



LEONARDO  
Passengers Service System

# Leonardo Inventory & Schedule



SETTINGS MANAGEMENT



SCHEDULE MANAGEMENT



INVENTORY MANAGEMENT



PNR MANAGEMENT



RE-ACCOMODATION MANAGEMENT



SALES MANAGEMENT



SEATING  
MANAGEMENT



ANCILLARY  
MANAGEMENT



















NOTIFICATION  
MANAGEMENT



SECURITY  
MANAGEMENT

## INVENTORY SYSTEM IS CHARACTERIZED BY THE FOLLOWING FEATURES:

- Inventory system is developed and runs in compliance with IATA standards
- Rules-based Business Process Intelligence
- Graphical User Interface (GUI) with content-sensitive help system
- Compatibility with internal and external systems and services
- “Plug&Play” connectivity
- 24/7 customer support of each stage of migration and production
- Technical Support is based on three-level support delivery: call-center, assistance of high-skilled technologists and developers

<b>BUSINESS RULES MANAGEMENT</b>	 SCHEDULE MANAGEMENT	 INVENTORY MANAGEMENT	 RE-ACCOMODATION MANAGEMENT	 SALES MANAGEMENT
<b>DEFAULT PARAMETERS</b>				
<b>PARAMETER CALCULATION ALGORITHMS</b>				
<b>BEHAVIOR SCENARIOS</b>				

## SCHEDULE MANAGEMENT FEATURES:

- Import schedule data from external data sources
- Extended parameters to search flight
- Convenient options to display schedule
- Simplified mechanism for manual schedule input and update
- Adhoc period support
- Advanced control of data-entry accuracy
- Preview of schedule modification results
- Schedule publication by using standard protocols

The screenshot displays the 'Schedule Management' interface. At the top, there are navigation tabs: Schedule, Inventory, Re-accommodation, PRR, Business rules, Agreements, Messages, Reports, and Archive. Below this is a 'Quick Access' bar with 'SCD: XX' and a search bar containing 'XX, 28.12.15 - open, All'. A table of flight schedules is shown with columns: Period type, Flight, Period, Nmb of Flights, Route, I/D, Service type, Configuration, and Lock. A modal window titled 'SKD' is open, showing details for flight 888. It includes a route 'KRASNODAR - ROSTOV - ANAPA', a table of legs (KRR-ROV, ROV-AAQ, KRR-AAQ), and options to select aircraft, configuration, and layout. The interface also shows navigation tabs like Schedule, Inventory, and Re-accommodation, and a search bar.

Period type	Flight	Period	Nmb of Flights	Route	I/D	Service type	Configuration	Lock
Basic	XX-876	16.11.2015 - 31.12.2016 / 1234567	366	DME-KGD	D	J	100-C6Y6	
Basic	XX-877	21.12.2015 - 25.01.2016 / 1.....	6	WKO-VRN	I	J	100-C10Y10	
Basic	XX-877	27.01.2016 / 3	1	WKO-VRN	I	J	100-C10Y10	
Basic	XX-887	18.12.2015 - 31.12.2017 / 1234567	366	LED-TAS	I	J	319-C2Y15	
Basic	XX-888	25.12.2015 - 31.07.2016 / 1234567	220	KRR-ROV-AAQ	D	J	SU9-C4Y40	
Adhoc	XX-888	30.12.2015 / 3	0	KRR-ROV-AAQ	D	J	SU9-C4Y40	
Basic	XX-888	02.12.2016 - 09.12.2016 / .....5..	2	KRR-ROV	D	J		
Adhoc	XX-888	02.12.2016 / 5	1	KRR-ROV	D	J		
Basic	XX-888	23.12.2016 - 27.12.2018 / ...45..	105	KRR-ROV	D	J		
Basic	XX-889	16.11.2015 - 31.12.2015 / 1234567	46	ROV-KRR	D	J		
Basic	XX-889	01.01.2016 - 05.02.2016 / 1234567	36	ROV-KRR	D	J		
Basic	XX-898	16.11.2015 - 31.12.2015 / 1234567	46	LED-ARH	D	J		
Basic	XX-900	16.11.2015 - 31.03.2016 / 1234567	137	LED-KGD	D	J		
Basic	XX-901	16.11.2015 - 02.03.2016 / 1234567	108	LED-WKO	D	J		
Basic	XX-902	06.12.2015 - 21.05.2017 / .....7	53	WKO-LED	D	J		
Adhoc	XX-902	30.12.2015 / 3	1	WKO-LED	D	J		
Basic	XX-903	13.12.2015 - 03.03.2016 / 1234567	82	AER-LED	D	J		
Basic	XX-903	04.03.2016 - 02.03.2017 / 1234567	364	AER-LED	D	J		
Basic	XX-904	23.12.2015 - 04.03.2016 / 1234567	73	LED-DME-APK	D	J		
Basic	XX-905	16.11.2015 - 11.03.2016 / 1234567	117	LED-UUS	D	J		
Basic	XX-906	21.11.2015 - 22.06.2017 / 1234567	366	LED-ROV	D	J		
Basic	XX-907	03.12.2015 - 05.04.2017 / 1234567	366	LED-TJM	D	J		
Basic	XX-908	16.11.2015 - 06.07.2016 / 1234567	234	ROV-LED	D	J		
Basic	XX-909	16.11.2015 - 07.07.2016 / 1234567	235	LED-OMS	D	J		
Basic	XX-945	24.12.2015 - 31.12.2015 / 1234567	8	LED-OWB-MUZ	D	J	141-C15Y15	
Basic	XX-950	07.03.2016 - 20.03.2016 / 1234567	14	DME-AER-YVO	D	J	319-C10Y16	

## INVENTORY MANAGEMENT FEATURES:

- Automated resource generation
- Capacity management: Codeshare, Interlines, Special space, Classes and RBDs
- Various tools to quote seats in different booking classes

- Support of different nesting algorithms
- Multiple algorithms to calculate seat availability
- Ability to apply a mode of mass operations

Search: XX-1021, 21.12.2015, Mon

Leg	I/D	Dep time	Arr time	AC	ACC	Cabin	DW	SSP	Cnh	Brw	Adj	Ovb	Cmb	AU	Bld	Total bld	BSA	BOvb	AMQ	AV	LC%	
LED-SVO	D	05:00	06:00	142	CSY50	C	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	
						Y	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SVO-AAQ	D	10:00	12:30	100	C10Y20	C	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	
						Y	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0
AAQ-OVB	D	14:00	20:00	100	C10Y20	C	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	
						Y	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0

Segment: ST PETERSBURG - MOSCOW

Class	Prnt	FIX	MIN	Prot	AU	Bld	BldGr	AMQ	AV	CWL	%WL	MWL	BWL	GrWL	ACWL	GrHN	Open	Close	BIL	TIL	Status	Comments		
Cabin: C					Cabin SegCap: 5				Cabin SegBld: 0				Cabin MWL: 10				Cabin BWL: 0							
C					5	0	0	0	5				0	0		0						LA		
D					5	0	0	0	5				0	0		0						LA		
J					5	0	0	0	5				0	0		0						LA		
I					5	0	0	0	5				0	0		0						LA		
Cabin: Y					Cabin SegCap: 50				Cabin SegBld: 0				Cabin MWL: 10				Cabin BWL: 0							
Y					50	0	0	0	50				0	0		0						LA		
M					50	0	0	0	50				0	0		0						LA		
K					50	0	0	0	50				0	0		0						LA		
L					50	0	0	0	50				0	0		0						LA		
Q					50	0	0	0	50				0	0		0						LA		
U					50	0	0	0	50				0	0		0						LA		
S					50	0	0	0	50				0	0		0						LA		

DISPLAY OF 3 LEGS' FLIGHT DETALIZATION BY LEG (MAJOR FLIGHT PARAMETERS AND CAPACITY FEATURES) AND SEGMENT (RBD QUOTING AND SALES STATUS)

## INVENTORY MANAGEMENT FUNCTIONALITY:

- Business rules
- “Open/close” flight/segment
- Overbooking
- Capacity restriction

- Combined seats
- Seat adjustment
- Seat borrowing
- Wait list

- RBD quoting
- Notification
- RBD status
- Reminder

- Special space creation
- Special space quoting
- Seat transfer between special space quotas
- Terms of special space quota return

The screenshot displays the Leonardo Inventory Management system interface. At the top, there is a navigation bar with tabs for Schedule, Inventory, Re-accommodation, PNR, Business rules, Agreements, Messages, Reports, and Archive. The user is logged in as m.shchadinsky | Михаил Шчадинский. The main area shows flight details for VKO-JFK on 01.02.2016, Mon. The flight is operated by CSY40. The main table shows the following data:

Leg	I/D	Dep time	Arr time	AC	ACC	Cabin	DW	SSP	Csh	Brrw	Adj	Ovb	Cmb	AU	Bld	Total bid	BSA	BOvb	AMQ	AV	LC%
VKO-JFK	I	10:40	13:20	767	CSY40	C	0	3	0	0	0	0	-3	2	0	0	0	0	0	0	2
						Y	0	20	0	0	0	0	3	23	0	0	0	0	0	0	22

Below the main table, there is a section for the VKO-JFK segment (MOSCOW - NEW YORK). It shows traffic restrictions and seat allocation for two cabins: Cabin C and Cabin Y. The seat allocation is as follows:

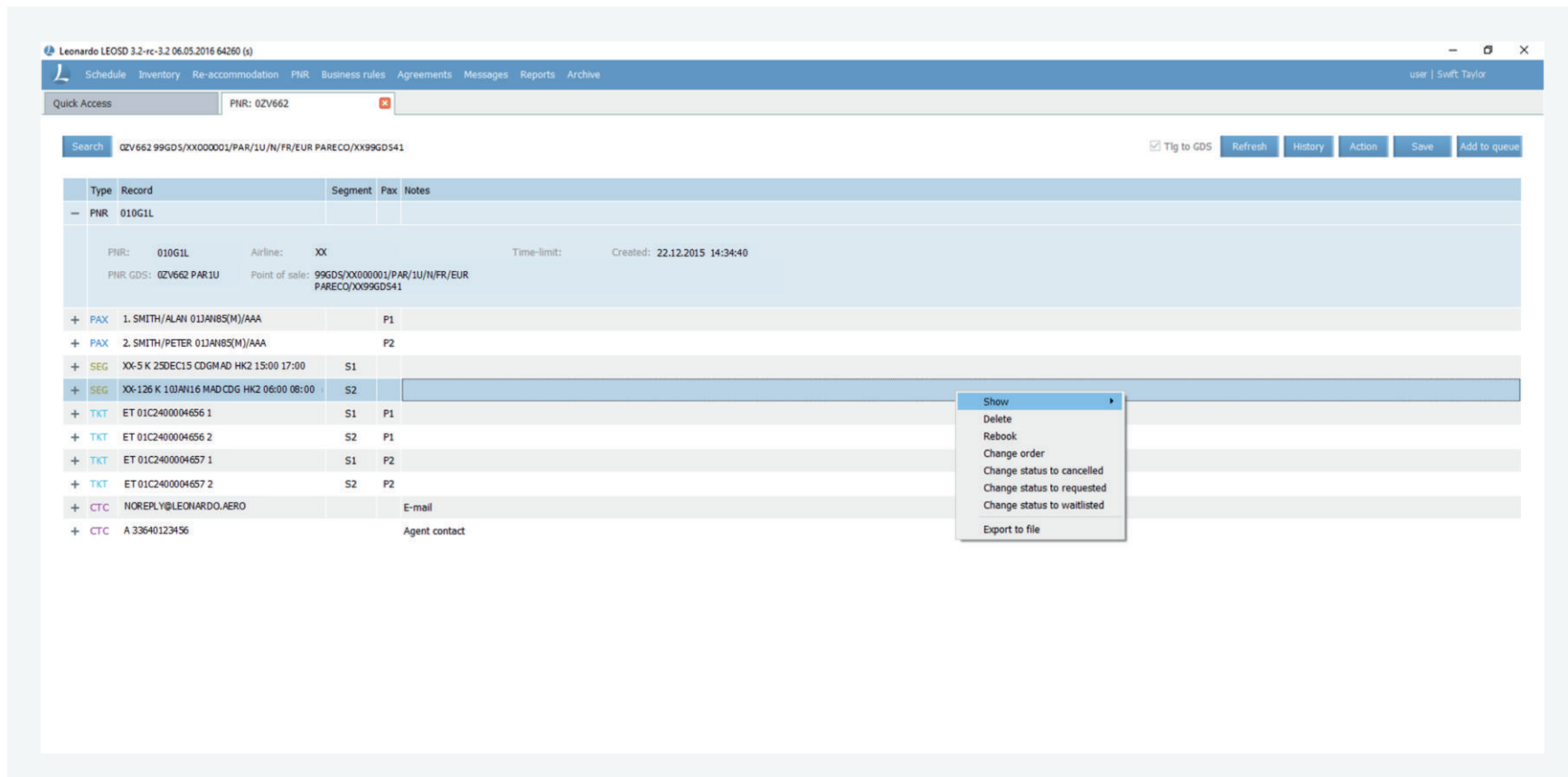
Class	Pmnt	FIX	MIN	Prot	AU	Bld	BldGr	AMQ	AV	CWL	%WL	MWL	BWL	GrWL	ACWL	GrHN	Open	Close	BIL	TIL	Status	Comments	
Cabin C: Cabin SegCap: 2, Cabin SegBld: 0, Cabin MWL: 10, Cabin BWL: 0																							
C					2	0	0	0	2				0	0		0						LA	
D	C				2	0	0	0	2				0	0		0						LA	
A					2	0	0	0	2				0	0		0						LA	
Z	C				2	0	0	0	2				0	0		0						LA	
Cabin Y: Cabin SegCap: 23, Cabin SegBld: 0, Cabin MWL: 10, Cabin BWL: 0																							
Y					23	0	0	0	22				0	0		0						LA	
H				5	15	0	0	0	15				0	0		0						LA	
Q	H			5	5	0	0	0	5				0	0		0						LA	
B	H			5	5	0	0	0	5				0	0		0						LA	
K				15	15	0	0	0	15				0	0		0						LA	

ALLOCATION OF SEATS BY CLASSES USING NESTING STRUCTURE

## SET OF BUSINESS RULES:

- Terms of accepting flight search
- Time range for accepting flight search
- Allowed/prohibited flights for re-accommodation
- Route retaining (for long segments)

- Classes matching
- Overbooking capability
- Re-accommodation by automated mode
- Terms of notifications



Leonardo LEOSD 3.2-rc-3.2 06.05.2016 64260 (s)

Quick Access: PNR: 0ZV662

Search: 0ZV662 99GDS/XX000001/PAR/1U/N/FR/EUR PARECO/XX99GDS41

Tlg to GDS: Refresh History Action Save Add to queue

Type	Record	Segment	Pax	Notes
-	PNR	010G1L		
	PNR: 010G1L Airline: XX Time-limit: Created: 22.12.2015 14:34:40 PNR GDS: 0ZV662 PAR1U Point of sale: 99GDS/XX000001/PAR/1U/N/FR/EUR PARECO/XX99GDS41			
+	PAX	1. SMITH/ALAN 01JAN85(M)/AAA		P1
+	PAX	2. SMITH/PETER 01JAN85(M)/AAA		P2
+	SEG	XX-5 K 25DEC15 CDGMAD HK2 15:00 17:00	S1	
+	SEG	XX-126 K 10JAN16 MADCDG HK2 06:00 08:00	S2	
+	TKT	ET 01C2400004656 1	S1	P1
+	TKT	ET 01C2400004656 2	S2	P1
+	TKT	ET 01C2400004657 1	S1	P2
+	TKT	ET 01C2400004657 2	S2	P2
+	CTC	NOREPLY@LEONARDO.AERO		E-mail
+	CTC	A 33640123456		Agent contact

Context menu options: Show, Delete, Rebook, Change order, Change status to cancelled, Change status to requested, Change status to waitlisted, Export to file

FORMED RE-ACCOMMODATION PLAN WITH INDICATION OF MODIFIED AND ACCEPTING FLIGHTS INCLUDING RBD DETALIZATION



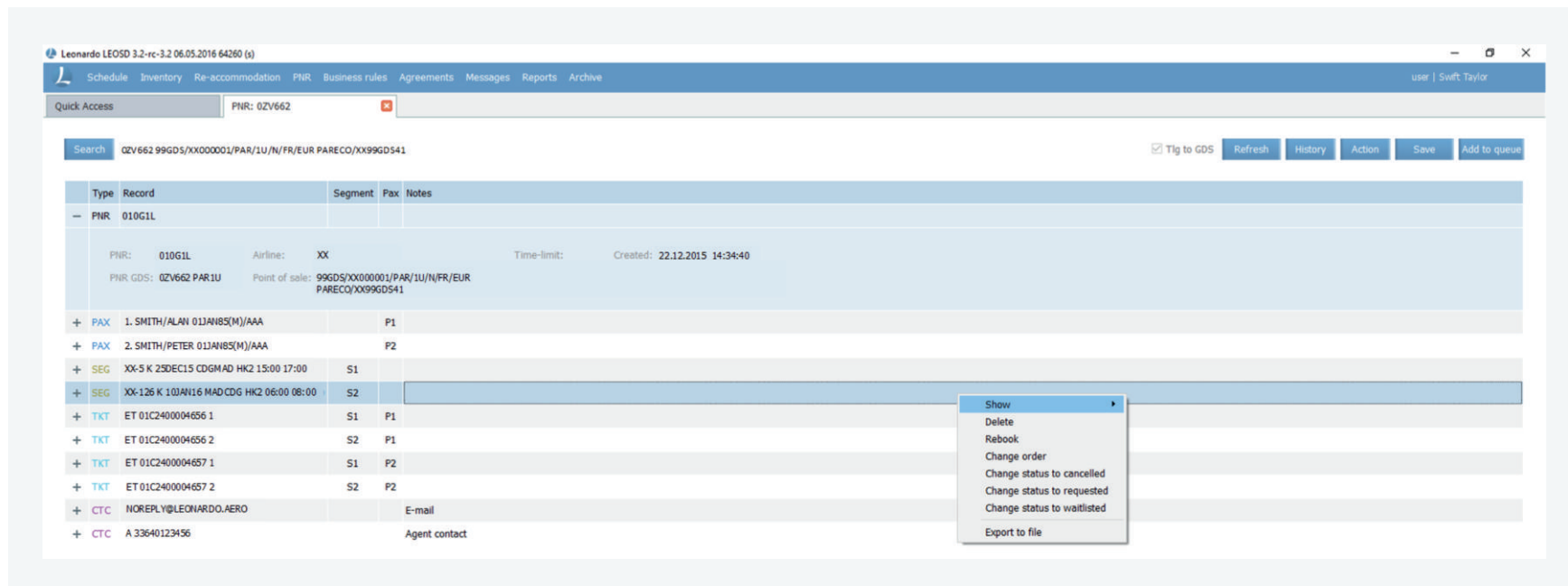
## PNR MANAGEMENT FUNCTIONALITY:

- Create PNR
- Individual / Group
- Change number of seats
- Add a passenger

- Add an infant
- Add a segment
- Add ARNK segment
- Add an arrival segment

- Add contact information
- Add FQT
- Add SSR
- Add OSI

- Add a ticket
- Add API data
- Add ancillary service
- PNR History



Leonardo LEOSD 3.2-rc-3.2.06.05.2016 64260 (s)

Schedule Inventory Re-accommodation PNR Business rules Agreements Messages Reports Archive user | Swift Taylor

Quick Access PNR: 0ZV662

Search 0ZV662 99GDS/XX000001/PAR/1U/N/FR/EUR PARECO/XX99GDS41 Tlg to GDS Refresh History Action Save Add to queue

Type	Record	Segment	Pax	Notes
-	PNR	010G1L		
	PNR: 010G1L Airline: XX Time-limit: Created: 22.12.2015 14:34:40 PNR GDS: 0ZV662 PAR 1U Point of sale: 99GDS/XX000001/PAR/1U/N/FR/EUR PARECO/XX99GDS41			
+	PAX	1. SMITH/ALAN 01JAN85(M)/AAA	P1	
+	PAX	2. SMITH/PETER 01JAN85(M)/AAA	P2	
+	SEG	XX-5 K 25DEC15 CDGMAD HK2 15:00 17:00	S1	
+	SEG	XX-126 K 10JAN16 MADCDG HK2 06:00 08:00	S2	
+	TKT	ET 01C2400004656 1	S1	P1
+	TKT	ET 01C2400004656 2	S2	P1
+	TKT	ET 01C2400004657 1	S1	P2
+	TKT	ET 01C2400004657 2	S2	P2
+	CTC	NOREPLY@LEONARDO.AERO		E-mail
+	CTC	A 33640123456		Agent contact

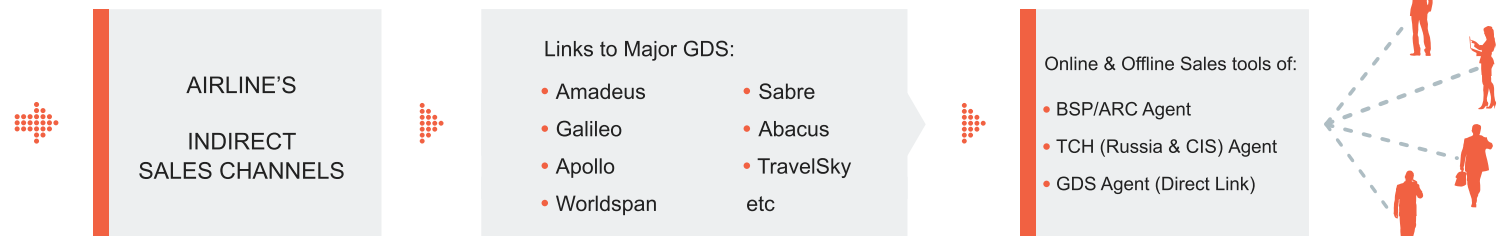
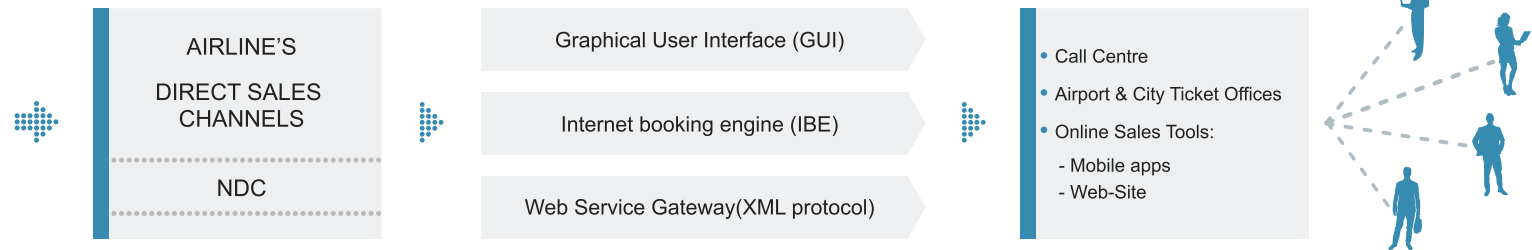
Show  
Delete  
Rebook  
Change order  
Change status to cancelled  
Change status to requested  
Change status to waitlisted  
Export to file

DISPLAY OF PNR VIEW WITH DROP-DOWN SELECTION MENU

## LEONARDO PSS. EFFICIENT SALES MANAGEMENT

SYSTEM CORE	
TICKETING	INVENTORY & SCHEDULE
REVENUE INTEGRITY	RESERVATION SYSTEM
STATISTICS & ANALYTICS	FARES & PRICING

INTEGRATED & STANDELONE SOLUTIONS	
DCS	CRM
E-COMMERCE	MYCHARTER
WEB SERVICE GATEWAY	WEIGHT & BALANCE
PAYMENT SOLUTION	AGENCY MANAGEMENT SYSTEM
MESSAGING SOLUTION	CREW MANAGEMENT
RMS	SECURITY LEVEL ACCESS
LOYALTY	STANDARD REFERENCE DATABASE





## ANCILLARY MANAGEMENT

- Electronic Miscellaneous Documents issuance (EMD-S, EMD-A) in compliance with IATA Reason for Issuance Code (RFIC) and Reason for Issuance sub-code (RFISC)
- Support of the Ancillary Services registry provided by Airline
- Support of the business rules to provide automatic confirmation of ancillary services and request to EMD issue
- Automated transfer of reserved Ancillary services in case of Re-Accommodation (in accordance with IATA Standards)



## NOTIFICATION MANAGEMENT

The Inventory system provides customers with information about significant flight related changes, special offers and services via SMS and E-mail.



## SECURITY MANAGEMENT

The Inventory system and its database are protected from the unwanted actions of unauthorized users through the selective restriction of access to fulfillment of system's functions.



## SEATING MANAGEMENT

- Aircraft cabin configuration management using the tools of visual Designer
- Support of airplane decks, installations and different features of seats
- Automated generation of seat maps upon flight record creation or modification
- Support of carriage sales with seat's number
- Support of the business rules to provide access to seat map
- Automatic repeated request to provide information about seats reserved in case of re-accommodation



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