Annex 4

IT Solutions Providers and related IT services that allow for the provision of travel services information to travel agents

1.1   In the CMA's attempt to assert jurisdiction over the Transaction, it has erred in determining what service providers fall in- and out-of-scope of its new Relevant Description of Services in the UK. The CMA's closed list comprising of the Parties, other main GDSs, smaller GDSs and other Direct Connect providers and non-GDS aggregators fails to take into account other relevant IT providers that fall within the Relevant Description of Services.

1.2   There is an increasingly large number of players who — in this highly dynamic market, as acknowledged by the CMA — are currently offering products which fall within the Relevant Description of Services. This is clear from the sheer volume of IT providers and aggregators who have NDC API, in-house API and non-NDC API capabilities, each of which compete directly with Farelogix's FLX OC. 18 IT providers alone are registered as being Level 4 NDC-capable or NDC-certified; the highest IATA certification. Figure 1 below shows a clear upward trajectory in the number of providers who are gaining NDC capabilities. Table 1 contains a non-exhaustive list of airline solutions providers who are currently active in the provision of IT solutions to airlines for the purposes of airlines providing travel services information to travel agents, such that they fall within the Relevant Definition of Services.

Figure 1
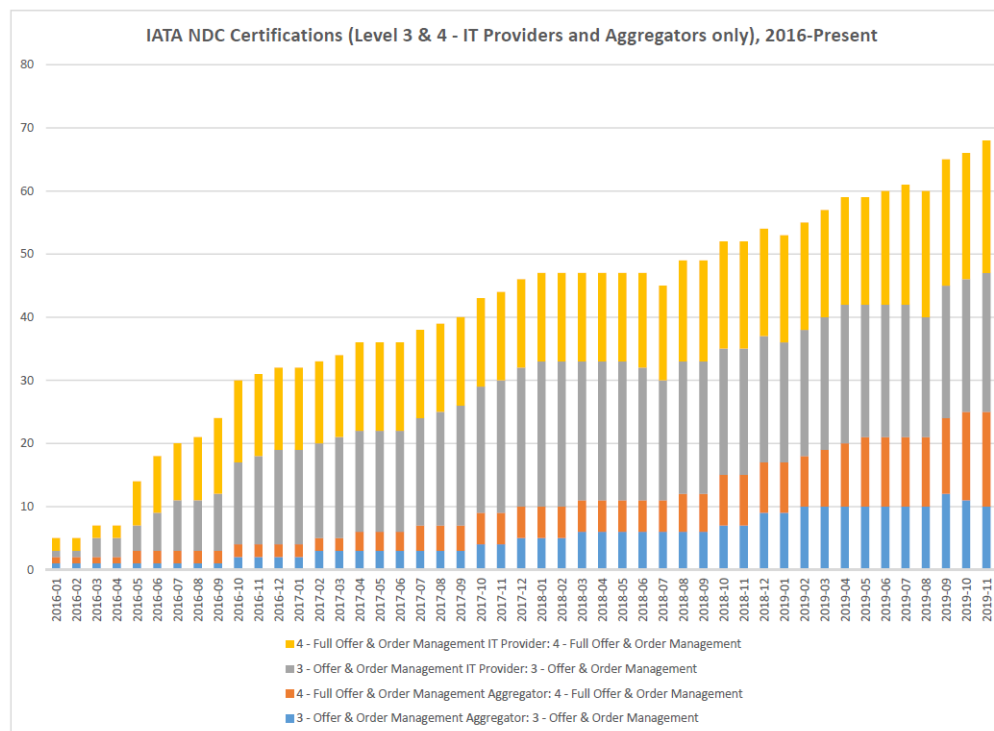**Number of IATA NDC Certifications (Level 3 & 4 – IT Providers and Aggregators), 2016-Present**

Table 1

IT Airline Solutions Providers for and related IT services that fall within the CMA's Relevant Definition of Services

IT provider	Description	Known airline customers	Sources
2e Systems	Provides connectivity between the PSS and downstream travel sellers – for example via an NDC API IATA capable Level 3 (Offer and Order Management)	NDC deployment partners: Hahn Air Lines	T2RL paper, *Farelogix Open Connect Product Role and Competitive Environment*, submitted to CMA on 19 December 2019
Aaron Group	IT provider for connectivity between the PSS and downstream travel sellers – for example via an NDC API IATA Level 3 certified (Offer and Order Management) (expired)	American Airlines NDC deployment partners: Georgian Airways, Aircompany Armenia	https://ndc.aa.com/docs/tech.pdf
AirGateway	NDC-certified content aggregation platform with agency interface that enables TAs to connect to participating NDC airlines IATA Level 4 certified (Full Offer and Order Management)	American Airlines, Lufthansa Group, Emirates, WestJet	https://www.phocuswire.com/Airgateway-hot-25-startups-2020 https://www.thecompanydime.com/airgateway-ndc/

IT provider	Description	Known airline customers	Sources
Airkiosk	XML booking API for third party integration	(Among others) Air Finland, Athens Airways, Drukari Royal Bhutan Airways, Jet2, Zambian Airways	Amadeus, Response to the Issues Statement at paragraph 3.2(b)(ii) https://www.airkiosk.com/customers.php
Airline Reporting Corp. (ARC)	In-house NDC API provider (recently purchased NuTravel, corporate booking engine linking to airline.com)	British Airways, Southwest Airlines	https://www.businesstravelnews.com/Distribution/BA-Using-New-ARC-API-to-Confirm-Ticketing-Authority-for-U-S-NDC-Bookings https://www2.arccorp.com/about-us/newsroom/2020-news-releases/pr20200121/ https://www2.arccorp.com/articles-trends/the-latest/arc-connects-southwest-airlines-with-the-corporate-travel-community/
Airlines Technology (TWAI)	NDC API and NDC enabled booking platforms for travel agents IATA Level 4 certified (Full Offer and Order Management)	19 airline customers and low cost carriers NDC deployment partners: British Airways, Condor Flugdienst, Emirates, American Airlines, Lufthansa Group, Aegean Airlines, Olympic Air, Singapore Air	https://www.f6s.com/airlinestechnology

IT provider	Description	Known airline customers	Sources
AirSky Information Co. Limited	Based on NDC technology, AirSky has developed B2B mult-level distribution system, OTA sales system, TMC management system and a GDS simulation system. IATA Level 4 capable (Full Offer and Order Management)	Unknown	http://www.airskyhk.com/
Amadeus IT Group SA	IATA Level 4 capable (Full Offer and Order Management) Amadeus' NDC-X programme brings together Amadeus' capabilities as an IT provider and an aggregator to provide end-to-end NDC content to airlines.	Japan Airlines, Quantas and American Airlines are amongst 16 airlines partnering with Amadeus on its NDC-X Program. NDC deployment partners: Finnair, Saudia, Singapore Airlines, AVIANCA, TACA International Airline, Corsair International, Cathay Pacific	https://amadeus.com/en/insights/press-release/jal-accelerates-retail-transformation-ndc-amadeus http://www.amadeus.com/web/amadeus/ru_1A-corporate/Amadeus-Home/Newsroom/Archive/PR-2018-06-07-Qantas-NDC-X-program/1319658626891-Page-AMAD_DetailPpal?assetid=1319717459781&assettype=PressRelease_C https://amadeus.com/en/insights/press-release/american-airlines-partners-with-amadeus-in-ndc-x-program
ATPCO	Distribution of airline content to intermediaries including GDS	All	See paragraph 2.31 of the Parties' response to the Issues Statement. Airlines file into a web GUI and ATPCO pushes data to subscribers including GDS and FLX. This is an IT service, for airlines, for the

IT provider	Description	Known airline customers	Sources
	and FLX to enable the FLX Service and GDS distribution IATA Level 1 capable (Post-Booking Ancillaries)		purposes of providing travel services information to TA to enable TAs to make bookings
ATPCO/SITA – NDC Exchange	In-house NDC API provider IATA Level 4 capable (Full Offer and Order Management)	Air Canada, Finnair, United Airlines, Southwest, British Airways	https://skift.com/2018/08/24/air-canada-begins-using-a-new-way-to-distribute-fares-to-partners/
Atriis	Next generation global e-commerce platform and aggregator to access multi-channel content designed for travel agencies and their customers IATA Level 4 Certified (Full Offer and Order Management)	Lufthansa Group NDC deployment partners: British Airways, Air Canada, Air France/KLM, Lufthansa Group, American Airlines, United Airlines	https://lufthansa-city-center.com/leisure/en/article/global-travel-platform-atriis-gtp-strengthens-global-lufthansa-city-center-travel-agency-network/3200 https://www.lucytravel.com.au/about-lucy See paragraph 3.13 of the Parties' response to the Issues Statement: Atriss and Lufthansa have announced pilot operation of a new NDC platform, "LUCY", on 21 October 2019 for Singapore Airlines content. The multi-provider platform integrates and consolidates data of traditional GDS providers such as Amadeus, Sabre and Travelport through cutting-edge technology.
Avantik	PSS provider which offers end-to-end integration with the GDSs and an open XML API for OTAs	Unknown	Amadeus, Response to the Issues Statement at paragraph 3.2(b)(ii)

IT provider	Description	Known airline customers	Sources
Berlogic	Provides a multi-GDS and airlines connectors within a single API	Lufthansa Group, Eurowings, Iberia	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf www.berlogic.de/partnership
Caravelo	IATA Level 4 capable (Full Offer and Order Management)	NDC deployment partners; Finnair, Condor Flugdienst	https://www.iata.org/en/programs/airline-distribution/ndc/registry/caravelo/67/
Datalex	Retailing and NDC API supplier IATA Level 4 capable (Full Offer and Order Management)	SAS, Lufthansa Group NDC deployment partners: JetBlue Airways, Scandinavian Airlines Systems	https://www.traveldailymedia.com/sas-datalex-agreement-ndc/
Dcs plus	In-house NDC technology partner offering direct connect technology as well as GDS pass-through	Lufthansa Group, Emirates	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf https://www.emirates.com/media-centre/emirates-enhances-connectivity-for-travel-agents-with-ndc-compliant-online-b2b-api https://www.emirates.com/media-centre/emirates-enhances-connectivity-for-travel-agents-with-ndc-compliant-online-b2b-api http://www.dcsplus.net/emirates-direct-connect-and-dcs-plus-partnership

IT provider	Description	Known airline customers	Sources
Duffel	Content aggregator with NDC booking platform IATA Level 4 certified (Full Offer and Order Management)	American Airlines, Iberia, British Airways, Lufthansa Group NDC deployment partners: American Airlines, Cathay Pacific	https://buyingbusinesstravel.com/news/start-up-duffel-raises-30m-to-launch-ndc-ready-booking-platform/
Hitchhiker	NDC API provider to airlines and booking software for OTAs IATA Level 3 certified (Offer and Order Management) (expired)	Lufthansa Group, British Airways NDC deployment partners: British Airways, Singapore Airlines	https://www.traveldailynews.com/post/hitchhiker-receives-iata-ndc-level-3-certification
Hitit Computer Services	IATA Level 4 capable (Full Offer and Order Management) Airline reservation and passenger services system which enables distribution in the direct and indirect channels with open APIs for end-user applications	NDC deployment partners: Onur Air Taşımacılık A.Ş., Pegasus Airlines, APG Airlines	https://crane.aero/solutions-services/passenger-service-system/reservation-passenger-services
IBS	Offers a fully NDC compliant PSS solution (iFlyRes) as well	Sun Express	https://www.prnewswire.com/news-releases/ibs-ifly-res-awarded-ndc-capable-level-3-status-by-iata-582199471.html

IT provider	Description	Known airline customers	Sources
	as a merchandising platform (iCommerce) IATA Level 4 capable (Full Offer and Order Management)	NDC deployment partners: SunExpress, Vanilla Air, Blue Panorama Airlines, T'way Air Co	
Infiniti Software Solution	IATA Level 4 capable (Full Offer and Order Management) Its AgencyDirect technology is an NDC direct distribution channel which provides end-to-end distribution to airlines. AgencyDirect is compliant with the latest version of the IATA NDC scheme (19.1).	NDC deployment partners: British Airways	https://infinitisoftware.net/iataAwardsInfinitiSoftwareSolutionsNDCLevel4Certification.php
Innovata	Input provider connecting GDS to airlines systems	All	Mandated by IATA to provide "*to the aviation industry a secure and high quality service for the collection, validation, consolidation and distribution of airline schedules and related data.*" This is an IT service, for airlines, for the purposes of providing travel services information to TA to enable TAs to make bookings. http://www.innovata-llc.com/supplier-relations/
InteRes	Provides connectivity between the PSS and downstream travel sellers through multisource	Lufthansa Group	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf

IT provider	Description	Known airline customers	Sources
	solutions, including NDC APIs, Direct Connects, GDS, and aggregation. Airline Retail Engine product adopts OneOrder IATA Level 3 Certified (Offer and Order Management) (expired)		
ISO Software Systeme	Internet Booking Engine with NDC enablement; NDC-enabled inventory management for flights and ancillaries; and piloting Revenue Accounting System and as a direct interface between its Order Management System and Financial Accounting ERP. IATA Level 4 capable (Full Offer and Order Management)	"SKYfly" solutions are used by 21 airlines worldwide.	https://www.iso-gruppe.com/en/iso-software-systeme/services/airline-software.html https://www.openpr.com/news/1830158/skysell-the-new-ibe-for-airlines-from-iso-software-systeme
JR Technologies	Multi-version NDC API provider, including in conjunction with retailing platform	Lufthansa Group, American Airlines, IAG	https://www.prnewswire.com/news-releases/jr-technologies-releases-airline-retailing-platform-300368859.html

IT provider	Description	Known airline customers	Sources
	IATA Level 4 capable (Full Offer and Order Management)	NDC deployment partners: InselAir, Iberia, British Airways	
Kiu System Solutions	PSS, GDS platform and e-commerce functionality IATA Level 4 capable (Full Offer and Order Management)	American Jet, Aeroregional, Sasca Airlines, AeroDesierto, Paranair	https://www.kiusys.com/solutions https://www.kiusys.com/about
Linksrez	NDC connection approved technology company. Its two products are an API Direct Connect and a Hosted Booking Engine (GUI)	American Airlines	https://ndc.aa.com/docs/tech.pdf https://www.linksrez.com/
Lleego Travel Market	NDC connection approved technology company	American Airlines	https://ndc.aa.com/docs/tech.pdf
Maureva Ltd	Airline software and service solutions provider offering accounting, analytics, cargo and operations solutions	Serves more than 60 airlines worldwide including Air, Cote d'Ivoire, ASL Airlines France, interCaribbean Airways, AirCalin, TUI fly, CityJet, Lao Airlines,	https://www.maureva.com/about-us/

IT provider	Description	Known airline customers	Sources
	IATA Level 4 capable (Full Offer and Order Management)	Surinam Airways, Air Vanuatu, Air Saint-Pierr, Air Madagascar NDC deployment partners: Air Austral, Air Serbia	
OAG	Input provider connecting GDSs to airlines systems	All	https://www.altexsoft.com/blog/engineering/flight-booking-process-structure-steps-and-key-systems/
Onesto	Online flight booking tool/ aggregator	EasyJet Low cost carriers	https://public.onesto.de/en/products/flight/ https://www.easyjet.com/ejcms/cache/medialibrary/Files/Travel-Agent-Online-Guides/EN/AGENT-PAGES-EN-030220.pdf?la=en&hash=0818159952CAF26A4AAAC81A2845DF067607B76D (see pages 9 and 10)
On Travel Solutions limited	Vendor-agnostic booking platform, direct connect capability, order management IATA Level 4 capable (Full Offer and Order Management)	S7 Airlines, Cyprus Airways NDC deployment partners: S7 Airlines	http://www.ontravelsolutions.com/customers.html

IT provider	Description	Known airline customers	Sources
OpenJaw/Travelsky	NDC API provider. Developed t-Retail Platform supports NDC API, merchandising, shopping and pricing functionalities for airlines IATA Level 4 capable (Full Offer and Order Management)	ANA, TAP Portugal, British Airways, Comair, Cathay Pacific NDC deployment partners: ANA, Cathay Pacific	https://www.phocuswire.com/ANA-OpenJaw-NDC-platform
PASS Consulting Group	IT solutions including API interfaces (bundling APIs from GDSs, aggregators and Direct Connects into a single interface)	Unknown	https://www.pass-consulting.com/en/industries/travel/
Peakwork	NDC travel production and distribution platform which provides connectivity to global metasearch IATA Level 3 certified (Offer and Order Management)	Lufthansa Group, American Airlines	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf https://ndc.aa.com/docs/tech.pdf
Pribas	Offers the AirBroker and adopts OneOrder IATA Level 4 capable (Full Offer and Order Management)	Lufthansa Group NDC deployment partners: Flybe, Condor Flugdienst	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf

IT provider	Description	Known airline customers	Sources
PROS	Offers NDC-enabled products, real time dynamic pricing IATA Level 4 capable (Full Offer and Order Management)	48 airline customers across all PROS products (including British Airways, flydubai, Air Seychelles, Lufthansa Group)	
Sirena	PSS provider enhancing its offering with NDC capability IATA Level 4 certified (aggregator) and capable (IT provider) (Full Offer and Order Management)	Turkish Airlines	T2RL paper, Farelogix Open Connect Product Role and Competitive Environment, submitted to CMA on 19 December 2019 https://www.sirena-travel.com/news-events/928-start-of-sales-of-turkish-airlines-flights-in-sirena-travel-reservation-system.html
Skyscanner	Metasearch provider and provider of Direct Booking platform with NDC integration capability IATA Level 3 Certified (Offer and Order Management) (expired)	Scoot, British Airways, Avianca NDC deployment partners: British Airways, Finnair, Cathay Pacific, Singapore Airlines, AVIANCA, TACA International Airline	https://www.webintravel.com/colombias-avianca-integrates-with-skyscanner-through-ndc/
Skywide Network Technology	Agreggator with NDC/OpenTravel API capabilities	NDC deployment partners: American Airlines, British Airways	https://www.skywide.tech/index.html#about-us https://ndc.aa.com/docs/tech.pdf

IT provider	Description	Known airline customers	Sources
	IATA Level 4 capable (Full Offer and Order Management)		
Softconnex	NDC API technology partner	Lufthansa Group	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf
Thomalex	NDC connection approved technology company IATA Level 3 certified (Offer and Order Management)	American Airlines	https://ndc.aa.com/docs/tech.pdf
TPConnects	IT provider of travel technology solutions and aggregator platform	American Airlines, Lufthansa Group, Emirates, Oman Air, Saudia	https://www.businesstravelnews.com/Distribution/Oman-Air-Taps-TPConnects-for-NDC-Selling-Capabilities
Travelfusion	In addition to being a non-GDS aggregator, the TravelFusion Direct Connect XML API allows authorised travel partners direct and easy access content from more than 240+ low cost and scheduled airlines IATA Level 4 certified (Full Offer and Order Management)	Distributes content from 240+ airlines NDC deployment partners: Flybe, Iberia, Air France/KLM, T'Way Air CO, British Airways, Singapore Airlines, SilkAir, American Airlines,	https://www.travelfusion.com/corporate/page/xml-api

IT provider	Description	Known airline customers	Sources
		Lufthansa Group, United Airlines, Cathay Pacific	
Unisys	AirCore Airline PSS solution with NDC capability, cargo solutions. Travelsky uses the AirCore PSS IATA Level 4 capable (Full Offer and Order Management)	"9 of the top 10 airlines depend on Unisys solutions" China Southern, Air China	https://www.unisys.com/industries/commercial/transportation https://www.unisys.com/offerings/application-services/news%20release/asia-largest-airline-china-southern-to-use-unisys-aircore-via-travelsky https://www.unisys.com/offerings/industry-solutions/transportation-industry-solutions/aircore-airline-passenger-services/news%20release/travelsky-migrates-to-unisys-aircore-to-modernize-airline-passenger-sales-and-service
Verteil	NDC API distribution platform, facilitating travel agency bookings IATA Level 4 certified (Full Offer and Order Management)	American Airlines, Lufthansa Group	https://www.phocuswrightconference.com/Whos-Coming/Sponsors-Exhbitors/Verteil-Technologies
Websky Tech	E-commerce system offering solutions, including meta-search, to airlines IATA Level 4 capable (Full Offer and Order Management)	Unknown	

IT provider	Description	Known airline customers	Sources
XML Travelgate	XML API provider	XML Flight solution connects to "more than 15 flight suppliers"	https://www.iata.org/contentassets/621b91da1bae41cda036cc6dde769712/xmltravelgate-ndc-idcard-2018.pdf https://www.xmltravelgate.com/en/XML-Integration-Products/Flights-And-Airlines.html
Ypsilon.net	Booking engine offering an XML API interface	Lufthansa Group, American Airlines	https://www.lufthansa.com/content/dam/lh/documents/discover-lufthansa/partners/direct-connect/Tech_Provider_EN.pdf https://ndc.aa.com/docs/tech.pdf

Sources: Publicly available information, third-party submissions