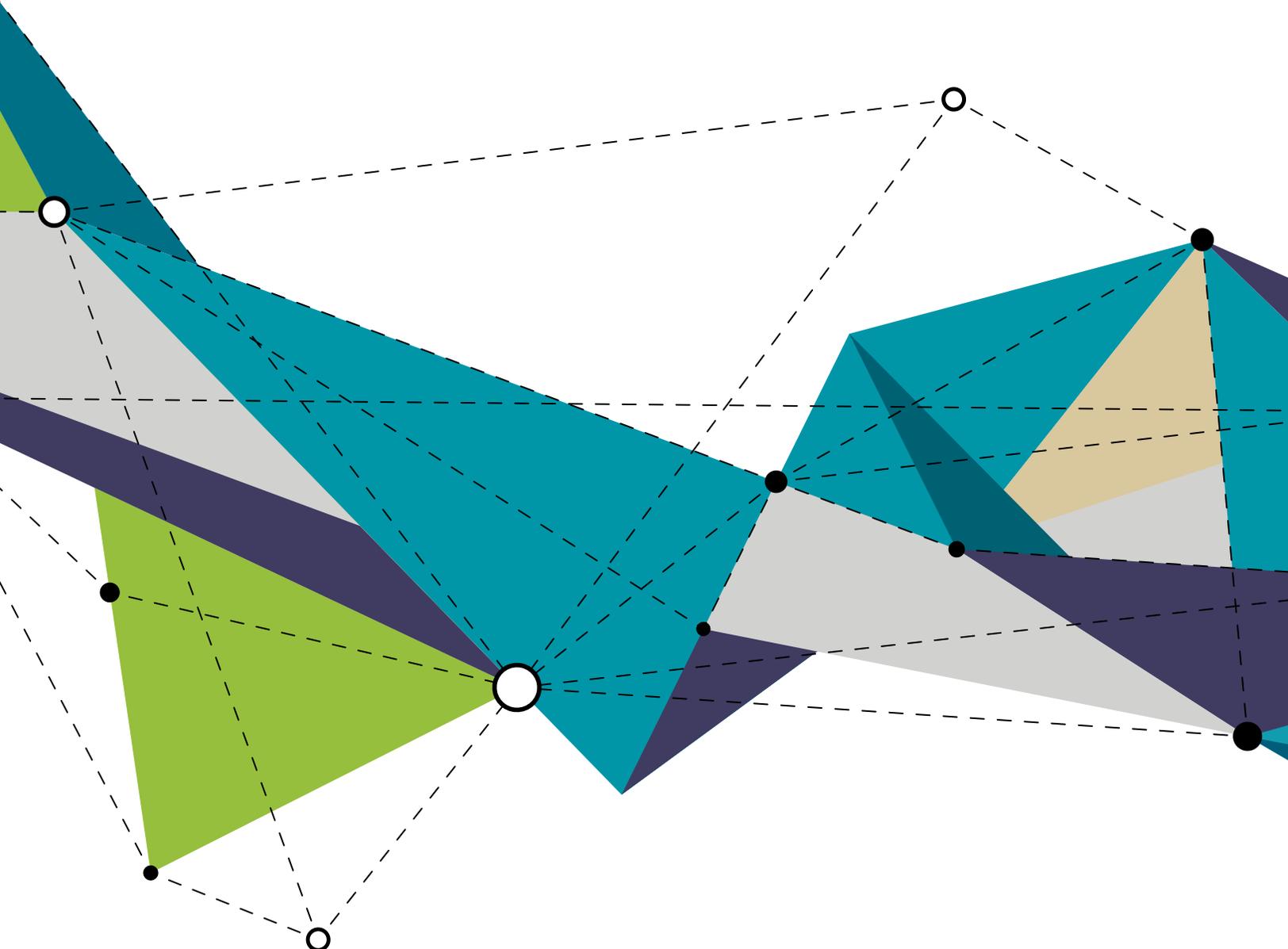


Getting Started with NDC:

Considerations for Airlines



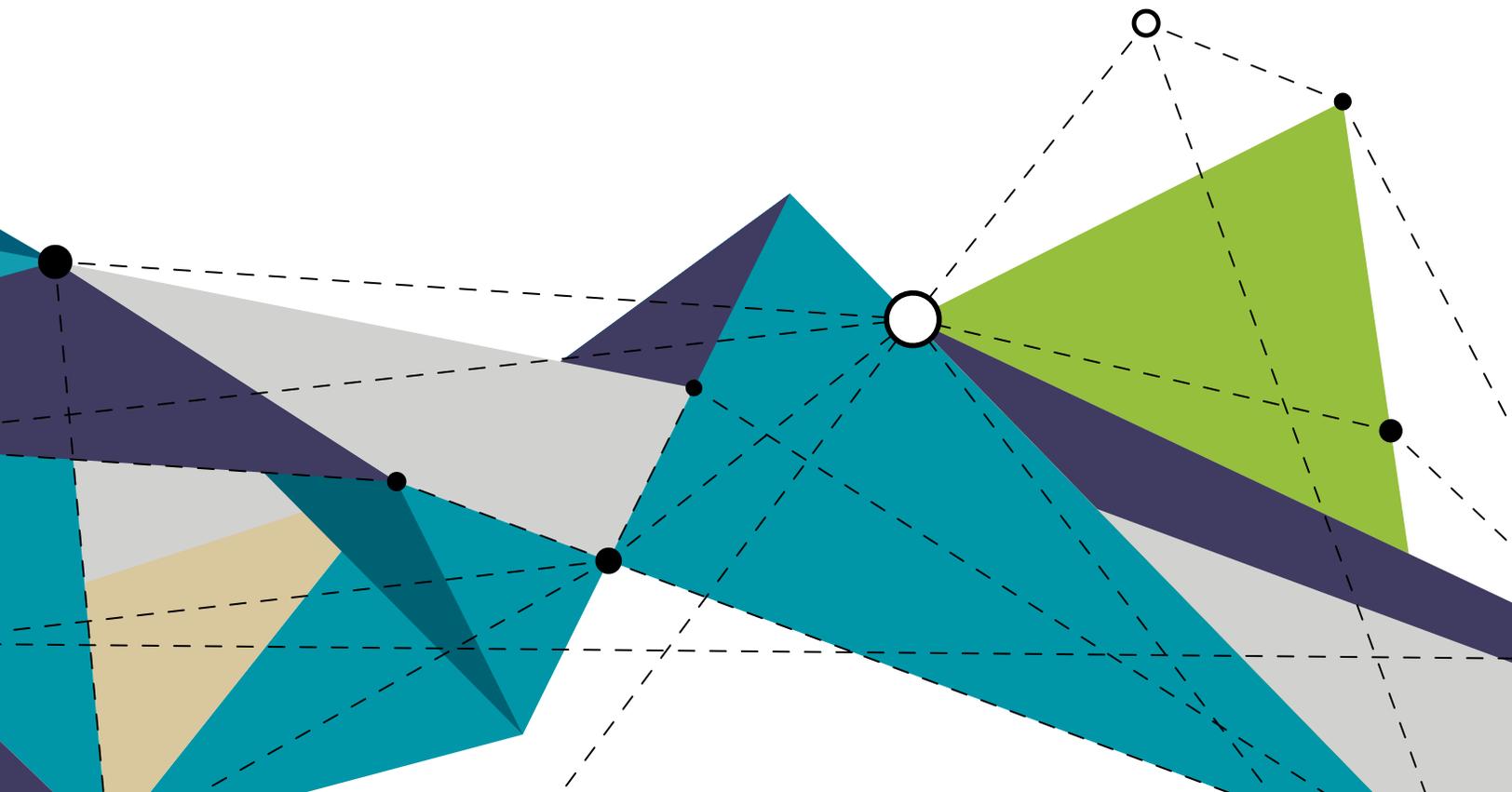
Introduction

The future of air travel distribution is full of possibilities. From ARC's perspective, an evolved distribution environment creates a personalized shopping experience across all channels, within all contexts – offering the right content to the right traveler at the right time. It's relationship-driven and leverages the breadth of available and emerging solutions, including New Distribution Capability (NDC).

Regardless of your airline's distribution strategy, ARC is positioned to help you expand your retailing initiatives in the agency channel. If you're uncertain of where to start with NDC, ARC can help your airline navigate the evolving distribution landscape.

Successfully implementing NDC requires that airlines and travel agencies closely examine a variety of factors that will impact their businesses. From ticketing to servicing, credit card billing and debit memos, NDC can have a significant impact on airlines' distribution and revenue management processes.

The purpose of this document is to provide a starting point to evaluate how NDC may support your airline's distribution strategy. While this is not meant to be an exhaustive checklist, we hope it will prompt meaningful conversations within your organization and with potential implementation partners as you build your future retailing strategy.



Getting Started

What is NDC?

New Distribution Capability (NDC) is an XML schema. It's one method an airline can use to communicate information for shopping, offers, orders, payment and servicing to a travel agency. The NDC schema can be used in a direct connection between a travel agency and an airline, via a global distribution system (GDS) or through another technology platform. In airline distribution, NDC is a means to an end: it enables airlines to differentiate their product by delivering richer information about travelers' purchasing options, improving time to market and creating opportunities to personalize offers to customers.

ARC equips airlines and travel agencies with the tools they need to implement NDC – or direct connections of any type, using any schema. Airlines are not required to be IATA NDC certified to settle NDC transactions through ARC. ARC does not require travel agencies to be IATA NDC certified to report NDC transactions, but an airline may require this certification.

Each NDC implementation will vary depending on the unique distribution needs of each airline and agency partner. Detailed discussions of NDC's business impacts – including policies, training and ticketing support, and available resources – will help ensure both parties experience a smooth transition to NDC.

ARC encourages airlines to include participants across the value chain in NDC conversations, including travel agencies; technology companies; corporate travel managers; vendors supporting agency back-office and mid-office solutions; corporate booking and compliance managers; and online booking tool providers.

ARC recently enhanced its trusted, secure settlement platform to support a wide range of NDC implementations, including the following flexible options:

- Ability to choose ticket stock type and reporting file format
- Flexible credit card billing options
- Ability to set business rules to support custom airline-agency agreements, specifically around transaction modifications and error corrections
- Output of both NDC and non-NDC transactions on the airline's revenue accounting and sales (CAT) file and the agency's IAR back-office system (BOS) file

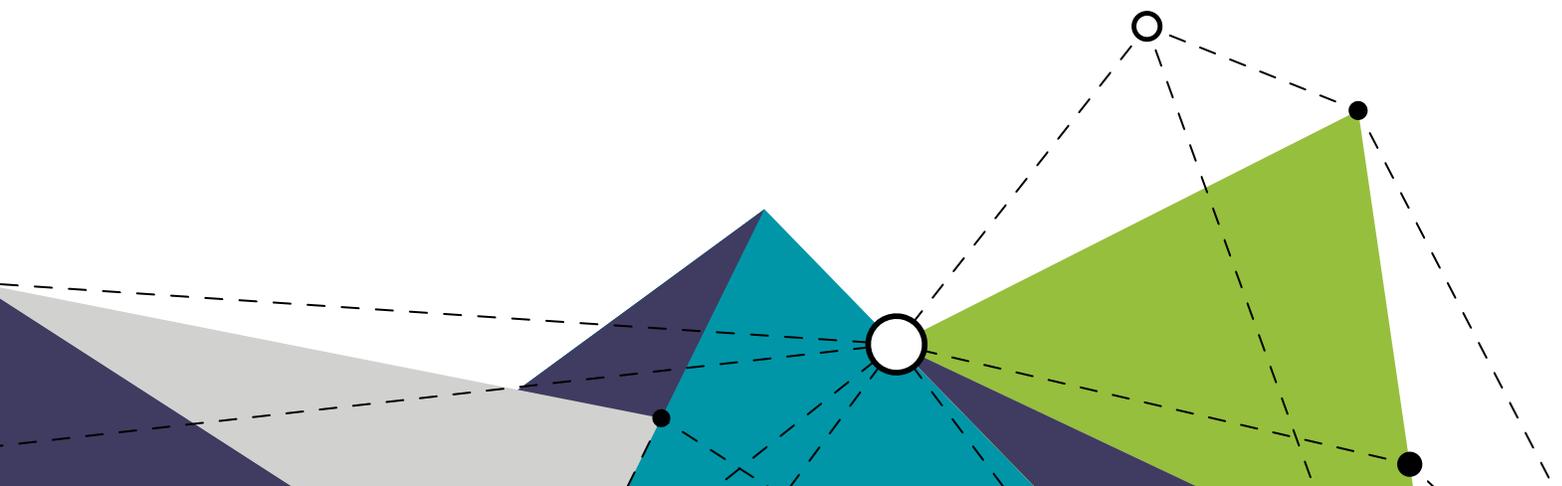


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Overview

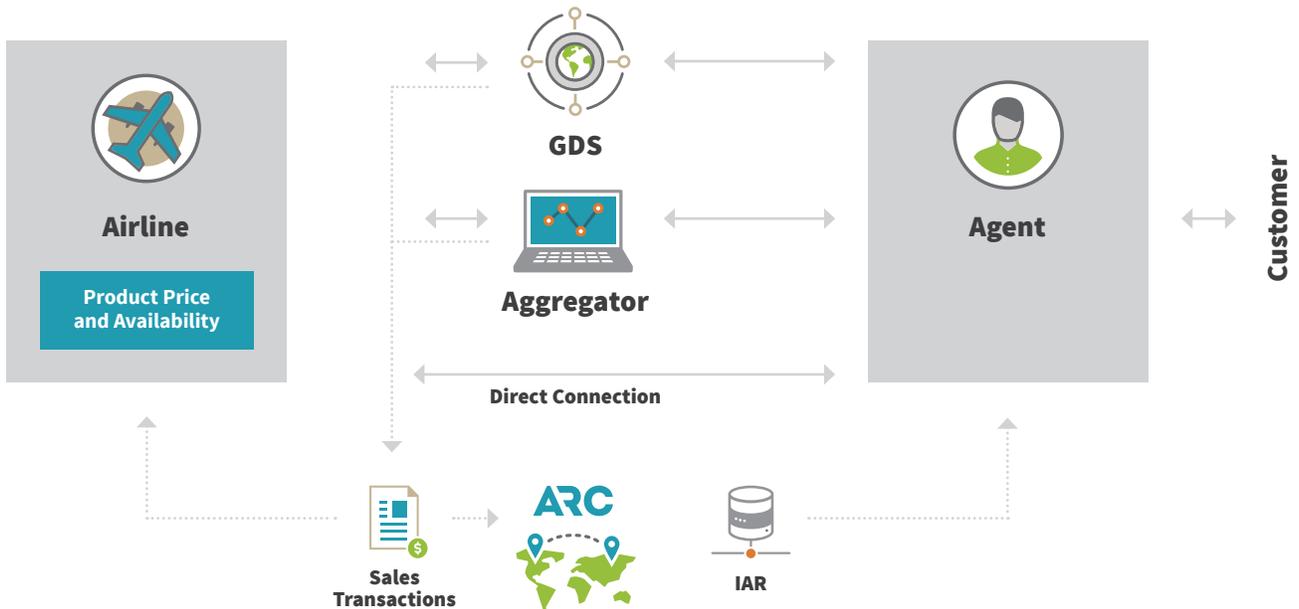
NDC can be advantageous to airlines because it opens up new opportunities for revenue generation. It gives travel agencies access to ancillary products and customized offers, and it can reduce distribution costs. For the traveler, it creates a more consistent purchasing experience across all platforms, giving them access to differentiated offerings, and ultimately building brand loyalty.

When exploring customized NDC partnerships with travel agencies, it's important for airlines to fully understand the potential effects of an NDC implementation – and to thoroughly discuss implementation plans with agency partners. It's also important to include participants from the entire value chain in these

conversations, including back-office and corporate booking tool vendors, as well as corporate travel managers.

ARC recommends that airlines create a business case with a cost-benefit analysis to determine ROI across the organization. Evaluating the impact to downline systems and processes, booking tools, servicing and customer support should be included in the impact analysis.

This guide introduces several key implementation topics that airlines should consider when evaluating a potential NDC implementation.



Airline Considerations

Distribution Channel

In the traditional distribution process, the GDS creates the offer for fares and ancillaries based on fare rules, airline schedules and availability – and presents them according to the search parameters provided by the agency. With NDC, airlines have increased control of content, communicating offers with a standard messaging protocol through one or more of the following distribution methods.

- **Direct API Connection** - Travel agents can connect directly to the airline to shop, order, pay and issue the ticket and ancillary products. In some cases, agents may gain access to content that is not available through the GDS (including fares, fare bundles and ancillaries). This option may be appealing to large travel agencies, travel management companies (TMCs) and online travel agencies (OTAs) with the IT resources to support a direct integration with an airline. An airline can decide to leverage the API for any (or all) parts of the ticketing life cycle. For example, an airline can enable an agency to shop for fares and ancillaries via direct connect, but the rest of the ticketing path is performed by a third party.
- **Aggregator** – An aggregator is a technology provider that serves as an intermediary between the airline and the agency community. It provides a platform and IT services to support the transmission of NDC messages. A variety of companies have stepped into this space, including (but not limited to) the traditional GDSs.
- **Global Distribution System (GDS)** – GDSs are likely to play an aggregator role for most travel agencies. The GDS will have the ability to display all types of content (fares, fare bundles and ancillaries) and to include content supplied by the airline using the NDC schema.

Technology Partners

An airline's NDC technology needs are largely determined by its

business model, current technology and scalability, contractual requirements for existing technology, mix of content distributed across channels and markets, competitive environment, and short- and long-term distribution strategies.

Currently, there is a wide range of technology partners in this space, with more appearing each year. The following are examples of the services a technology partner can provide in the NDC space:

- **Platform and API Management** – Enhancing or designing the platform to support direct connections, including creating the API. This also extends to the future of offer and order management – ONE Order.
- **Building NDC Adapters** – This functionality allows airlines, technology companies, GDSs and agencies that might be on different versions of NDC (or utilizing a schema other than NDC) to communicate with each other. For example, an adapter would enable an airline using NDC version 17.1 to communicate seamlessly with another party using NDC version 18.1.
- **Aggregation** – Creating a platform to combine NDC content directly from airlines with other content (e.g., low-cost airlines and traditional GDSs) for distribution directly to the public or to the travel agency channel.

Identify Agency Partners

Successful NDC implementations rely on partnerships between airlines, travel agencies and technology providers. Airlines need to carefully evaluate the partners they pursue for implementing NDC. ARC encourages airlines to establish bilateral agreements with agencies to outline NDC terms and conditions for NDC processing.

Your airline's distribution strategy will inform the types of agency business models that best align with your retailing

objectives. For instance, if the first phase of your NDC implementation is ancillary content, you'll target the agency market with the highest potential for incremental ancillary revenue. For an airline focused on reducing distribution costs, connecting directly to online travel agencies (OTAs) might be the highest priority. If an airline's home market provides the best opportunity for success with NDC, they may choose higher-volume travel agencies in that market.

Other factors for consideration:

- **Key Capabilities** – Depending on your airline's target NDC distribution channel, certain capabilities (such as post-ticketing support) may drive the initial agency or market type.
- **Data Management** – What are the options for an agency to integrate NDC transaction data into their corporate booking tools, back- and mid-office processes, customer invoicing, post-ticket servicing and duty of care?
- **Commission, Discounts and Markups** – How will existing commission, fare and corporate discounts and net fare markups impact the NDC rollout? If the airline is in control of the content, will the airline be able to apply specific up-front commission or discounts? Together, the implementation partners will need to determine how the agency (or corporation) will validate commissions and fare discounts. This also applies to any post-ticketing compensation agreements. Will NDC transactions be included in the calculations for incentives?

Payment, Reporting, Settlement and Debit Memos

Many airlines intend to leverage ARC's trusted, secure and efficient settlement system to facilitate NDC transactions. ARC's settlement and reporting capabilities provide airlines and travel agencies with several options for transaction management.

Airlines will first need to identify the payment types it will support for travel agency NDC transactions – cash, credit and debit cards, local payment methods (in non-U.S. markets), airline frequent flyer miles, vouchers and/or miscellaneous documents.

- **Payment Options** – The payment options selected by the airline for implementation will determine which party is

responsible for the authorization and billing for credit, debit and related forms of payment. Airlines can elect to have ARC initiate the billing for NDC credit and debit transactions. Airlines issuing transactions from their host system typically obtain the credit authorization and may also send those transactions through their existing fraud tools.

- Airlines and travel agencies need to discuss credit card chargeback policies for NDC transactions – particularly whether the airline will issue credit card chargeback debit memos to the agency for NDC transactions.
- If the airline obtains the authorization, will it support 3D Secure?
- How will ancillary fees be collected? Options could include an electronic miscellaneous document (EMD) issued by the travel agency or airline, or a proprietary document issued by the airline.
- **Sales File Format** – Confirm the NDC sales file transmission format. ARC can accept two file formats for NDC transaction reporting and settlement: The current ARC standard system provider reporting file (SPRF) or the IATA standard agency reporting file (RET).*
 - Identify who will create the sales file (airline, technology company or GDS)
 - Determine how frequently the file will be sent.

Airlines will need to confirm how ancillary sales will be issued and processed: On an airline proprietary document, electronic miscellaneous document (EMD) or miscellaneous charges order (MCO).

One of the many benefits of NDC is the potential elimination of debit memos, which could provide a significant cost savings for airlines by erasing the need for debit memo auditing, issuance, support and collection. For example, if an airline is pricing a transaction and the agency can't modify or alter it, the airline will no longer need to issue debit memos for recovery of fare, tax or fees. Debit memos for credit card chargebacks will need to be discussed.

**Note: The RET file format has limited settlement functionality, as it was designed for IATA BSP settlement using IATA standards. ARC's settlement product was designed to settle transactions sent in the SPRF format from A4A standards.*

Summary of Business Impacts

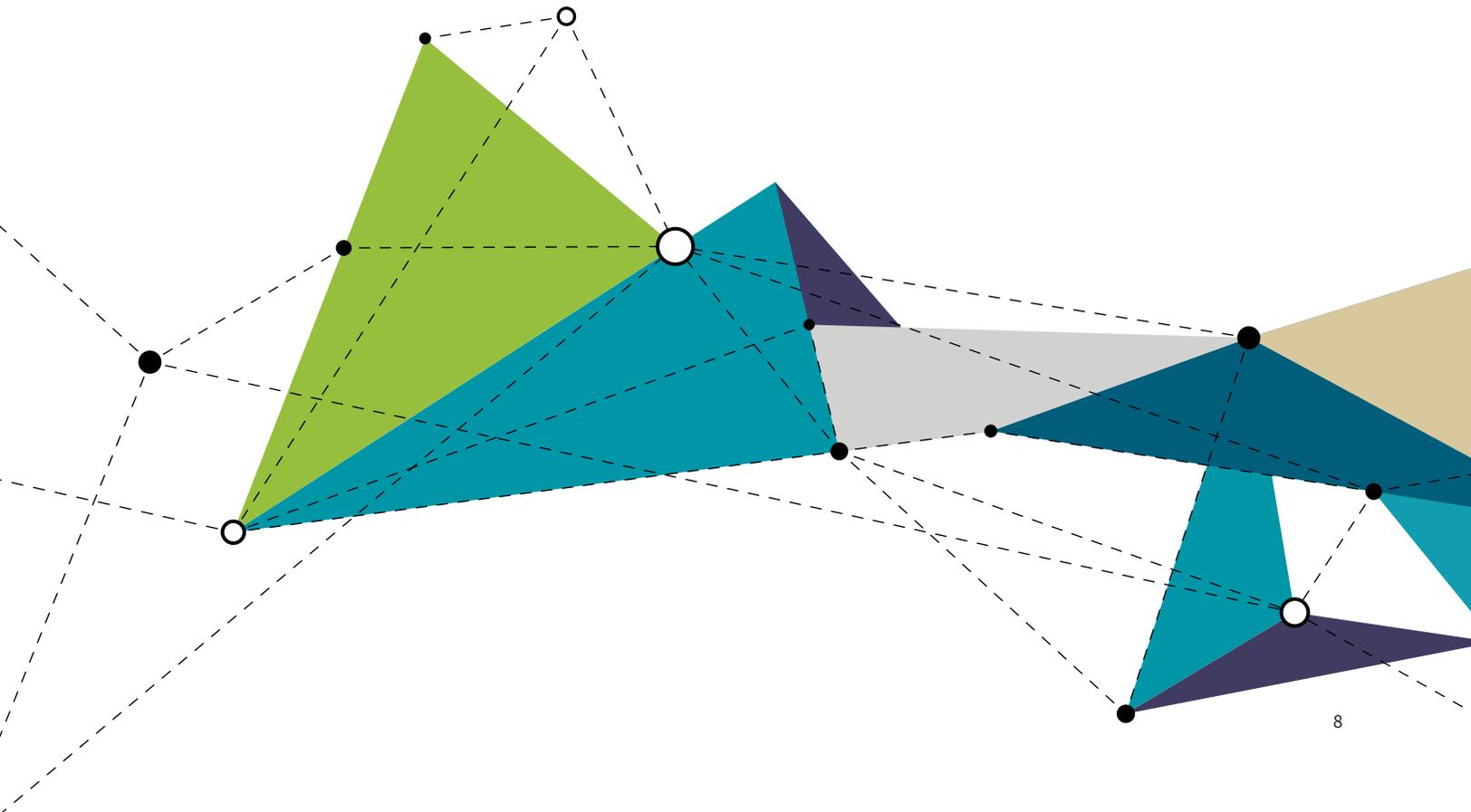
ARC participating airlines need to evaluate and understand the impacts of NDC implementations on key business functions

and processes. After multiple conversations with a variety of airline partners, ARC has identified the following key areas of focus for business impacts:

- **Revenue Management and Integrity** – The impact of new fare types and combinations that stem from NDC. Will the airline support only filed fares, fare bundles or special .com fares? If dynamic fares are offered, the impact to revenue allocation and management will change.
- **E-Commerce Technology** – Supporting the increased volume of shopping, booking, ticketing and payment requests coming directly to the airline will need to be considered. How scalable are the current NDC connections?
- **Travel Agency and Corporate Sales Support** – Will additional support be needed for NDC transactions? Will existing waivers and favors be applicable? How will NDC transactions be counted in terms of sales contracts and revenue share?
- **Revenue Accounting and Auditing** – The impact to revenue accounting and auditing will vary based on the type of NDC implementation. If the airline plans to calculate the fare, taxes and fees, the need for auditing may be minimized or eliminated. Tracking agency sales may be impacted as the transactions may appear like other airline direct sales,

so bringing together all areas of the airline ecosystem is recommended to understand the impacts.

- **Credit Card Payment Authorization, Billing, Chargebacks and Risk Management** – Decisions on who will initiate the credit billing need to be finalized. Additionally, how will credit card chargebacks be managed? Will the airline send credit card chargebacks to the originating agency? If so, that will need to be communicated to the agency. We recommend bringing in the airline credit card services team to validate these impacts.
- **Post-Ticketing Services** – Will the airline support post-ticketing services as part of the initial NDC release? This includes functionality such as initiating refunds, voluntary and involuntary changes, seat changes and upgrades, and involuntary airline cancellations. If these services are not supported during the initial release, determine how they will be managed (e.g., via calls directly to the airline or through an online portal). These post-ticketing services are critical, especially to agencies that manage corporations or large volumes of changes in the leisure market.

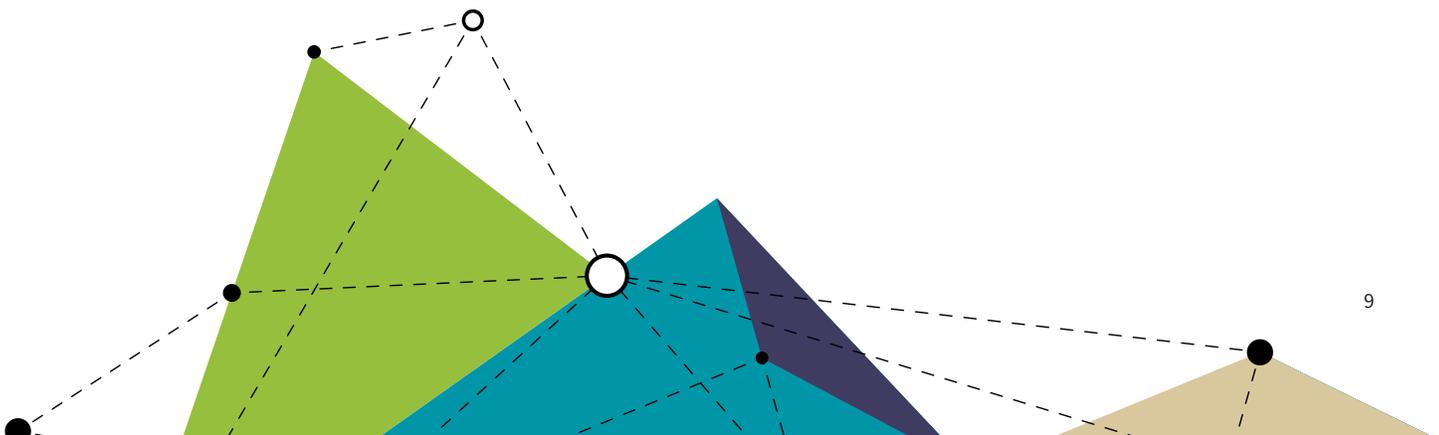


ARC's Direct Connect with NDC

With ARC's Direct Connect with NDC solution, airlines and travel agencies can create customized partnerships that leverage NDC. This gives airlines the opportunity to implement their individual distribution strategies with the support of ARC's trusted settlement solutions. Travel agencies benefit from continued use of ARC's integrated platform while gaining access to richer, more customized airline content.

How does it work?

- Travel agencies issue transactions through the airline's reservation system (either directly or through a technology provider).
- The airline (or their technology provider) creates and delivers the sales file via secure transmission of a SPRF or RET file.
- Based on the custom agreement between the airline and agency, NDC transactions are validated, billed, stored and output through ARC's distribution and settlement product.
- Travel agency views direct-connect and GDS transactions in IAR and receives the ARC BOS file with all transactions (both direct-connect and GDS transactions).
- Airline receives the CAT file (both direct-connect and GDS transactions).
- Travel agencies and airlines receive their net cash settlements each week for all transactions with a cash form of payment and net commissions.



Next Steps

To start processing transactions through ARC's Direct Connect with NDC, airlines will need to enter into an agreement with ARC. Legal documents will be provided to the airline. Please note that IATA NDC Certification is not required for airlines to do business with ARC.

Airline Onboarding Process

ARC will work with the airline to create and execute a test plan prior to implementation. The test will include all parties that

will be involved in the initial implementation (airline, agency, technology providers, ARC) and will include transaction issuance, creation, receipt and processing of the sales file. Additional files such as potential rejection report files and airline revenue accounting files will also be discussed as part of the testing process.

Once testing has successfully been completed, ARC will work with the airline to set a production date.

Sign [Direct Connect with NDC Agreement](#).

Review [the Direct Connect with NDC Manual](#).

Complete [the Direct Connect with NDC Application](#).

- Pay the implementation fee before testing begins.
- Airlines will need to provide details on how they wish to set up their direct connect, including these options:
 - Sales File
 - Will the airline send a SPRF or RET?
 - How will the file be sent (through IATA NDC Link, directly to ARC via SFTP, through ATPCO or via another method)?
 - How many files will be sent per day?
 - NDC Identifier
 - SASI code
 - Form code ranges (airline or neutral ticket stock)
 - Forms of Payment
 - Cash
 - Credit/debit card – Will ARC or the airline initiate billing?
 - Transaction Types
 - Sales
 - Refunds
 - Exchanges
 - Voids
 - Transaction Features
 - Business processing rules (options)
 - IAR transaction error management
 - IAR field modifications
 - Manually entered transactions

If you are ready to get started or have questions about implementing NDC with ARC, contact NDC@arccorp.com