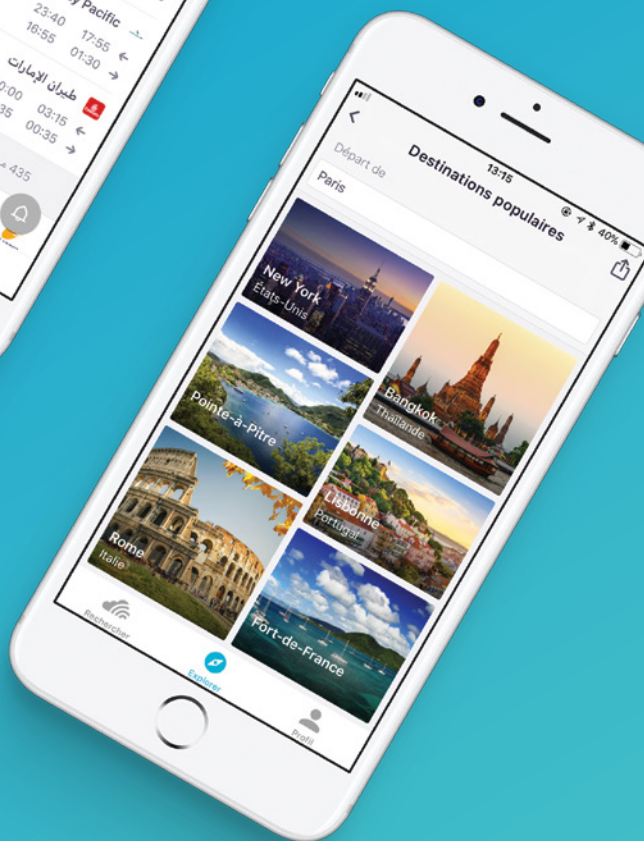
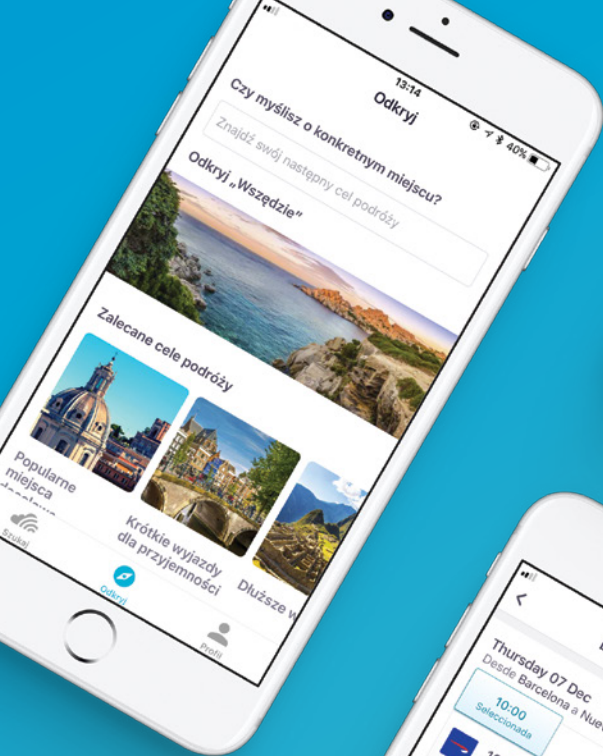


Localisation

Skyscanner operates across over 70 currencies and over 30 markets, including 49 countries with over 1 million users per year; and we are experiencing high growth rates in markets outside of Europe, such as Brazil and Korea. As such, we understand the ever-growing need for localisation – communicating in the language and terms that each user will easily understand. It is simple for a seller to qualify an NDC message with user preferences around currency and language. It is then up to the airline to return offers that meet this request where they can. Essentially, whilst sellers can inform airlines of the traveller demand for localisation, it is up to airlines to address it.

As airlines provide more relevant content through the NDC API, third party channels will be able to target content more accurately. Be it for specific audiences, such as non-native speakers in existing markets, or new markets where an unknown demand is revealed through third-party channels.

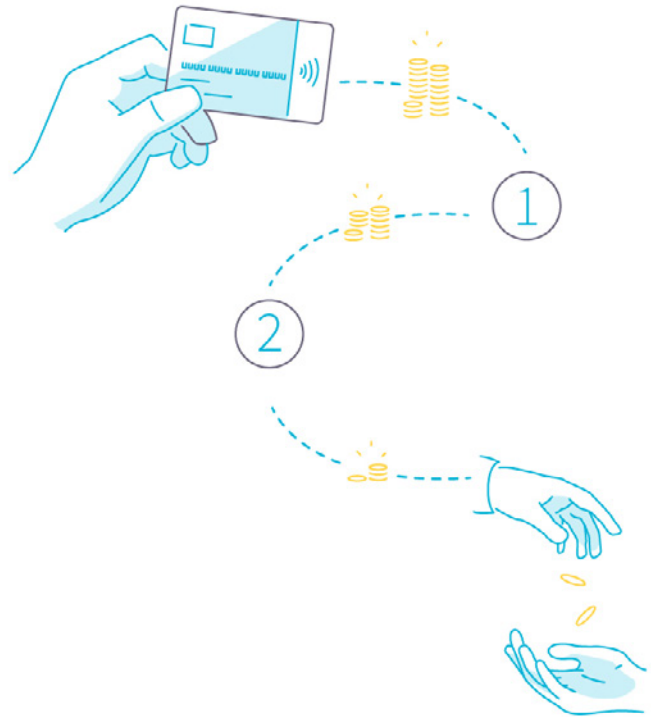




Payments

Using the NDC API, airlines can take a more active role in managing payment and settlement of air travel. Whilst it is possible to use existing booking/payment/ticketing/settlement flows using third party ticketing and BSP/ARC settlement, NDC allows airlines to take direct payments through their NDC gateway or other supported payment service providers. Bringing payment in-house and behind an NDC gateway allows airlines to keep key controls, such as fraud checks and the policing of fees and surcharges, within their field of control.

This more direct approach to payment and booking ownership provides airlines with two benefits: the opportunity to reduce sales audit costs, and the ability to enhance fraud checks and move control and warning systems to the first stages of the booking process. This opportunity is a significant benefit of using NDC.





Interlining

IATA and Skyscanner envision NDC interline to be an important tool to help broaden an airline's global market coverage and to expand the routes they can offer the traveller. The NDC standard supports today's prorate based interline agreements and future dynamic settlement methods. With NDC messaging, interline could move from being a complex back-end process, to a more straightforward upfront message exchange between two or more airlines.

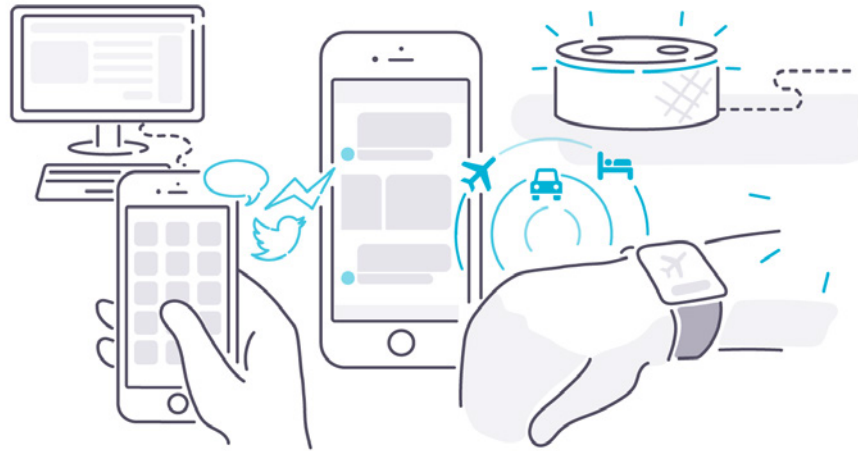
The NDC interline process allows one airline, who takes responsibility for the offer, to request the services of another to help fulfil a traveller's request for flights. In turn, that airline can make an offer and indicate how much they need to be paid for their participation. This allows airlines to construct travel offers based upon their own services combined with those provided by their interline partners.

Any interline partner interested in participating in another airline's offer must include the value they wish to be paid to participate up front in their NDC messages. This upfront mechanism can help save the costs associated with billing and settlement, as offline settlement powered by offline bilateral or multilateral prorate agreements are no longer necessary. With NDC, what needs to be paid will be known by all parties up front.

In order to expand the range of offerings from each airline within a partnership, it is worth identifying how and when you will approach your interline partners early on in your NDC solution planning.

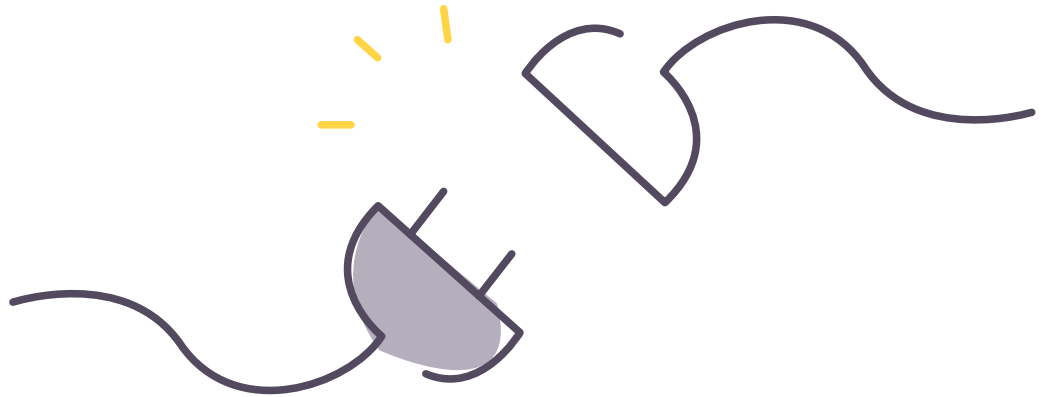
New distribution channels

The NDC standard presents an opportunity for airlines to unlock new distribution channels. This can be achieved through direct NDC connections with travel markets or aggregators, or with non-travel marketplaces and platforms such as Facebook, Instagram or Skype. There is also the opportunity to expand offerings with the Skyscanner marketplace, to leverage our continued work in chatbots and concierge services. Allowing airlines to focus on the packaging and distribution of their products, and technology companies such as Skyscanner to develop new ways to serve the traveller, highlights the unique benefits of NDC when it comes to unlocking valuable distribution channels.



Connect in 30 days

As mentioned, one of the many benefits of the agility and consistency offered by the NDC standard, is that it enables you to connect to marketplaces in the travel industry, such as Skyscanner, at an accelerated pace. The following section outlines how you could connect in 30 days, based on our approach to working with airlines.



30 day start-up guide

Jobs to be done	Who needs to do it?	Day 0	Week 1	Week 2	Week 3	Week 4
Search for the right NDC solution to meet your need - maybe go for a new player in the market?	Airline Commercial and Product	✓ done				
Find a launch partner – why not Skyscanner?	Airline Commercial	✓ done				
Set up a test environment to get started	Airline Product and Engineering	✓ done				
Sign agreements with Skyscanner	Airline Legal and Commercial	start		finish		
Agree the “what” and the “how” of your Skyscanner Direct Booking funnel	Airline Commercial and Product	start	finish			
Complete an API assessment, just to be sure we're powering things correctly	Skyscanner Product and Engineering		finish			

Jobs to be done	Who needs to do it?	Day 0	Week 1	Week 2	Week 3	Week 4
Get shopping messages mapped and working	Skyscanner Engineering		start	finish		
Get booking messages mapped and working	Skyscanner Engineering			start	finish	
Get payments messages mapped and working	Skyscanner Engineering			start	finish	
We should be done – lets have some acceptance tests	Skyscanner and Airline Engineering				start	finish
Excellent, we're all passed, let's go live	Skyscanner and Airline Business					finish

Conclusion

As users start to engage more and more with searching, booking and paying for their travel on the applications they use every day – be that an app, via messenger or even voice – there is a growing need to enable users to browse and book these services instantly, and without friction.

Our data suggests travellers prefer this uninterrupted process. Further, the combination of the product and technical value discussed means that it delivers more return for carriers, as they are empowered to showcase their brand and highlight the ancillaries that drive value and revenue.

Therefore, as an industry, we must commit to offering the richest possible shopping experiences for travellers wherever, and whenever, they need us. In our view, implementing NDC facilitates this step forward, as it enables airlines to unlock new distribution channels, localise and target new markets, and expand their range of secure payment methods.

Contact us to access a free NDC checklist, and begin working towards your NDC connection today.

Appendix

End to end user journey

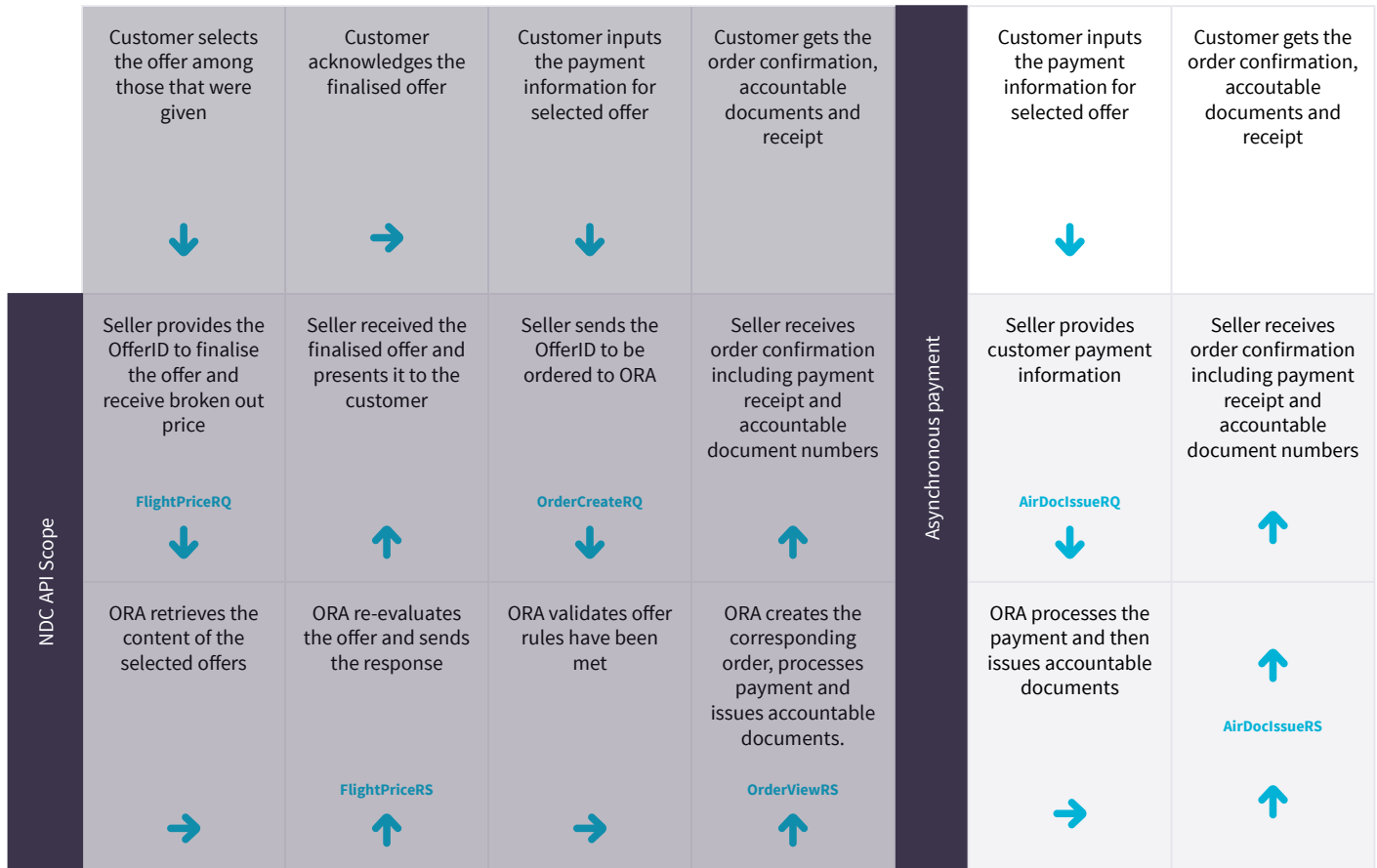
Instant purchase

The diagram below illustrates the end-to-end booking flow use case which includes Shopping, Offer re-evaluation, Order Creation and Payment. The Offer has zero time to pay, hence the payment should happen instantly (e.g. using a credit card online). In our example, a Customer is based in Barcelona and wishes to travel to New York from there. They would like to get a flat-bed seat to be able to sleep, and would also like to get a pre-paid bag. Our Customer feels more comfortable to review the travel plan and details in Spanish, but wishes to pay in USD.

This use case describes the process of shopping for flights and ancillaries, followed by the creation of an Order against a returned Offer. Payment and the issuance of accountable documents are also described. This shows a full NDC transaction lifecycle from initial shopping through to the customer having a confirmed, paid for Order with accountable documents issued.

Asynchronous purchase

The following Asynchronous purchase schema describes a flow when payment is done by cash. It is similar to the Instant purchase model, as it contains Shopping, Offer re-evaluation and Order creation and Issuance of the accountable documents. However, there is one core difference, which is that the ORA's Offer has a non-zero time to pay, hence, the Customer can fulfil the payment by cash. It is key to note that the Seller, in this case, is an IATA accredited agent, active in IATA's BSP for the relevant market.



Worked NDC Message Examples

To provide some examples of NDC messages, and how to apply them, we have created a page running through two use cases. This includes the application of seat selection which, as mentioned, is a popular purchase at the point of booking.

View NDC Examples →



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**Contact us to discuss trends impacting the airline industry,
and for more information about how Skyscanner
can help drive your business forward.**



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partners@skyscanner.net



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