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Background

What is the KrisConnect Programme

How would this help to improve customer experience

What is the KrisConnect Programme?

Travel industry distribution systems date back to when the industry was regulated and commoditized, and consumers were happy to physically travel to an airline or agent office. Today, airlines and travel retailers compete on price and service, and the internet has lead consumers to expect 24/7 access to information, personalised offers and self-service functionality – usually via the digital platform of their choice.

Over the years, airlines have progressively developed their websites and mobile apps, but this did not resolve the limitation of the legacy technology used by other distribution channels.

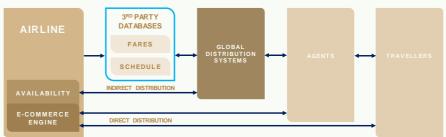
With the KrisConnect Programme, SIA is now making available the information and functionality of its digital platforms to third parties, including agents and distribution intermediaries, via Application Program Interface (API) technology.

These APIs, which include those following IATA's New Distribution Capability (NDC) standards, allow partners to access a wide range of functionalities including the booking and management of flights, checking of flight status information, KrisFlyer-related information and more. By integrating these capabilities into your own platforms, you can enrich the booking experience and improve customer satisfaction.

So, what has changed with NDC?

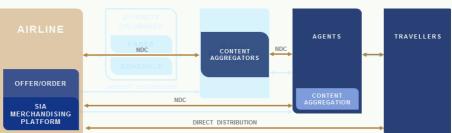
In the old distribution model, agents obtained airline content via Global Distribution Systems who pieced together information from various databases. The technology these systems used was unable to handle the full breadth of today's content.

BEFORE



With API/NDC, agents can now connect directly or via a content aggregator to the airline, increasing the breadth of products and services available, accuracy and speed-to-market.

AFTER





Background

What is the KrisConnect Programme

How would this help to improve customer experience

How would this help to improve customer experience?

Customers increasingly expect personalized offers that contain a combination of products and services that suit them best at a particular point in time.

SIA has invested heavily in these capabilities such that fares, conditions, discounts, ancillary product and service combinations can all be adjusted based on the preferences of travelers, agents and corporations. We believe that customers demand for personalization and with our ability to provide, this will continue to grow.

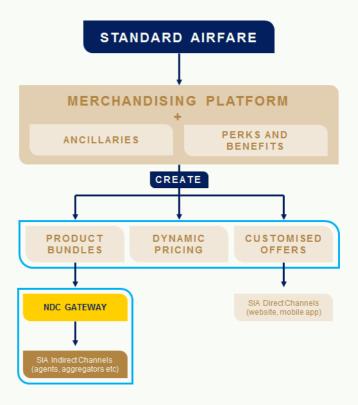
"Innovation needs to be part of your culture.

Customers are transforming faster than we are, and if we don't catch up, we're in trouble."

- lan Schafer, founder of Deep Focus

Though this personalisation is already available via our website and apps, legacy distribution technology has thus far precluded us from making it available more broadly. Until now.

With API/NDC technology and the KrisConnect Programme, partners will have access to SIA's widest range of content *and* the ability to personalise offers.









SIA NDC Technology

Summary of SIA NDC APIs

Technical roadmap and capabilities

SIA NDC technology

SIA NDC technology is powered by Amadeus Altea using the most advanced NDC version, v18.1, which enables an end-to-end shopping/ordering flow and supports most servicing requirements.

The range of functions supported by NDC continues to expand, and SIA is committed to supporting the latest standard to best serve our partners.

SIA is also committed to remain part of the NDC Leaderboard of airlines to drive industry adoption of this new technology.





Summary of the SIA NDC APIs

Listed below are some of the key NDC APIs that SIA currently makes available to partners. These are progressively being augmented with new capabilities.

The details of each API and their respective implementation guides can be downloaded from our developers' portal at developer.singaporeair.com/apis/ndc



Search and retrieve SIA offer(s)



Finalise the price(s) of the offer(s) taking into account any applicable Frequent Flyer detail(s) and/or credit card fee(s)



Retrieve the seat map with seat descriptions and/or price(s) for the seat(s)



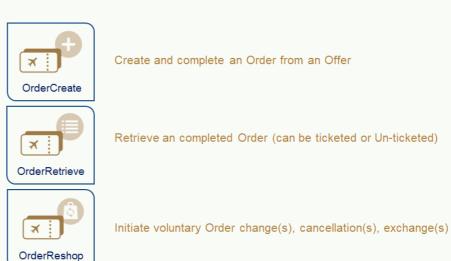
Retrieve a catalogue of ancillaries



SIA NDC Technology

Summary of SIA NDC APIs

Technical roadmap and capabilities





Initiate change(s) and update the Order



Cancel the Order

Partners may consume and combine these APIs to suit their specific needs and desired booking or servicing flow. This modular approach gives our partners maximum flexibility.

- Want to activate a fuss-free booking journey? Simply combine AirShopping + OfferPrice + OrderCreate.
- Want to allow your customers to add ancillaries to their booking?
 Simply layer on the ServiceList API.



Complete an end-to-end booking flow



SIA NDC Technology

Summary of SIA NDC APIs

Technical roadmap and capabilities

Technical roadmap and capabilities

The current list of supported features enables any partner to perform end-toend booking and servicing, with added capabilities such as purchasing ancillaries, searching for the best available fare in a 7-days window, enriching display with rich content and more.

New functionality is regularly being deployed as the industry – IATA, airlines, GDSs, agents and other stakeholders across the supply chain – gains experience and discovers new use cases. SIA is committed to staying at the forefront of the capabilities offered.

Technical capabilities of SIA NDC API

2018

IN PRODUCTION

- · Sale of Flights
- · Seat Selection (Inc. sale of chargeable seats)
- · Sale of Other Ancillaries (e.g. Excess Baggage)
- Air Discount
- · Ancillary Discount
- Servicing (Refund, Change Bookings)
- · Calendar Search
- · Agent Notifications for Involuntary changes

2019 Q1

IN PRODUCTION

- · OfferPrice from flight details with upsell
- · Rich media via File Retrieve
- Enhanced Shopping (i.e. Open Jaw itinerary)
- Seat Selection with KF validation (Seat Avail v18.1)
- · Packs of Services



SIA NDC Technology

Summary of SIA NDC APIs

Technical roadmap and capabilities

2019 Q3

IN DEVELOPMENT

- Enhanced Shopping with Complex Itineraries (i.e multi-city shopping)
- · Handling of high shopping volume
- · Enhanced fare conditions handling
- · Agent notification via OrderChangeNotif
- · Agency handling via content aggregators
- · Connection to BSP

Future

UPCOMING

- · Air Promocode
- Ancillary Promocode
- · Connection of ARC
- · Personalisation by agency code
- · Personalisation by Corporate ID and SSR CLID
- · Enhanced deferred payment flow for markets with CC fees
- · Support of 3DS

Should you require further assistance and explanation on any of the features/capabilities, please contact your SIA Account Manager(s) or email krisconnect@singaporeair.com.sg





Value for agents

Value for corporates

SIA content offering for Krisconnect

Value for agents

1. Access to more and better content

- Access to exclusive channel promotions, including access to direct channel exclusive fares
- Access to new fare family products, ancillary products (seats, bags, Wi-Fi, insurance and many more)
- Co-creating unique products that are exclusively available for sale in your channels
- Access to personalized product offerings that are uniquely customized for the end consumer or corporation
- Access to personalized promotions that are tailored based on customer profiles

2. New revenue opportunities

- Enrich offers with better fare and product content to promote more sales
- More incentive gains through sale of ancillaries
- Level the playing field with others already using NDC/API technology

3. Promotes innovation

- Build new functions to better serve customers, e.g. show a calendar of fares and availability for +/- 3 days around the date queried
- Access to richer content to improve user experience
- More flexible and faster speed to market when introducing new changes

4. More data/transparency to help make decisions

- Ticket conditions for the various fare options are returned in an easy-to-consume form to facilitate quick comparison
- Enrich the offers with more content about the seat product and equipment type to provide more information at shopping time to guide selections
- Enrich the offers with rich media content to showcase product images (e.g. seats, meals) to allow the travelers to know exactly what they are getting when they book

5. Unlocking efficiencies in operations

 Automating fee waivers for re-bookings or cancellations in the event of a disruption to minimize any need for manual interference



Value for agents

Value for corporates

SIA content offering for Krisconnect

Value for corporates

1. More choices, more flexibility

- Unlocking more fare options in between standard fare classes to allow flexibility without having to upsell to the highest fare class
- Only paying for what you need, allowing you to select your add-ons to complete your offers
- Unlocking discounts when add-ons are purchased in a bundle

2. More data/transparency to help make decisions

- Conditions of the various fare options are returned in an easy-toconsume form to facilitate comparison of the selected corporate fare product against its corresponding public fare product
- Enrich the offers with more content about the seat product and equipment type to provide more information at shopping time to guide selections
- Enrich the offers with rich media content to showcase product images (e.g. seats, meals) to allow the travelers to know exactly what they are getting when they book

3. Heightening end to end customer experience

- Automating fee waivers for re-bookings or cancellations in the event of a disruption to minimize any need for manual interference
- With the right setup in place, your travelers can perform an end-toend journey without even leaving your platform. Yes, and that includes checking-in / seat selection / meal selection and more

4. Promoting customization

- Tailored offerings, such as free Wi-Fi packages for selected staff
- Special bundles for packaged offers
- Use a promocode to unlock special fares to fly your employees for a corporate event
- These are just some of an almost unlimited range of possibilities available with the right technology and agreements in place

5. Unlocking preferential benefits

Discounted or FOC ancillary purchases (e.g. Wi-Fi, seats)



Value for agents

Value for corporates

SIA content offering for Krisconnect

Additional content categories for KrisConnect

Partners will have access to better content in the NDC channel vis-à-vis the traditional EDIFACT channel. Seat selection, excess baggage, merchandising actions are already exclusively available in the API/NDC channel. More will come as the NDC roadmap develops.

Broadly, here are the various content categories that are exclusively available in NDC. An explanation of each is detailed on the next page.



With the right technology, innovation can happen. Once the connection is in place, SIA welcomes feedback and suggestions from partners on potential new products that we can co-create to jointly deliver both business and customer value.

"it's not just about having ideas. It's about coming together to make these ideas happen."



Value for agents

Value for corporates

SIA content offering for Krisconnect

Explanation of the content categories

Available in production today



NDC EXCLUSIVE FARES

- Additional price points that are effected on a permanent basis
- Tactical fare promotions that can be introduced from time to time



PERSONALISED OFFERS

 Customised and tailored fares, ancillary pricings, product bundles, benefits, promotions and more that are uniquely curated based on defined parameters



SALE OF SEATS

- Sale of seat selection
- Includes seat map with all seat prices
- Includes preferential prices based on targeted parameters



SALE OF BAGGAGE

- · Sale of excess baggage allowance
- Includes per kg pricing
- Includes preferential prices based on targeted parameters



BUNDLING OF ANCILLARIES

- Product bundles curated based on products that are typically sold together
- Includes preferential prices based on targeted parameters



AIR DISCOUNTS

- Discounts off baseline fares that can be effected on a real time basis
- · Could be effected on a permanent or tactical basis



CALENDAR FARE SEARCH

- Return best available fares for a -/+3 days window to allow users to source the best available fare in the week
- Ideal for customer-facing websites



Value for agents

Value for corporates

SIA content offering for Krisconnect

Upcoming content categories



PROMOCODE

- Promocodes that can unlock additional fares, discounts, bundled offers and more
- Negotiated from partners to partners



THIRD PARTY CONTENT

- Sale of additional ancillary content to enrich offers for end consumers
- · Includes Wi-Fi, hotels, attraction passes and more



RICH MEDIA

- Enrich display with products, seats, ancillaries images to promote sale and improve transparency
- Includes video content

and more...



Value for agents

Value for corporates

SIA content offering for Krisconnect

New and more innovative fare products

New fare products will be offered in the NDC channel. As the technology advances and the roadmap develops, there will be more dynamic ways to customize and curate fare products that would fit the needs/preferences of the end consumer.



NEW BRANDED FARES

- New bundled fares, e.g. Super Lite, Super Flexi
- More fare options to suit travellers' needs



CONTINUOUS PRICE POINTS

- Interim price points that are in filed in between fare levels
- Dynamically adjusted and may differ based on customer profiles



ENABLING FARE ADD-ONS

- Unbundling of fare conditions
- Allowing fare add-ons. I.e. add on a cancellation condition while purchasing the most restrictive fares



NDC EXCLUSIVE FARES

- Tactical purposes
- Can be introduced any time throughout the year
- Can be applied by markets, flight routes etc...

Offers that are personalized based on input parameters

SIA's personalization technology allows the curation of tailored offers based on the individual needs of the customer, the agent or the corporate. NDC facilitates this by transmitting the input parameters that are required for the airline to curate the offer, and to transmit it back to the partner to transact.



LOYALTY PROFILE

- Loyalty members enjoy varying perks and benefits ranging from discounted to free ancillaries
- Unlocking loyalty discounts and privileges (i.e. special fares for requalification)



CUSTOMER PROFILE

 Travel patterns, special subscription-like fares for customers who frequent a particular route



CORPORATE TIERS

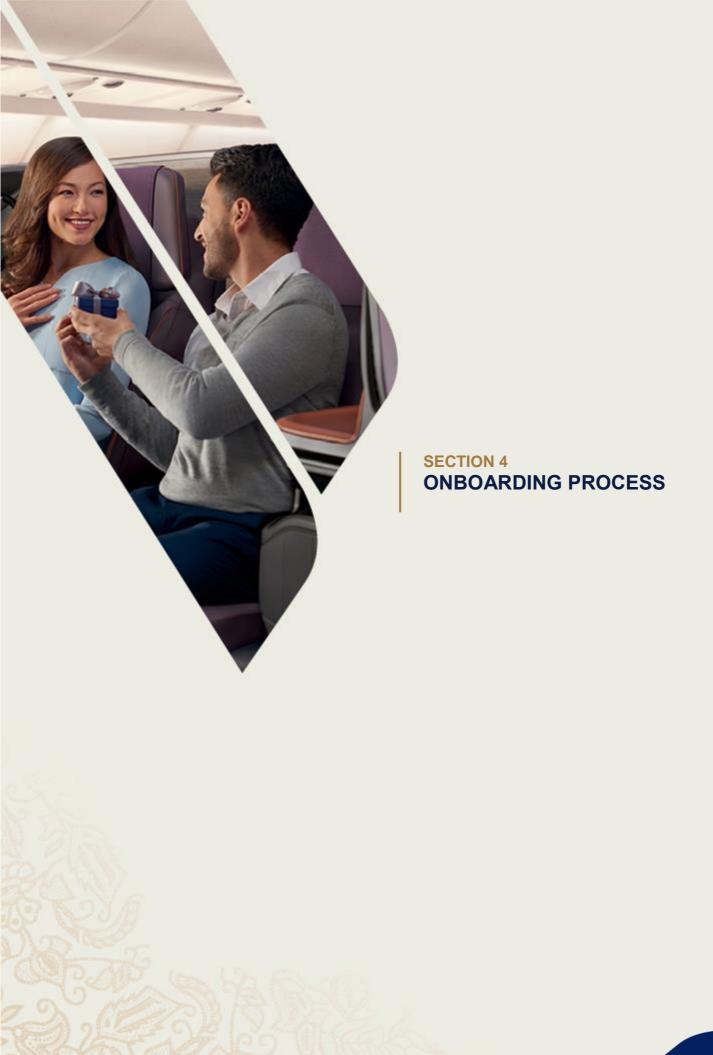
- Varying perks and benefits ranging from discounted to free ancillaries, lounge access, onboard wi-fi
- Dynamic waivers of fees, charges
- Unlocking unique corporate discounts and promocodes



AGENT PROFILE

- Negotiated discounts, fare products that are only meant for your customer base
- Unlocking special bundled offerings (i.e. packaged fare with ancillaries to push ancillary sales)







Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

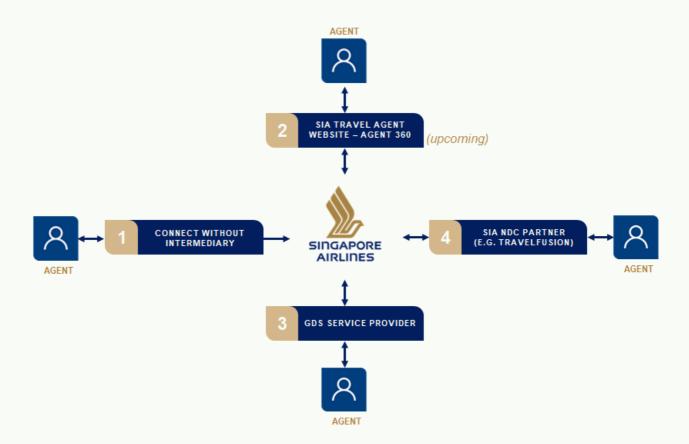
Ways for agents to connect

There are four ways you can connect to SIA API/NDC technology, broadly summarized in the diagram below. Each option has its own set of considerations and the decision fully sits with you.

We strongly encourage partners to review each of the options, consider your business needs, use cases and requirements before you decide on the one that best suits your needs.

All options will give you access to SIA's full suite of content, but the commercial and technical commitments may differ.

For discussion(s) regarding commercials, please approach your respective SIA Account Manager(s).





Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Considerations for the various options

You can choose how you prefer to access SIA/s API/NDC content. However, each option carries a different process and considerations, so it is important you consider carefully. We have listed some of the key points to assist your evaluation.

Integration considerations

	Control over integration	Effort required by partner	Cost of integration
Direct connection	Good control over when and what to integrate	Requires Content Aggregation, UI Capabilities, etc	IT investment and resources required
Via AGENT 360	Nil integration effort required.	Nil integration effort required. Transactions will be performed on a separate UI.	Nil integration cost
Through tech partner	NDC Tech Partner must already be consuming SIA NDC content today	Dependent on Tech Partner	Some cost might be needed to integrate new NDC tech partner to your platform
Through GDS	Limited control, Dependent on GDS roadmap and timeline	Dependent on GDS	Minimal cost if using existing GDS

Other considerations

	Commercials	Content	Usage cost
Direct connection	Speak to your respective Account Manager(s)	Exclusive NDC/API Content	SIA do not charge a usage cost for the NDC APIs.
Via AGENT 360	Speak to your respective Account Manager(s)	Exclusive NDC/API Content	SIA do not charge a usage cost for the travel agent website.
Through tech partner	Speak to your respective Account Manager(s)	Exclusive NDC/API Content	Dependent on tech partner
Through GDS	Speak to your respective Account Manager(s)	Exclusive NDC/API Content	Dependent on GDS service provider



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Process for Direct Connection

Partners opting for direct connection will have to secure a technical integration slot. SIA issues integration slots every 2 months following a prioritization exercise. In general, a typical integration cycle takes 3 months from development to activation ("in production"), though this may vary depending on the partner's familiarity with the APIs and/or speed of development. Support will be provided throughout the integration process.

Access to generic sandbox

- Submit NDA +
 Implementation
 Questionnaire to
 krisconnect@singaporeair.
 com.sg
- Once the NDA is completed and reviewed, a SIA representative will be in touch to grant you access to a generic sandbox environment.
- Begin integration in generic sandbox environment (optional)

Access to partnerspecific sandbox environment

- SIA will prioritise set-up of partner specific sandbox environment based on commercial discussions^[2]
- Once the partnerspecific sandbox environment has been set-up, partner to begin/complete integration
- Dedicated support will be provided during this integration

Access to SIA's live/production environment

- Demonstrate
 evidence of
 successful integration;
 SIA to conduct UAT
- 2) Partner to sign necessary contracts
- Live environment details to be provided

[1] UAT must be done in the partner-specific environment. Successful integration in Generic Environment does not guarantee the provision of a partner-specific environment

[2] Factors taken into consideration include projected NDC volumes, alignment in commercial model between SIA and partner, proven capability to integrate with NDC

Getting started

A copy of the NDA as well as the implementation questionnaire can be downloaded from our developers' portal. The direct links are also included below for easy reference. Both documents must be completed before an application will be processed. Should you need assistance or have any queries regarding the documents, please approach your respective SIA Account Manager(s) or email krisconnect@singaporeair.com.sg.

Useful links:

Non-Disclosure Agreement (NDA):

https://developer.singaporeair.com/files/SQ_-_Amadeus_NDA_Template.docx

Implementation Questionnaire:

https://developer.singaporeair.com/files/Application_Form_for_SIA_NDC_Direct_Connect.xlsx



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Process for Connection through the Global Distribution Systems (GDSs)

SIA works with six Global Distribution Systems (GDSs), in alphabetical order:

- Amadeus
- Axess
- Infini
- Sabre (Abacus, Sabre)
- Travelport (Galileo, Worldspan, Apollo)
- Travelsky



The new content that is distributed through SIA NDC technology will also be made available to the GDSs once they are connected to SIA via NDC.

The GDSs are currently busy developing to consume SIA"s NDC content, with Amadeus, Travelport and Sabre expected to be complete by April 2020. Other GDS will follow soon thereafter. The progress and expected timelines for each GDS is indicated in the respective sections for information.

For partners intending to consume SIA's NDC content through a GDSs, please go through the onboarding process for that GDS in detail to ensure all the required steps are followed.



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Amadeus subscribers

amadeus



About

https://amadeus.com/en/about

Development progress and timelines

Status

Integration in progress

While Amadeus is SIA's appointed IT provider of our NDC technology, developmental effort is still required to enable SIA's NDC content in the Amadeus Travel Platform.

This development work is in progress and partners can expect the content to be made available based on the following timelines. [1]

Availability of NDC content in Amadeus • Content available in webservices for OTAs to commence interface development work (for OTA segment) • Content available in existing Amadeus workflow (for all travel agencies) • Content available in Amadeus Travel Platform with new NDC workflow (for all travel agencies)

[1] Timelines may differ by markets based on SIA's market rollout. Please contact your respective SIA Account Manager(s) for more information.



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Amadeus subscribers

Existing Amadeus workflow

NDC content will be made accessible natively within the existing Amadeus workflow. No migration or upgrading of platform required from subscribers.

Travel sellers will have the option to access SIA NDC content through their existing office ID or through an additional new office ID. Please contact your Amadeus Account Manager(s) to discuss the 2 options that are made available to you.

Amadeus Travel Platform - new NDC workflow

Amadeus Travel Platform will offer travel sellers access to content aggregated from multiple sources, including NDC. Travel sellers will be able to enjoy the full benefits of NDC through a new simplified graphical workflow. The rollout of the new solution will be managed by Amadeus and you are encouraged to approach your Amadeus Account Manager(s) to find out more.

Current supported features for SIA NDC content



Shopping for flight content



Shopping for ancillary content



Payment via BSP



Servicing of orders including Cancel, Refund and Change



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Amadeus subscribers

Onboarding process for agents

Prior the 1st of a new month

 Discussions and formalization of agreement between SIA and partner. Only partners that have signed the agreement will proceed to the next stage.

Every 1st of the month

 SIA will update list of signed partners in Amadeus' database. Amadeus to trigger subscriber agreement process with agents.

Every 15th of the month

Amadeus to update SIA on list of partners that have completed the subscriber agreement. SIA will take over to complete setup and configuration.

1st of the next month

Partner to be activated with new content.

All Amadeus' subscribers are required to adhere to the processes detailed above to gain access to SIA's NDC content. Please approach your respective SIA Account Manager(s) to kick start the onboarding process. For queries pertaining to the GDS' processes, please approach your respective GDS Account Manager(s).



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Sabre subscribers





About

https://www.sabretravelnetwork.com/home/about

Development progress and timelines

Status

Integration in progress

Sabre is targeting to launch with a pilot with several agencies for two key workflows in November 2019. The rollout across Sabre Subscribers is targeted to begin in January 2020.

Partners can expect the content to be made available based on the following timelines. [1]

NOV 2019 • Foundational functionality available for pilot agents on Sabre® APIs and Sabre Red 360: Workflow supported initially are: • SHOP>PRICE>BOOK>PAY • SHOP>PRICE>BOOK>CANCEL JAN 2020 • Foundational functionality available for Singapore agents on API and Sabre Red 360 through 2020 • Additional capabilities will be added progressively

[1] Timelines may differ by markets. Please approach your respective GDS Account Manager(s) for more information.



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Sabre subscribers

Sabre® APIs

Sabre® APIs, formerly known as Sabre® Web Services, provide easier, faster and more flexible access to the Sabre® system functionality and products. Through the Internet, you can integrate our products and services — all the functionality needed to sell travel — with your own applications and databases. APIs are ideal for developers who want to build or update a customized booking application for their website or use Sabre content within another application.

Sabre Red 360

Announced as the new Sabre Red Workspace in 2016, the product has undergone a continuous evolution to further optimize the design and performance. Now featuring a fully API-enabled UX, the solution connects travel consultants to a full spectrum of content through the Sabre platform. It will be the access point to NDC content, Content Services for Lodging, as well as Sabre industry-leading Air Shopping APIs. This evolution, as well as the planned enhancements, necessitates a new name leading into the future. Sabre Red 360 brings the entire spectrum of possibilities into view, including significant benefits to the entire travel ecosystem. Travel agencies have hiring flexibility with its intuitive graphical and powerful command-driven workflows. Four hundred twenty airlines have access to advanced tools to differentiate their brands and merchandise their products within the workflow. Developers can easily build upon the robust, modular portal to create new functionalities and drive innovation.

Current supported features for SIA NDC content



Payment with customer credit card

Canceling Offers pre-fufilment

Accepting and communicating airline-initiated schedule changes



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Sabre subscribers

Onboarding process for agents

Prior to the 1st of a new month

 Discussion and finalization of agreement between SIA and partner. Only partners that have signed the agreement will proceed on to the next stage

Every 1st of the month

SIA will inform Sabre of the list of agencies that have onboarded the programme

Throughout the month

Sabre Account Managers to approach agency for training, activation and testing

When ready

Sabre to update SIA with list of agents that have gone through the necessary training and testing

Within a week after Sabre's notice

SIA to complete setup and configuration and partner to go live.

All Sabre's subscribers are required to adhere to the processes detailed above to gain access to SIA's NDC content. Please approach your respective SIA Account Manager(s) to kick start the onboarding process. For queries pertaining to the GDS' processes, please approach your respective GDS Account Manager(s).



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Travelport subscribers





About

https://www.travelport.com/company

Development progress and timelines

Status

Integration in progress

Integration work is currently in progress with Travelport with an initial release to selected pilot agents from December 2019 for Trip Services and January 2020 for Smartpoint.

As Travelport continues to build out the functionality to support SQ NDC content, in particular "Servicing" through first half of 2020, there will be a progressive rollout to all enrolled Travelport subscribers during that time.

Partners can expect the content to be made available based on the following timelines. [1]

[1] Timelines may differ by markets. Please approach your respective GDS Account Manager(s) for more information.



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Travelport subscribers

Travelport Trip Services

A portfolio of lightweight and modular API micro-services. These enable the retailing of multi-source and enriched air, car and hotel content including new standards such as NDC through a contemporary JSON/RESTful developer experience that will adapt to new technologies and devices driven by consumer demand

Travelport Smartpoint

Travel agents using Smartpoint version 8.2 and above will be able to download the NDC web plugin from Travelport's Marketplace. The plugin presents a familiar and intuitive workflow, clear search results, with quick and easy booking creation. Changes made on the NDC window will reflect to the current PNR under PNR Viewer. Clear confirmation view includes GDS booking reference and airline vendor locator - all integrated and aligned to your existing mid-office systems.

Current supported features for SIA NDC content



Shopping for flight content



Shopping for ancillary content



Payment via BSP



Servicing of orders including Cancel, Refund and Change



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

For Travelport subscribers

Onboarding process for agents

Prior to the 1st of a new month

 Discussions and formalization of agreement between SIA and partner. Only partners that have signed the agreement will proceed to the next stage.

Every 1st of the month

 SIA to inform Travelport of the list of agencies that have onboarded the program. Agency partners are required to enter into related terms and conditions with Travelport to secure access to SQ NDC content by 15th of the month.

Every month end

 SIA to complete set up and configuration process for signed partners, who have entered the related terms and conditions with Travelport.

1st of the next month

Partner to be activated with new content.

All Travelport's subscribers are required to adhere to the processes detailed above to gain access to SIA's NDC content. Please approach your respective SIA Account Manager(s) to kick start the onboarding process.

For queries pertaining to the GDS' processes, which will include entering related terms and conditions with Travelport to open access to SQ NDC content, please approach your respective GDS Account Manager(s).



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Process for Connection through a SIA-approved technology partner

In addition to traditional GDSs, SIA works with a wide range of content aggregators to make available our NDC content via their platforms. Partners can connect to any of these platforms to access SIA's NDC content by following the process detailed below.

SIA will continue to onboard more content aggregators to provide even more choices and geographical coverage.

List of SIA-approved technology partner

(valid as of 17 Sep 2019)























Process to connect via an approved technology partner

Submit Application Form to KrisConnect Mailbox

- Review and finalize chosen technology partner
- Submit "NDC via Tech Partner" form to KrisConnect@singaporeair.com.sg

Get Approval from local SQ station

- SQ local station rep will contact you within two weeks of form submission for further discussion
- If/when SQ local station gives the approval, seller needs to sign SIA's NDC agreement

Demonstrate evidence of successful integration

- Demonstrate evidence of making successful bookings via your platforms
- SQ local station to give approval for sale in local market

Start selling in Production Environment

• Gain access to SIA's NDC content!



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Getting started

Get in touch with your preferred technology partner to finalize your agreement with them. Download a copy of the "NDC via Tech Partner" Application Form via our Developers' Portal and complete the required information. The direct links are also included below for easy reference. The document must be completed before an application will be processed. Should you need assistance or have any queries regarding the document, please approach your respective SIA Account Manager(s) or email krisconnect@singaporeair.com.sg.

Useful links:

NDC via Tech Partner:

https://developer.singaporeair.com/files/Application_Form_for_SIA_NDC_via_Tech_Partner.docx

More information on technology partners (in no order of priority)

Travelfusion

travelfusion

About

https://www.travelfusion.com/corporate/about

Geographical coverage: Global

Contact: Zhang Yigang (<u>yigang@travelfusion.com</u>)

Development progress

Status In production

Current supported features for SIA NDC content



Shopping for ancillary content

Payment via BSP

Payment direct to SIA (via customer credit card)

Servicing of orders (changes, cancellation, refunds etc..)



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

AaronGroup



About

https://www.aarongroup.net/en/about

Geographical coverage: Eastern Europe

Contact: Petr Duchek (<u>duchek@aarongroup.net</u>)

Development progress

Status In production

Current supported features for SIA NDC content



Payment via BSP

Payment direct to SIA (via customer credit card)

Servicing of orders (cancellation, refunds)



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Verteil



About

https://www.verteil.com/#aboutVerteil

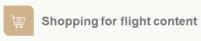
Geographical coverage: India, Japan

Contact: Jerrin Jos (<u>jerrin.jos@verteil.com</u>); Dominic George (<u>dominic@verteil.com</u>)

Development progress

Status In production

Current supported features for SIA NDC content









Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

PKfare



About

https://www.pkfare.com/en-us/about/brand

Geographical coverage: Singapore, China, Hong Kong **Contact:** Jack Wei (jack.wei@pkfare.com); Cathy Cheng

(cathy.cheng@pkfare.com)

Development progress

Status

In production

Current supported features for SIA NDC content



Shopping for flight content



Payment via BSP



Payment direct to SIA (via customer credit card)



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

TPConnects



About

http://tpconnects.com/about-us/all-about-tpconnects/

Geographical coverage: India, Sri Lanka, UAE, Philippines, Bangladesh, Australia, Indonesia, USA, Germany, Turkey, Italy, United Kingdom

Contact: George Ranjan (george@tpconnects.com); Rajendran Vellapalath (rajendran@tpconnects.com); Praveen Kumar (praveen@tpconnects.com)

Development progress

Status

Integration in progress

Current supported features for SIA NDC content



Shopping for flight content



Shopping for ancillary content



Payment via BSP



Payment direct to SIA (via customer credit card)



Servicing of orders (changes, cancellation, refunds etc..)



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Hitchhiker



About

https://www.hitchhiker.net/#our-profile

Geographical coverage: Singapore, UAE, Australia, China, Switzerland, Germany, Netherlands, United Kingdom, USA

Contact: Matt Grieve (rmgrieve@hitchhiker.net)

Development progress

Status In production

Current supported features for SIA NDC content



Payment via BSP

Payment direct to SIA (via customer credit card)

Servicing of orders (changes, cancellation, refunds etc..)



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Atriis



About

http://www.atriis.com/aboutus/

Geographical coverage: Singapore, Australia, Hong Kong, USA, Europe **Contact:** Alon Meisels (alon@atriis.com); Eran Shitrit (eran@atriis.com)

Development progress

Status

In production

Current supported features for SIA NDC content



Shopping for flight content



Payment via BSP



Payment direct to SIA (via customer credit card)



Servicing of orders (changes, cancellation, refunds etc..)



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

TravelNDC



About

www.travelndc.cn

Geographical coverage: Singapore, China, Hong Kong

Contact: Kyle Wang (kyle@travelndc.com)

Development progress

Status In production

Current supported features for SIA NDC content



Shopping for flight content



Shopping for ancillary content



Payment via BSP



Payment Direct to SIA (via customer credit card)



Servicing of orders including Cancel, Refund and Change



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Airlines Technology



About

www.airlinestechnology.com

Geographical coverage: Singapore, United Kingdom, Australia, India

Contact: Varun Bansal (varun@airlinestech.com)

Development progress

Status

Integration in progress

Supported features



Shopping for flight content



Shopping for ancillary content



Payment via BSP



Payment Direct to SIA (via customer credit card)



Servicing of orders including Cancel, Refund and Change



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

Zillious

∠ Zillious

About

https://www/zillious.com/nav/about

Geographical coverage: Singapore, India, Philippines, Indonesia, UAE, Australia, New Zealand

Contact: Ranjan B (ranjan@zillious.com)

Development progress

Status

Integration in progress

Supported features



Shopping for flight content



Shopping for ancillary content



Payment via BSP



Payment Direct to SIA (via customer credit card)



Servicing of orders including Cancel, Refund and Change



Ways for agents to connect

Process for Direct Connection

Process for Connection through the Global Distribution Systems (GDSs)

Process for Connection through a SIA-approved technology partner

TravelBoutiqueOnline



About

https://www.travelboutiqueonline.com

Geographical coverage: Singapore, Hong Kong, India, Indonesia, Philippines, Myanmar, Turkey, Dubai, UAE, Thailand

Contact: sandeepk@travelboutiqueonline.com

Development progress



In production

Current supported features for SIA NDC content



Shopping for flight content



Payment via BSP



Payment direct to SIA (via customer credit card)







Support for Partners

Servicing support

Technical support

Support for Partners

SIA will provide support for partners during and post implementation to ensure smooth transition and operations. Dedicated helpdesk will provide quick resolutions to urgent issues. The support for partners is categorized into:

Servicing support

For servicing of NDC bookings, including changes, cancellations, refunds etc...

Technical support

For technical queries, outages and requests.

Servicing support

There are 3 ways NDC bookings can be serviced and they are:



• Via NDC Servicing Verbs (preferred)



 Bookings made via NDC can be self-serviced on our website



24/7 dedicated helpdesk to manage servicing queries

SIA strongly recommend partners to integrate the NDC servicing verbs to handle servicing needs on your platforms. Our helpdesk will manage any servicing needs that cannot be handled via the APIs and/or the website.

Technical support

Technical support will be provided to all direct connect partners during and post implementation. Technical support for partners connecting to SIA via a technology partner (GDSs/aggregators) will be provided by the respective technology providers.

All direct connect partners can contact SIA (via email or the dedicated support hotline) for technical assistance. The process for technical support is summarized in this section for reference.



Dedicated mailbox to support technical queries. Outages and/or scheduled maintenance work will also be broadcasted to partners' distribution list



24/7 dedicated technical support hotline to support technical queries



Support for Partners

Servicing support

Technical support

Process flow for technical assistance

Process flow for Partner Specific Outage

- 1. Prior to cutover, SIA will update partners on:
 - mutual agreement on the severity level for said partner (the severity level is determined based on several pre-defined parameters)

Severity Level	Application / System Affected		User Base Affected		Impact to Business & Operations		Affected Operational- Critical Area		Acceptable workaround	
	Critical	Non- Critical	Widespread	Localised	Major	Minor	Yes	No	Yes	No
1	Х		x		х		NA		NA	
2	NA			х	Х		NA		NA	
		Х	Х		N	IA	NA		NA	
3	NA			Х		Х		Х		Х
4	NA			Х		Х		Х	Х	

- the logistics needed to for better logging process (jsessionID, timestamp and XML logs)
- Partner to log an issue (using the provided template) with support helpdesk (ndc_support@singaporeair.com.sg)
- SIA will troubleshoot incident with technology provider and regular updates will be given. Frequency of updates is dependent on the assigned severity levels.
- 4. Once issue is resolved, an update will be provided.
- 5. Root cause of the problem will be analysed and shared (if necessary).

<template email for incident reporting>

Email Subject: <Partner Initials> PRD: Sev<number> - <Short desc of failure>/ (eq: TBO PRD: Sev3 - OrderCreate Failures)

Each partner will have its initials and severity tagged to it. Please flow the initials and severity level that you have been assigned. This will ensure your incident is promptly picked up and prioritised.

<u>Attachment:</u> XML logs of the affected flow (eg: OrderCreateRQ.xml & OrderViewRS.xml)

Email Body: (all details below are mandatory)

Partner's LSS User ID: WSSQ*** (eg: the generic environment one is WSSQNDC)

Partner's

endpoint: https://nodeA1.production.webservices.amadeus.com/1ASIWNDCSQ / Note: partners may have different endpoints

Outage description: Include description and any specific flows / scenarios that enountered (eg: Tried calling OfferPrice after Seat Availablity but it gave me an error711: EDIFACT OUT OF SYNC)

Ongoing Issue: Yes/No

Timestamp of last known occurrence of successful NDC call: eg: 2019-08-02T09:48:14.059Z(UTC+0)

Timestamp of first known issue occurrence of issue: eg: 2019-08-02T09:48:14.059Z(UTC+0)

Timestamp of observed recovery: if ongoing issue is indicated as yes, skip this. Contact # for clarifications: Optional - if partner has specific coverage / ops support contact, it can be included.







Shop and Book

Post-Sale Ancillaries and Seats Order Cancellation and Void Order Cancellation and Refund Voluntary Order Change Involuntary Order Change Reporting to BSP

Shop and Book

Facilitates an end-to-end shopping and booking flow.

The following APIs are used:













Shop and Book
Post-Sale Ancillaries and
Seats
Order Cancellation and Void

Order Cancellation and Refund Voluntary Order Change Involuntary Order Change Reporting to BSP

Post-Sale Ancillaries and Seats

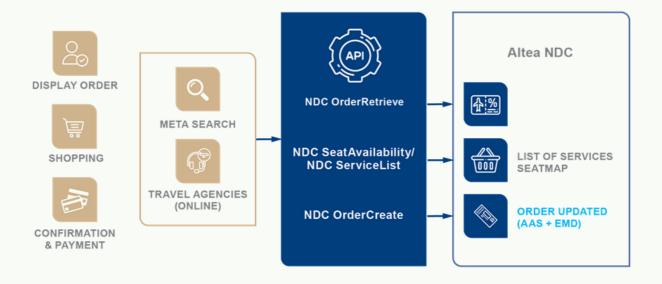
Facilitates the purchase of ancillaries after an Order has been made.

The following APIs are used:











Shop and Book Post-Sale Ancillaries and Seats

Order Cancellation and Void

Order Cancellation and Refund Voluntary Order Change Involuntary Order Change Reporting to BSP

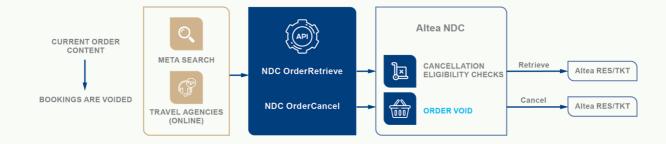
Order Cancellation and Void

Facilitates the cancellation of the Order and the subsequent void (within 24 hours of the ticket issuance)

The following APIs are used:









Shop and Book
Post-Sale Ancillaries and
Seats
Order Cancellation and Void
Order Cancellation and
Refund

Voluntary Order Change Involuntary Order Change Reporting to BSP

Order Cancellation and Refund

Facilitates the cancellation of the Order and the subsequent refund (24 hours after ticket issuance)

The following APIs are used:











Shop and Book
Post-Sale Ancillaries and
Seats
Order Cancellation and Void
Order Cancellation and
Refund
Voluntary Order Change

Involuntary Order Change

Reporting to BSP

Voluntary Order Change

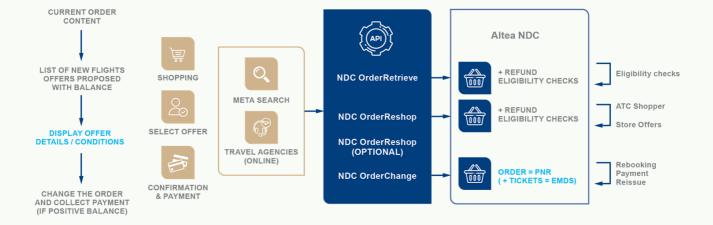
Facilitates a change in an order that is voluntarily initiated by the customer.

The following APIs are used:











Shop and Book
Post-Sale Ancillaries and
Seats
Order Cancellation and Void
Order Cancellation and
Refund
Voluntary Order Change
Involuntary Order Change
Reporting to BSP

Involuntary Order Change

Facilitates a change in an order that is involuntarily triggered. i.e. airlines schedule changes, flight cancellations etc....

The following APIs are used:



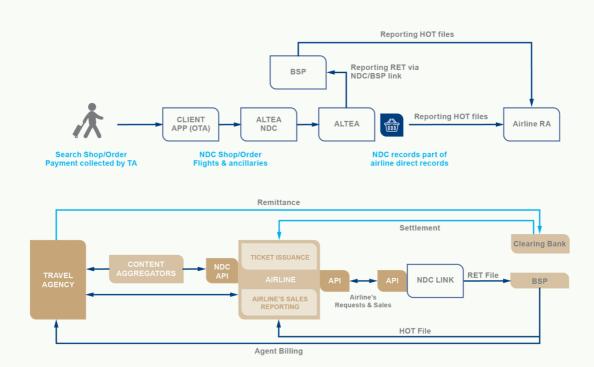




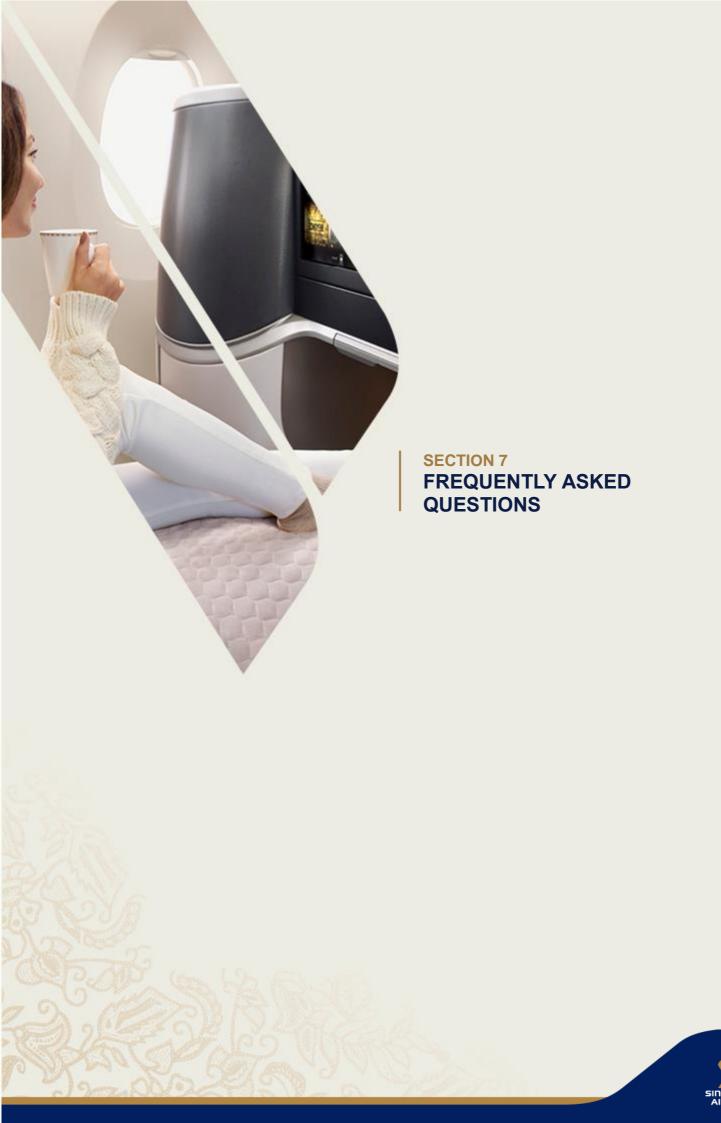
Shop and Book
Post-Sale Ancillaries and
Seats
Order Cancellation and Void
Order Cancellation and
Refund
Voluntary Order Change
Involuntary Order Change
Reporting to BSP

Reporting to BSP

Facilitates the reporting of transactions through BSP







Programme, Background

Technology, technical capabilities

Content

Commercials, Agreements

Technology partners, onboarding process

Programme, Background

1. What is NDC?

NDC (New Distribution Capability) is a travel industry-supported program (NDC Program) launched by IATA for the development and market adoption of a new, XML-based data transmission standard (NDC Standard). The NDC Standard enhances the capability of communications between the airlines and travel agents which will transform the way air products are retailed to the consumers.

For more information on IATA's NDC Program, please refer to IATA's program page available at https://www.iata.org/whatwedo/airline-distribution/ndc/Pages/default.aspx

2. Is SIA NDC Certified by IATA?

SIA has obtained Level 3 NDC Certification from IATA.

3. Does SIA plan to obtain Level 4 and NDC@Scale certification?
Yes, SIA plans to obtain Level 4 certification by end September 2019.
Our NDC@Scale certification will soon follow after we have onboarded more partners into the program to validate some of the use cases mandated under the NDC@Scale certification requirement.

4. Is the KrisConnect programme related to NDC?

Yes, the KrisConnect Programme is conceptualized to make information and functionality of SIA's digital platforms readily available to third parties, including agents and distribution intermediaries, via Application Program Interface (API) technology. These APIs, which include those following IATA's New Distribution Capability (NDC) standards, allow partners to access a wide range of functionalities including the booking and management of flights, checking of flight status information, KrisFlyer-related information and more.

5. Is the KrisConnect Programme available to all SIA markets?

Yes, the KrisConnect Programme is available to all SIA markets. However, certain new content that are made available under the Programme will be launched progressively, market by market. For queries regarding your market rollout, please contact your respective SIA Account Manager(s).

6. Is SIA on the IATA leaderboard?

Yes, SIA is on the IATA leaderboard to signal our commitment to invest in this channel to drive better content and value for partners across the supply chain.



Programme, Background

Technology, technical capabilities

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Technology, technical capabilities

1. What technology provider is SIA using?

SIA is working with Amadeus, leveraging their latest Amadeus Altea NDC verbs, v18.1.

2. I am already connected to Farelogix, does SIA work with Farelogix?

SIA currently does not work with Farelogix for our NDC technology.

3. Can we service NDC bookings?

Yes. SIA's NDC technology includes a set of servicing APIs that allows you to make changes to the bookings, perform cancellation, refunds and more. For cases that cannot be supported by the APIs, a servicing support helpdesk can help to facilitate the change.

4. Can we book private fares through NDC?

Yes. In general, private fares are supported in NDC with the exception of the following categories:

- IT/BT fares or any fares that requires masking
- Fare mark-ups
- Dual class inventory fares
- Group fares

5. Can we make group bookings through NDC?

No, we do not support group bookings through NDC at the moment.

6. Can NDC fulfil our mid/back office processes?

SIA currently does not work with a mid/back office provider to provide a mid/back office solution for NDC transactions. Should this be a key requirement, you will have to work with a technology provider that can fulfil your requirement.

7. I have integrated with Airline X that uses v17.2 standards. Can I still integrate with SIA and does it require a lot of effort?

Yes, definitely. You can still integrate with SIA even though the standards version differs. You may however require more effort as there are some slight nuances between the 2 versions. SIA has integrated with many partners that are using multiple standards versions and there have been no issues till date,

8. What are the Form of Payment (FOP) accepted?

Travel agents can opt to transact SIA's NDC content through Customers Credit Card or through BSP Billing that supports both Customers Credit Card and Cash.

9. How will SIA control agent's ticket stock on the NDC programme?

If agents opt to transact via BSP Billing, prevailing BSP guidelines on ticket stock control will apply. Ticket stock control will be aligned for both NDC and non-NDC channels if settlement is via BSP.

If agents opt to transact via Direct Credit Card Settlement, SIA will monitor and control the ticket stock accordingly.



Programme, Background

Technology, technical capabilities

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Technology partners, onboarding process

Content

1. What additional content is SIA offering in the NDC channel?
In general, new content that SIA introduces will only be made available in the NDC channel. Broadly, here are the various categories of content that would be made exclusively available in the NDC channel. More will be included as our product roadmap



2. Will there be special fares exclusive to NDC?

Agents can look forward to access on the widest range of fares in the NDC channel. Furthermore, agents can work with SIA to curate personalised offers tailored for their customers.

3. Can we service NDC bookings?

Yes. SIA's NDC technology includes a set of servicing APIs that allows you to make changes to the bookings, perform cancellation, refunds and more. For cases that cannot be supported by the APIs, a servicing support helpdesk can help to facilitate the change.

4. When will SIA start rolling out fares exclusive to NDC?

The rollout is done on a market by market basis. In the Singapore market, agents who have onboarded the KrisConnect Programme can look forward to enjoy exclusive content from 01 Apr 2020.

5. Are there any exclusive content already available today?

SIA's ancillary products (seats, bags etc..) are only available for sale in the NDC channel. In addition, SIA introduces tactical fare promotions in the NDC channel on a periodic basis.

6. Will corporate discounts be reflected in NDC?

Yes, corporate fares (including the discounts you enjoy) can be transacted through NDC.

7. Will SIA interline fares be included?

SIA interline fares bookable on SQ codeshare flight are currently available on SIA NDC Programme.

SIA will work with interline partners to avail interline fares on noncodeshare flights via the NDC Programme progressively.



Programme, Background

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Commercials, Agreements

- 1. Do I receive more incentives from SIA by transacting via NDC? SIA is open to negotiate incentive arrangements with agents. Please approach your respective account manager(s) for discussions.
- 2. Why do I have to sign a NDC agreement with SIA?

 The NDC agreement details certain terms and conditions, including negotiated commercial arrangements that have to be agreed upon before an agent can transact through the channel.
- 3. How long does it take to process the agreements after we have submitted the documents?

 The time taken to process the NDC agreement is approximately one.

The time taken to process the NDC agreement is approximately one month. However, this is also dependent on the GDSs or technology providers' abilities to expedite access for you. Please refer to the onboarding processes for more details.

- 4. What is the validity period of the NDC agreement?

 The NDC agreement will continue until it has been terminated by either party. SIA holds the right to amend the conditions of sale on products made available through the NDC channel.
- 5. Will there be changes to my commercial models with the GDSs? SIA is not privy to your arrangements with the GDSs. For these discussions, please approach your respective GDS Account Manager(s).



Programme, Background

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Technology partners, onboarding process

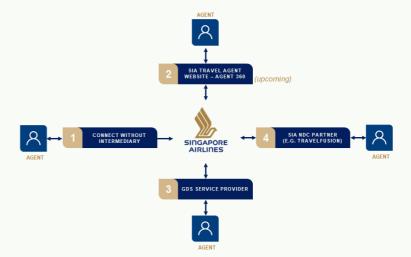
Technology partners, onboarding process

6. How can agents connect to SIA NDC programme?

There are four ways for agents to consume SIA NDC content:

- Direct connection to Singapore Airlines' NDC
- Transact via our agency portal AGENT 360 (upcoming)
- Connect via your GDS service provider
- Connect via an approved Singapore Airlines' NDC partner

Agents may opt to consume SIA NDC content through one or more of the following methods.



7. When will the travel agency portal be ready for booking?

We are targeting to launch the booking portal for agents to transact by the end of 2019. More details will be shared when ready.

8. Will there be any differences in content based on my mode of connection?

No, the content across the various modes of connection is similar. There may however be differences in commercial arrangements. Please approach your SIA Account Manager(s) for further discussions.

9. Where can I obtain the list of approved technology providers?

The list of approved technology partners can be found in the onboarding section of this document. In gist, beyond the 6 GDSs, SIA also work with the following aggregators:



(valid as of 17 Sep 2019)



THANK YOU

Singapore Airlines welcome all partners to join the KrisConnect programme to jointly enhance customer experiences across all platforms.

Visit <u>developer.singaporeair.com</u> to find out more about our APIs.

For more information about the KrisConnect Programme and/or its related matters, please reach out to your respective Account Manager(s), leave an enquiry on our developers' portal or contact krisconnect@singaporeair.com.sg.

