ONLINE-TICKET SYSTEM
USER GUIDE

Version 2.5

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1. OVERVIEW

This user guide is designed as reference book of settings and data output of Online-ticket system.

Online-ticket system transmits ticket operation data between Global Distribution System "Sirena-Travel" (*GDS*) and any of the parties concerned: agencies, flight carriers, and points of sale in real time mode.

System supports the following types of tickets:

- air tickets
- Aeroexpress tickets
- train tickets.

System supports the following operations on tickets:

- sales
- exchange
- refund
- insurance.

Online-ticket system workflow is shown on Figure 1.

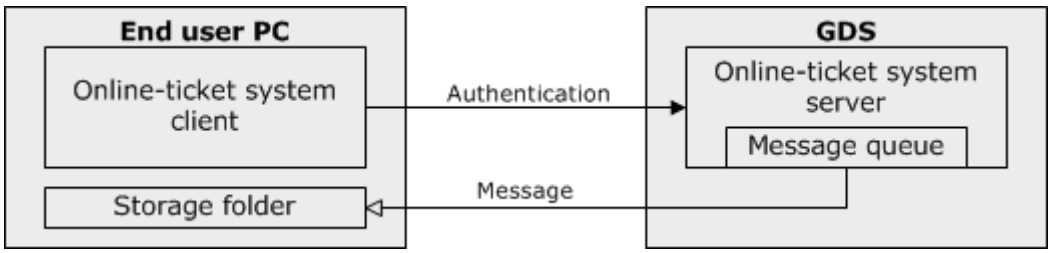

Figure 1 — Online-ticket system workflow

To use Online-ticket system:

1) Order it.
2) Install system client.
3) Specify client settings.
4) Launch the client.

Online-ticket system client establishes the connection to Online-ticket system server by passing authentication.

Online-ticket system server automatically converts operation data to XML file and puts it into message queue. A message is composed of user ID and XML-file.

If Online-ticket system client is launched then user receives the message from the queue. Once a user receives the message, the server deletes it.

If Online-ticket system client is closed then the message remains in the queue (**up to 30 days**) until system client is launched.

Online-ticket system automatically reestablishes server connection in case it breaks.

XML-file is automatically saved in the folder on the user PC. The folder is specified in `-storage` parameter of the configuration file (see Section 2 for details).

2. MAIN SETTINGS

There are two types of Online-ticket system client:

- for Windows OS
- for GNU/Linux.

The client includes installation files listed in Table 1.

Table 1 — Client installation files

File	Description
`Stat_Client.exe` (in Windows) `Stat_Client` (in Linux)	Executable file is included in Online-ticket system installation package.
`Stat_Client.conf` (by default)	Configuration file is included in the e-mail to registered user.
`Ca.crt`	Authentication center core certificate is included in the e-mail to registered user.
`<User Name>.pem`	User certificate is included in the e-mail to registered user.
`Client.out`	Log file is included in Online-ticket system installation package.

To view Help, run the executable file with `-help` key. Online-ticket system window will be closed and the Help window will be presented.

To install Online-ticket system:

1) Send the order to the Contract Department:
   - by phone: +7 (495) 940-61-40
   - by fax: +7 (495) 782-01-64(54)
   - by e-mail: ivanova@sirena-travel.ru
2) Download desired version of Online-ticket system from the site.
3) Specify the following necessary parameters in `Stat_Client.conf` file:
   - `Connect` line is included in the e-mail to registered user and specifies server access.
   - `Ca_cert` specifies the path to `Ca.crt` file.
   - `Client_cert` specifies the path to `<User Name>.pem`.
   - `Storage` specifies the path to storage folder for XML-files.
   - `Logger` specifies the path to log file.

Configuration file of installed Online-ticket system contains examples of these parameters.

Warning! Restrict the access to `<User Name>.pem` file to secure user data.

There are the following options to launch the client:

- using command line (see Section 3)
- in service mode (see Section 4).

Also, there is the option of launching two clients on a single PC (see Section 5).

Warning! Delete daemon files before you install a new version of client.

3. LAUNCH USING COMMAND LINE

3.1. Launch in Windows OS

To launch Online-ticket system client from command line in Windows OS:

1) Open Online-ticket system installation folder.
2) Run `Stat_Client.exe`.

If configuration file settings are correct then the black blank window will be opened. Use log file and file storage folder to administrate the workflow.

3.2. Launch in *nix OS Family

To launch Online-ticket system client from the command line in *nix OS Family:

1) Create `/var/lock/` directory or make sure that it is already created.
2) Provide access to the `/var/lock/` directory.
3) Open Online-ticket system installation folder.
4) Run `Stat_Client` file.

If configuration file settings are correct then only the command `Stat_Client` will be displayed. Use log file and file storage folder to administrate the workflow.

To adjust the launch process, use the following keys:

- `-d` to launch daemon
- `-p stat_client.pid` to specify the path and file with *pid* (`/var/run/stat_client/` by default)
- `-f stat_client.conf` to specify the path and file with the configuration

To launch Online-ticket system client with OS loading:

- Include `<path>/Stat_Client` launch command in `/etc/rc.local`.

4. LAUNCH IN SERVICE MODE

To launch Online-ticket system client in service mode in Windows OS:

1) Use the command `stat_client.exe -i -f Tch.conf`.

   The keys mean as follows:

   – `-i` for client launch in service mode

   – `-f` for the path and configuration file name (`Stat_Client.conf` by default from the folder with executable file)

2) Click **Start**, click **Control Panel**, click **Administrative Tools**, double-click **Services**. The **Services** window will be opened.

3) Locate Online-ticket system client service, right click on the service name, select **Properties** in dropdown list. The **Properties:** `<Service Name>` window will be opened.

4) Click the **Start** button in the **Service status** section of the window to launch the service.

5) To launch the service with Windows loading, select the **Automatic** option in dropdown list of the **Startup type** section of the window.

6) Click the **OK** button in the bottom section of the window to apply the settings.

5. LAUNCH TWO SERVICES/DAEMONS SIMULTANEOUSLY ON SINGLE PC

5.1. Two Services Simultaneously in Windows OS

To receive files of two different certificates (e.g. two agencies), launch two daemons simultaneously on a PC.

The first way to do it is to install Online-ticket system two times and perform the following steps:

1) Edit configuration files.
2) Install two daemons with different names (see **4 Launch in Service Mode** for daemon installation data).

The second way is to create two configuration files in Online-ticket system folder and do the following:

– Launch two services with different names each with own path to specific configuration file (see Section 4 for daemon installation data).

Contact Help Desk for additional information:

– by phone: +7 (495) 725-09-00
– by e-mail: helpdesk@sirena-travel.ru.

Warning! Delete and reinstall daemons if Online-ticket system folder is renamed or moved.

5.2. Two Daemons Simultaneously in *nix OS Family

To receive files of two different certificates (e.g. two agencies), launch two daemons simultaneously on a PC.

The first way to do it is to install Online-ticket system two times and perform the following steps:

1) Edit configuration files (see Section 3.2 for details).
2) Launch required system copy client from the directory where it is installed with `-p` key in the command line.

The second way is to create two configuration files in Online-ticket system folder and do the following

1) Edit configuration files (see Section 3.2 for details).
2) Launch Online-ticket system client with specified `-p` and `-f` keys.

Contact Help Desk for additional information:

- by phone: +7 (495) 725-09-00
- by e-mail: helpdesk@sirena-travel.ru.

6. ONLINE-TICKET CLIENT STOP

6.1. Client Stop in Windows OS

To stop Online-ticket system client:

- Close the client window. The connection breaks and Online-ticket system stops working.

To stop the service mode:

- Use the command `stat_client.exe -u`.

6.2. Client Stop in *nix OS Family

To stop Online-ticket system client:

- Use command `stat_client -s -p stat_client.pid`.

  The keys mean as follows:

  - `-s` for stop command
  - `-p stat_client.pid` to specify the path and file with *pid*.

Appendix 1. XML Format Description of Message File

Air Ticket Data File

```
<TICKETS version='2.5'>
  <TICKET>
  <TYPE DESC='TICKET, ETICKET, MCO, RECEIPT, EMD'>varchar2(10)</TYPE>
  <SYSTEM id='1H is for GDS, specific ID for others varchar2(3)' session='(may be
absent) varchar2(20)' bso_id='system code of strict security form (may be absent)'
DESC='booking system data'/>
  <CURRENCY DESC='payment currency code (e.g. USD, RUB)'>varchar2(3)</CURRENCY>
  <DEALDATE DESC='trade date – date of sale, refund, exchange'>
varchar2(8)</DEALDATE>
  <DEALTIME DESC='trade time – time of sale, refund,
exchange'>varchar2(6)</DEALTIME>
  <OPTYPE DESC='SALE,REFUND'>varchar2(10)</OPTYPE>
  <TRANS_TYPE
DESC='SALE,REFUND,CANCEL,EXCHANGE,ERASE'>varchar2(10)</TRANS_TYPE>
  <MCO_TYPE DESC='PTA, PENALTY, RECEIPT' rfic='Reason-For-Issuance Code
varchar2(2)' rfisc='Reason For Issuance Sub-Code
varchar2(4)'>varchar2(10)</MCO_TYPE>
  <BSONUM DESC='strict security form number (e.g.
4214200000001)'>varchar2(20)</BSONUM>
  <EX_BSONUM DESC='strict security form number of the refunded
ticket'>varchar2(20)</EX_BSONUM>
  <FIO DESC='Passenger full name'>varchar2(100)</FIO>
  <SURNAME DESC='passenger surname as in PNR'>varchar2(100)</SURNAME>
  <NAME DESC='passenger name as in PNR'>varchar2(100)</NAME>
  <PASS DESC='passenger ID document'>varchar2(100)</PASS>
  <BENEFIT_DOC DESC='discount document data'>varchar2(100)</BENEFIT_DOC>
  <BIRTH_DATE DESC='passenger birth date in DDMMYYYY
format'>varchar2(8)</BIRTH_DATE>
  <GENERAL_CARRIER DESC='validating carrier
code'>varchar2(10)</GENERAL_CARRIER>
  <RETTYPE DESC='refund type (voluntary=0, forced=1)'>varchar2(1)</RETTYPE>
  <TOURCODE DESC='tour code'>varchar2(15)</TOURCODE>
  <OCURRENCY DESC='currency code in Air Fare column
(EUR…)'>varchar2(3)</OCURRENCY>
```

```
<ORATE DESC='exchange rate from the fare calculation currency to the currency of Air Fare column (e.g. 0.7103)'>number</ORATE>
<NCURRENCY DESC='Currency code of fare calculation (e.g. USD, RUB)'>varchar2(3)</NCURRENCY>
<NRATE DESC='exchange rate from the fare calculation currency to the payment currency (e.g. 25.9003)'>number</NRATE>
<OPRATE DESC='exchange rate from the currency of Air Fare column to the payment currency'>number</OPRATE>
<FARE type='fare basis varchar2(15)' vat_amount='fare VAT amount number' vat_rate='fare VAT rate number' DESC='fare amount in payment currency'>number</FARE>
<OFARE DESC='fare amount from Air Fare column (e.g. 400.00)'>number</OFARE>
<FARECALC DESC='fare calculation data'>varchar2(400)</FARECALC>
<ENDORS_RESTR DESC='data from ENDORSEMENTS/RESTRICTION ticket field'>varchar2(400)</ENDORS_RESTR>
<PNR DESC='Passenger Name Record'>varchar2(8)</PNR>
<PNR_LAT DESC='PNR in Latin characters'>varchar2(8)</PNR_LAT>
<INV_PNR DESC='Inventory PNR'>varchar2(8)</INV_PNR>
<CONJ DESC='Conjunction Ticket Indicator'>varchar2(100)</CONJ>
<TO_BSONUM DESC='Ticket/Document Number'>varchar2(20)</TO_BSONUM>
<TYP_NUM ser='preprinted ticket series' DESC='preprinted ticket number'>varchar2(20)</TYP_NUM>
<FCMODE DESC='Fare Calculation Pricing Indicator (AUTO, MANUAL)'>varchar2(6)</FCMODE>
<COMISSION type='comission type varchar(10)' currency='comission currency varchar(3)' amount='comission amount number' rate='commision rate number' DESC='agency commission (only for BSP session)'/>
<BOOK agency='agent code varchar(6)' date='booking date by terminal local time varchar2(8)' disp='booking operator ID varchar(15)' opr_num='booking operator number number' stamp='Agent Numeric Code varchar(15)' tap='booking terminal varchar(15)' time='booking time by terminal local time varchar2(6)' utc='booking UTC date and time in ISO format (YYYYMMDDThhmmss) varchar2(15)' DESC='booking data'/>
<DEAL agency='agent code varchar(6)' date='operation date by terminal local time varchar2(8)' disp='operator ID varchar(15)' opr_num='operator number number' stamp='Agent Numeric Code varchar(15)' tap='terminal varchar(15)' time='operation time by terminal local time varchar2(6)' utc='operation UTC date and time in ISO format (YYYYMMDDThhmmss) varchar2(15)' ersp='Approved Location Numeric Code varchar(15)' pcc='Pseudo City Code (airline computer code for local office) varchar(15)' DESC='operation data'/>
```

```
  <SALE agency='agent code varchar(6)' date='sale date by terminal local time
varchar2(8)' disp='sale operator ID varchar(15)' opr_num='operator number
number' stamp='Agent Numeric Code varchar(15)' tap='sale terminal varchar(15)'
time='sale time by terminal local time varchar2(6)' utc='sale UTC date and time in ISO
format (YYYYMMDDThhmmss) varchar2(15)' DESC='sale data'/>
  <EMDCOUPONS DESC='EMD coupons (only for EMD)'>
    <EMDCOUPON>
      <COUPON_NO DESC='coupon number'>number</COUPON_NO>
      <VALUE DESC='if EMD is priced by coupons then VALUE is EMD coupon price else VALUE
is 0'>number</VALUE>
      <REMARK DESC='coupon remark'>varchar2(140)</REMARK>
      <RELATED coupon='coupon document number which is related to EMD coupon'
DESC='document number which is related to the coupon'>varchar2(20)</RELATED>
      <REASON rfisc='Reason For Issuance Sub-Code' airline='carrier code which is
related to RFISC' DESC='Reason for issuance description'>varchar2(120)</REASON>
      <XBAGGAGE number='excess baggage amount' qualifier='excess baggage units (P
— baggage pieces, L — lb, K — kg, S — seats)' rpu='excess baggage unit fare'
currency='currency code of excess baggage unit fare' DESC='excess baggage data, all
parameters are required if excess baggage service is included in the coupon'/>
    </EMDCOUPON>
  </EMDCOUPONS>
  <SEGMENTS DESC='flight segment package (for MCO, RECEIPT, EMD documents may be
absent)'>
    <SEGMENT>
      <SEGNO DESC='flight segment number'>number</SEGNO>
      <SEG_BSONUM DESC='segment ticket list number'>varchar2(20)</SEG_BSONUM>
      <COUPON_NO DESC='coupon number (from 1 to 4)'>number</COUPON_NO>
      <IS_VOID DESC='flight segment status: F – flight, V – VOID, S –
 Surface'>varchar2(1)</IS_VOID>
      <STOP DESC='Stopover flag (0 – granted, 1 – denied)'>number</STOP>
      <CITY1CODE DESC='departure city code as on the ticket (e.g.
SIP)'>varchar2(3)</CITY1CODE>
      <CITY2CODE DESC='arrival city code as on the ticket (e.g.
VKO)'>varchar2(3)</CITY2CODE>
      <PORT1CODE DESC='departure airport code as on the ticket (e.g.
SIP)'>varchar2(3)</PORT1CODE>
      <PORT2CODE DESC='arrival airport code as on the ticket (e.g.
VKO)'>varchar2(3)</PORT2CODE>
      <TERM1 DESC='departure terminal'>varchar2(6)</TERM1>
      <TERM2 DESC='arrival terminal'>varchar2(6)</TERM2>
```

```
      <CARRIER DESC='carrier code on the coupon (e.g. S7)'>varchar2(2)</CARRIER>
      <CLASS DESC='service class (e.g. X,N)'>varchar2(2)</CLASS>
      <REIS DESC='flight number'>varchar2(5)</REIS>
      <FLYDATE DESC='departure date' changed_to='new departure date (may not be
specified) in case of the schedule change known at the ticketing time, format –
varchar2(8)'>varchar2(8)</FLYDATE>
      <FLYTIME DESC='departure time'>varchar2(4)</FLYTIME>
      <ARRDATE DESC='arrival date'>varchar2(8)</ARRDATE>
      <ARRTIME DESC='arrival time'>varchar2(4)</ARRTIME>
      <BASICFARE DESC='fare basis'>varchar2(13)</BASICFARE>
      <NFARE DESC='fare in calculation currency (e.g. 400.00)'>number</NFARE>
      <BAGGAGE number='baggage amount' qualifier='baggage units (P — baggage
pieces, L — lb, K — kg, S — seats)' DESC='baggage data, all parameters may be absent'/>
      <FFP_INFO number='frequent flyer bonus card number' certificate='frequent flyer
certificate number' DESC='frequent flyer information'/>
    </SEGMENT>
  </SEGMENTS>
  <TAXES vat_amount='VAT amount on airport government taxes' vat_rate='VAT
interest rate on airport government taxes'>
    <TAX vat_amount='VAT amount on charges other than airport government taxes'
vat_rate='VAT interest rate on charges other than airport government taxes'>
      <SEGNO DESC='flight segment number'>number</SEGNO>
      <CODE DESC='Charge code (e.g. RU, YQ…)'>varchar2(20)</CODE>
      <AMOUNT DESC='charge amount in payment currency (e.g.
389.00)'>number</AMOUNT>
      <NAMOUNT DESC='charge amount in charge base currency (e.g.
15.00)'>number</NAMOUNT>
      <NCURRENCY DESC='charge base currency code (e.g. USD,
RUB)'>varchar2(3)</NCURRENCY>
      <NRATE DESC='exchange rate from charge base currency to payment currency (e.g.
25.9003)'>number</NRATE>
      <OAMOUNT DESC='charge amount in report currency (e.g.
510.00)'>number</OAMOUNT>
      <OCURRENCY DESC='report currency code (e.g. EUR)'>varchar2(3)</OCURRENCY>
      <ORATE DESC='exchange rate from charge base currency to report currency (e.g.
0.7103)'>number</ORATE>
      <OPRATE DESC='exchange rate from report currency to payment currency (e.g.
25.9003)'>number</OPRATE>
    </TAX>
  </TAXES>
  <FOPS>
```

```
    <FOP>
      <TYPE DESC='payment type (e.g. CA, CC, IN)'>varchar2(50)</TYPE>
      <ORG DESC='institution (e.g. Ministry of Defense, Ministry of Interior, it is used for
mutual payments between the institution and the carrier)'>varchar2(100)</ORG>
      <DOCSER DESC='document series'>varchar2(10)</DOCSER>
      <DOCNUM DESC='document number'>varchar2(20)</DOCNUM>
      <AUTH_INFO code='authentication code varchar2(8)' currency='payment
currency code varchar2(3)' amount='payment amount number' DESC='payment card
description'/>
      <DOCINFO DESC='payment card detailed data'>varchar2(200)</DOCINFO>
      <AMOUNT DESC='total amount in payment currency (e.g. 389.00)'>number</AMOUNT>
    </FOP>
  </FOPS>
  <CONTACTS>
    <CONTACT DESC='contact details'>varchar2(50)</CONTACTS>
  </CONTACTS>
  <AGN_INFO>
    <CLIENT_NUM DESC='client number'>varchar2(50)</CLIENT_NUM>
    <RESERV_NUM DESC='PNR (Passenger Name Record)'>varchar2(50)</RESERV_NUM>
    <INFO DESC='SSR (Special Service Remarks)'>varchar2(200)</INFO>
  </AGN_INFO>
  <EXCH_TICKET>
    <FIO DESC='passenger full name'>varchar2(100)</FIO>
    <AMOUNT DESC='ticket exchange amount'>number</AMOUNT>
    <SEGMENTS DESC='exchanged ticket segment batch'>
      <SEGMENT>
        <SEGNO DESC='flight segment number'>number</SEGNO>
        <CITY1CODE DESC='departure city code'>varchar2(3)</CITY1CODE>
        <CITY2CODE DESC='arrival city code'>varchar2(3)</CITY2CODE>
        <PORT1CODE DESC='departure airport code'>varchar2(3)</PORT1CODE>
        <PORT2CODE DESC='arrival airport code'>varchar2(3)</PORT2CODE>
        <CARRIER DESC='carrier code'>varchar2(2)</CARRIER>
        <CLASS DESC='service class'>varchar2(2)</CLASS>
        <REIS DESC='flight number'>varchar2(5)</REIS>
        <FLYDATE DESC='departure date'>varchar2(8)</FLYDATE>
        <FLYTIME DESC='departure time'>varchar2(4)</FLYTIME>
        <BASICFARE DESC='fare code'>varchar2(13)</BASICFARE>
      </SEGMENT>
    </SEGMENTS>
    <TAXES DESC='exchanged ticket charge batch'>
      <TAX>
```

```
        <SEGNO DESC='flight segment number'>number</SEGNO>
        <CODE DESC='charge code'>varchar2(20)</CODE>
        <AMOUNT DESC='charge amount in payment currency'>number</AMOUNT>
        <NAMOUNT DESC='charge amount in charge base currency'>number</NAMOUNT>
        <NCURRENCY DESC='charge base currency code'>varchar2(3)</NCURRENCY>
        <NRATE DESC='exchange rate from charge base currency to payment
currency'>number</NRATE>
      </TAX>
    </TAXES>
  </EXCH_TICKET>
  </TICKET>
</TICKETS>
```

Booking Data File

It is sent by agent request.

To send the booking data file to OLT, enter the *OB* command.

The system response is "BOOKING INFORMATION SENT TO OLT".

```
<BOOKINGS version='2.5'>
   <BOOKING>
   <TYPE DESC='BOOKING'>varchar2(10)</TYPE>
   <SYSTEM id='1H is for GDS, specific ID for others varchar2(3)' session='(may be
absent) varchar2(20)' DESC='booking system data'/>
   <INFODATE DESC='file creation date in GDS'>varchar2(8)</INFODATE>
   <INFOTIME DESC='file creation time in GDS'>varchar2(6)</INFOTIME>
   <PNR DESC='Passenger Name Record'>varchar2(8)</PNR>
   <PNR_LAT DESC='PNR in Latin characters'>varchar2(8)</PNR_LAT>
   <INV_PNR DESC='Inventory PNR in Latin characters'>varchar2(8)</INV_PNR>
  <BOOK agency='agent code varchar(6)' date='booking date by terminal local time
varchar2(8)' disp='booking operator ID varchar(15)' opr_num='booking operator
number number' stamp='Agent Numeric Code varchar(15)' tap='booking terminal
varchar(15)' time='booking time by terminal local time varchar2(6)' utc='booking
UTC date and time in ISO format (YYYYMMDDThhmmss) varchar2(15)' DESC='booking
data'/>
   <SEGMENTS DESC='flight segment package'>
    <SEGMENT>
      <SEGNO DESC='flight segment number'>number</SEGNO>
      <CITY1CODE DESC='departure city code'>varchar2(3)</CITY1CODE>
      <CITY2CODE DESC='arrival city code'>varchar2(3)</CITY2CODE>
```

```
      <PORT1CODE DESC='departure airport code'>varchar2(3)</PORT1CODE>
      <PORT2CODE DESC='arrival airport code'>varchar2(3)</PORT2CODE>
      <TERM1 DESC='departure terminal'>varchar2(6)</TERM1>
      <TERM2 DESC='arrival terminal'>varchar2(6)</TERM2>
      <FLYDATE DESC='departure date in the DDMMYYYY format'>varchar2(8)</FLYDATE>
      <FLYTIME DESC='departure time'>varchar2(4)</FLYTIME>
      <ARRDATE DESC='arrival date in the DDMMYYYY format'>varchar2(8)</ARRDATE>
      <ARRTIME DESC='arrival time'>varchar2(4)</ARRTIME>
      <CLASS DESC='booking class'>varchar2(2)</CLASS>
      <CARRIER DESC='carrier code'>varchar2(2)</CARRIER>
      <FLIGHT DESC='flight number'>varchar2(5)</FLIGHT>
      <STATUS DESC='segment status code'>varchar2(3)</STATUS>
      <TYPE DESC='FLY,ARNK'>varchar2(10)</TYPE>
    </SEGMENT>
  </SEGMENTS>
  <PASSENGERS DESC='passenger package'>
    <PASSENGER>
      <PASSNO DESC='passenger number'>number</PASSNO>
      <SURNAME DESC='passenger surname'>varchar2(100)</SURNAME>
      <NAME DESC='passenger name (and patronimic name if
exists)'>varchar2(100)</NAME>
      <BIRTH_DATE DESC='passenger birthdate in the DDMMYYYY
format'>varchar2(8)</BIRTH_DATE>
      <GENDER DESC='passenger gender (M/F)'>varchar2(1)</GENDER>
      <TYPE DESC='ADT,CNN,INF'>varchar2(10)</TYPE>
    </PASSENGER>
  </PASSENGERS>
  <CONTACTS DESC='contact information batch'>
    <CONTACT DESC='contact details'>varchar2(50)</CONTACT>
  </CONTACTS>
  </BOOKING>
</BOOKINGS>
```

Insurance Data File

```
<TICKETS version='2.5'>
  <TICKET>
    <TYPE DESC='INSURCAR, EINSURCAR'>varchar2(10)</TYPE>
```

```
    <SYSTEM id='system code (1H for GDS, specific ID for others) varchar2(3)'
session='(may be absent) varchar2(20)' DESC='CRS (computer reservation system)
data'/>
    <DEALDATE DESC='operation date'>varchar2(8)</DEALDATE>
    <DEALTIME DESC='operation time'>varchar2(6)</DEALTIME>
    <OPTYPE DESC='operation type (SALE or REFUND)'>varchar2(10)</OPTYPE>
    <TRANS_TYPE DESC='SALE, REFUND , ERASE, CANCEL'>varchar2(10)</TRANS_TYPE>
    <BSONUM DESC='insurance certificate series and number' ser='blank series, format –
varchar2(10)'>varchar2(20)</BSONUM>
    <FIO DESC='passenger full name'>varchar2(100)</FIO>
    <PASS DESC='passenger ID data'>varchar2(100)</PASS>
    <BIRTH_DATE DESC='passenger birth date in DDMMYYYY
format'>varchar2(8)</BIRTH_DATE>
    <PNR DESC='PNR in Cyrillic characters'>varchar2(8)</PNR>
    <PNR_LAT DESC='PNR in Latin characters'>varchar2(8)</PNR_LAT>
    <CARRIER DESC='carrier code'>varchar2(2)</CARRIER>
    <REIS DESC='flight number'>varchar2(5)</REIS>
    <FLYDATE DESC='departure date'>varchar2(8)</FLYDATE>
    <FLYTIME DESC='departure time'>varchar2(4)</FLYTIME>
    <CITY1CODE DESC='departure city code'>varchar2(3)</CITY1CODE>
    <CITY2CODE DESC='arrival city code'>varchar2(3)</CITY2CODE>
    <FARE DESC='insurance cover amount'>number</FARE>
    <FARE_CURRENCY DESC='insurance cover amount
currency'>varchar2(3)</FARE_CURRENCY>
    <CURRENCY DESC='insurance payment currency'>varchar2(3)</CURRENCY>
    <AMOUNT DESC='insurance amount'>number</AMOUNT>
    <TO_BSONUM DESC='ticket number with attached
insurance'>varchar2(20)</TO_BSONUM>
    <INSURER DESC='insurance company name'>varchar2(40)</INSURER>
    <INSURTYPE DESC='insurance type code'>varchar2(2)</INSURER>
    <INSURCODE DESC='insurance cover code'>varchar2(2)</INSURCODE>
    <INSURORDER DESC='insurance ID for several flight
segments'>varchar2(20)</INSURORDER>
    <DEAL agency='agent code varchar(6)' date='operation date by terminal local time
varchar2(8)' disp='operator ID varchar(15)' opr_num='operator number number'
stamp='Agent Numeric Code varchar(15)' tap='terminal varchar(15)'
time='operation time by terminal local time varchar2(6)' utc='operation UTC date and
time in ISO format (YYYYMMDDThhmmss) varchar2(15)' DESC='operation data'/>
    <SALE agency='agent code varchar(6)' date='sale date by terminal local time
varchar2(8)' disp='sale operator ID varchar(15)' opr_num='operator number
```

```
number' stamp='Agent Numeric Code varchar(15)' tap='sale terminal varchar(15)'
time='sale time by terminal local time varchar2(6)' utc='sale UTC date and time in ISO
format (YYYYMMDDThhmmss) varchar2(15)' DESC='sale data'/>
    <SERVICES DESC='insurance data batch'>
      <SERVICE>
        <TYPE DESC='service type'>varchar2(10)</TYPE>
        <FARE DESC='insurance cover amount'>number</FARE>
        <FARE_CURRENCY DESC='insurance cover amount
currency'>varchar2(3)</FARE_CURRENCY>
        <AMOUNT DESC='insurance amount'>number</AMOUNT>
      </SERVICE>
    </SERVICES>
    <CONTACTS DESC='contact information batch'>
      <CONTACT DESC='contact details'>varchar2(50)</CONTACT>
    </CONTACTS>
    <FOPS>
      <FOP>
        <TYPE DESC='payment type (e.g. CA, CC, IN)' >varchar2(50)</TYPE>
        <ORG DESC='institution (e.g. Ministry of Defense, Ministry of Interior, it is used for
mutual payments between the institution and the carrier)'>varchar2(100)</ORG>
        <DOCSER DESC='document series'>varchar2(10)</DOCSER>
        <DOCNUM DESC='document number'>varchar2(20)</DOCNUM>
        <DOCINFO DESC='payment document detailed data'>varchar2(200)</DOCINFO>
        <AMOUNT DESC='insurance total amount in payment currency (e.g.
389.00)'>number</AMOUNT>
        <AUTH_INFO code='authentication code varchar2(8)' currency='payment
currency code varchar2(3)' amount='payment amount number' DESC='payment card
description'/>
      </FOP>
    </FOPS>
  </TICKET>
</TICKETS>
```

Aeroexpress Ticket Data File

```
<TICKETS version='2.5'>
  <TICKET>
    <TYPE DESC='AE_TICKET'>varchar2(10)</TYPE>
```

```
    <SYSTEM id='system code (1H for GDS, specific ID for others) varchar2(3)'
session='(may be absent) varchar2(20)' DESC='CRS (computer reservation system)
data'/>
    <DEALDATE DESC='operation date'>varchar2(8)</DEALDATE>
    <DEALTIME DESC='operation time'>varchar2(6)</DEALTIME>
    <OPTYPE DESC='SALE, REFUND'>varchar2(10)</OPTYPE>
    <TRANS_TYPE DESC='SALE, REFUND'>varchar2(10)</TRANS_TYPE>
    <EMD_NUM DESC='EMD (Electronic Miscellaneous Document)
number'>varchar2(20)</EMD_NUM>
    <TICKNUM DESC='ticket number'>varchar2(20)</TICKNUM>
    <ORDER_NUM DESC='Aeroexpress order number'>varchar2(20)</ORDER_NUM>
    <PNR DESC='PNR in Cyrillic characters'>varchar2(8)</PNR>
    <PNR_LAT DESC='PNR in Latin characters'>varchar2(8)</PNR_LAT>
    <FARE DESC='fare amount in payment currency'>varchar2(100)</FARE>
    <CURRENCY DESC='payment currency'>varchar2(100)</CURRENCY>
    <FARETYPE DESC='fare type (list of available values: full, child, roundtrip,
family)'>varchar2(100)</FARETYPE>
    <DEAL agency='agent code varchar(6)' date='operation date by terminal local time
varchar2(8)' disp='operator ID varchar(15)' opr_num='operator number number'
stamp='Agent Numeric Code varchar(15)' tap='terminal varchar(15)'
time='operation time by terminal local time varchar2(6)' utc='operation UTC date and
time in ISO format (YYYYMMDDThhmmss) varchar2(15)' DESC='operation data'/>
    <SALE agency='agent code varchar(6)' date='sale date by terminal local time
varchar2(8)' disp='sale operator ID varchar(15)' opr_num='operator number
number' stamp='Agent Numeric Code varchar(15)' tap='sale terminal varchar(15)'
time='sale time by terminal local time varchar2(6)' utc='sale UTC date and time in ISO
format (YYYYMMDDThhmmss) varchar2(15)' DESC='sale data'/>
    <SEGMENTS DESC='trip segments'>
      <SEGMENT DESC='trip segment'>
        <SEGNO DESC='segment number (always 1)'>number</SEGNO>
        <DEPDATE DESC='departure date'>varchar2(8)</DEPDATE>
        <DEPTIME DESC='departure time'>varchar2(8)</DEPTIME>
        <DEPPORT DESC='departure point code'>varchar2(8)</DEPPORT>
        <ARRPORT DESC='arrival point code'>varchar2(8)</ARRPORT>
        <CLASS DESC='service class (common or business)'>varchar2(8)</CLASS>
        <SEAT DESC='seat number'>varchar2(8)</SEAT>
      </SEGMENT>
    </SEGMENTS>
    <FOPS DESC='payment types'>
      <FOP DESC='payment type'>
```

```
        <TYPE DESC='payment type (e.g. CA, CC, IN; CA only for
now)'>varchar2(50)</TYPE>
        <ORG DESC='institution code'>varchar2(100) </ORG>
        <DOCSER DESC='document series'>varchar2(10)</DOCSER>
        <DOCNUM DESC='document number'>varchar2(20)</DOCNUM>
        <DOCINFO DESC='payment document detailed data'>varchar2(200)</DOCINFO>
        <AMOUNT DESC='total amount in payment currency (e.g.
389.00)'>number</AMOUNT>
        <AUTH_INFO code='authentication code varchar2(8)' currency='payment
currency code varchar2(3)' amount='payment amount number' DESC='payment card
description'/>
      </FOP>
    </FOPS>
  </TICKET>
</TICKETS>
```

Train Ticket Data File

```
<TICKETS version='2.5'>
  <TICKET>
    <TYPE DESC='TRAIN_TICKET'>varchar2(10)</TYPE>
    <SYSTEM id='system code (1H for GDS, specific ID for others) varchar2(3)'
session='(may be absent) varchar2(20)' DESC='CRS (computer reservation system)
data'/>
    <DEALDATE DESC='operation date'>varchar2(8)</DEALDATE>
    <DEALTIME DESC='operation time'>varchar2(6)</DEALTIME>
    <OPTYPE DESC='SALE, REFUND'>varchar2(10)</OPTYPE>
    <TRANS_TYPE DESC='SALE, REFUND'>varchar2(10)</TRANS_TYPE>
    <EMD_NUM DESC='EMD (Electronic Miscellaneous Document)
number'>varchar2(20)</EMD_NUM>
    <TICKNUM DESC='ticket number'>varchar2(20)</TICKNUM>
    <ORDER_NUM DESC='train ticket order number'>varchar2(20)</ORDER_NUM>
    <PNR DESC='PNR in Cyrillic characters'>varchar2(8)</PNR>
    <PNR_LAT DESC='PNR in Latin characters'>varchar2(8)</PNR_LAT>
    <FARETYPE DESC='fare type'> varchar2(100)</FARETYPE>
    <FARE vat_amount='VAT amount' vat_rate='VAT rate'
DESC='fare'>number</FARE>
    <FARE_CURR DESC='fare currency'>varchar2(100)</FARE_CURR>
    <INSURANCE DESC='insurance amount in fare currency'>number</INSURANCE>
```

```
    <SERVICES DESC='service amount in fare currency' vat_amount='service VAT amount'
vat_rate='service VAT rate'>number</SERVICES>
    <COMMISSION DESC='commission amount in fare currency'>number</COMMISSION>
    <CURRENCY DESC='payment currency'>varchar2(100)</CURRENCY>
    <TOTAL DESC='total amount in payment currency'
commission_fee_vat_amount='VAT amount on refund commission fee'
commission_fee_vat_rate='VAT rate on refund commission fee'
refund_tax_vat_amount='VAT amount on refund tax' refund_tax_vat_rate='VAT rate
on refund tax'>number</TOTAL>
    <CARRIER_VAT_ID DESC='carrier taxpayer
number'>varchar2(50)</CARRIER_VAT_ID>
    <DEAL agency='agent code varchar(6)' date='operation date by terminal local time
varchar2(8)' disp='operator ID varchar(15)' opr_num='operator number number'
stamp='Agent Numeric Code varchar(15)' tap='terminal varchar(15)'
time='operation time by terminal local time varchar2(6)' utc='operation UTC date and
time in ISO format (YYYYMMDDThhmmss) varchar2(15)' DESC='operation data'/>
    <SALE agency='agent code varchar(6)' date='sale date by terminal local time
varchar2(8)' disp='sale operator ID varchar(15)' opr_num='operator number
number' stamp='Agent Numeric Code varchar(15)' tap='sale terminal varchar(15)'
time='sale time by terminal local time varchar2(6)' utc='sale UTC date and time in ISO
format (YYYYMMDDThhmmss) varchar2(15)' DESC='sale data'/>
    <SEGMENTS DESC='trip segments'>
      <SEGMENT DESC='trip segment'>
        <SEGNO DESC='segment number (always 1)'>number</SEGNO>
        <DEPDATE DESC='departure date'>varchar2(8)</DEPDATE>
        <DEPTIME DESC='departure time'>varchar2(8)</DEPTIME>
        <DEPPORT DESC='departure point code'>varchar2(40)</DEPPORT>
        <ARRDATE DESC='arrival date'>varchar2(8)</ARRDATE>
        <ARRTIME DESC='arrival time'>varchar2(8)</ARRTIME>
        <ARRPORT DESC='arrival point code'>varchar2(8)</ARRPORT>
        <TRAIN DESC='train number'>varchar2(20)</TRAIN>
        <COACH num='coach number' type='coach type'/>
        <CLASS DESC='train service class'>varchar2(20)</CLASS>
        <SEATS>
          <SEAT DESC='seat number' tier='seat tier'>varchar2(8)</SEAT>
        </SEATS>
      </SEGMENT>
    </SEGMENTS>
    <PASSENGERS DESC='passenger details'>
      <PASSENGER DESC='passenger data'>
```

```
        <PASSNO DESC='passenger number'>number</PASSNO>
        <FIO DESC='passenger full name'>varchar2(100)</FIO>
        <PASS DESC='passenger ID'>varchar2(100)</PASS>
      </PASSENGER>
    </PASSENGERS>
  </TICKET>
</TICKETS>
```

Appendix 2. XML Document Line Description

Air Ticket Data

The **TICKETS** is the root node of XML-file. It consists of the **TICKET** operation data block.

Table 2 — The TICKET operation data block

Line	Description
TYPE	Document type: – TICKET – ETICKET – MCO (Miscellaneous Charges Order) – RECEIPT – EMD (Electronic Miscellaneous Document)
SYSTEM	Reservation system data: – *id* (system code, 1H for GDS, specific ID for others) – *session* (may be absent) – *bso_id* (inner system number of strict security form)
CURRENCY	Payment currency code (e.g. USD, RUB)
DEALDATE	Operation date
DEALTIME	Operation time
OPTYPE	Operation type: – SALE (money from client) – REFUND (money to client)
TRANS_TYPE	Transaction type: – SALE – REFUND – CANCEL – EXCHANGE – ERASE
MCO_TYPE	MCO type (for MCO/EMD): – PTA (Prepaid Ticket Advice) – RECEIPT – PENALTY – EXC_BAGG – REF_NOTICE – USED_NOTICE – RAILWAY – SERVICE Also included: – *rfic* (Reason-For-Issuance Code) – *rfisc* (Reason For Issuance Sub-Code, this parameter is obsolete and will be removed in Online-ticket system's next version: **rfisc** parameter of **EMDCOUPON** line's **REASON** data should be used)
BSONUM	Strict security form number (e.g. 4214200000001). It consists of carrier accounting code and ticket number without spaces
EX_BSONUM	Strict security form number of refunded ticket. It is used for ticket exchange
FIO	Passenger full name
SURNAME	Passenger surname from PNR
NAME	Passenger name from PNR
PASS	Passenger ID
BENEFIT_DOC	Discount document
BIRTH_DATE	Passenger birth date in *DDMMYYYY* format (e.g. 25011950)
GENERAL_CARRIER	Validating carrier (e.g. 421)

Line	Description
RETTYPE	Refund type: – `0` — voluntary – `1` — forced
TOURCODE	Tour code
OCURRENCY	Currency code in **Air Fare** column (e.g. `EUR`, `USD`, `RUB`)
ORATE	Exchange rate from the fare calculation currency to the currency of **Air Fare** column (e.g. `0.7103`)
OPRATE	Exchange rate from the currency of **Air Fare** column to the payment currency
NCURRENCY	Currency code of fare calculation (e.g. `USD`, `RUB`)
OFARE	Fare amount from **Air Fare** column (e.g. `400.00`)
FARE	Fare amount in payment currency (e.g. `10360.00`) has the following properties: – *type* (`FREE` for free ticket, `IT` for IT fare, `BT` for BT fare (if Air Fare column has Category 35 value then the *type* is set on this value) – *vat_amount* (fare VAT amount) – *vat_rate* (fare VAT interest rate)
NRATE	Exchange rate from the fare calculation currency to the payment currency (e.g. `25.9003`)
PNR	Passenger Name Record
PNR_LAT	Passenger Name Record in Latin characters
INV_PNR	Inventory PNR
CONJ	Conjunction Ticket Indicator
TO_BSONUM	Main ticket number for MCO
TYP_NUM	Preprinted ticket number (the *ser* property is for preprinted ticket series)
SEGMENTS	Flight segment data (it may be absent or it has one or few lines)
TAXES	Tax data (it may be absent or it has one or few lines) has the following properties: – *vat_amount* (total VAT of carrier taxes) – *vat_rate* (VAT interest rate of carrier taxes)
FOPS	Payment type data (it may be absent or it has one or few lines)
FCMODE	Fare Calculation Pricing Indicator: – `AUTO` – `MANUAL`
COMISSION	Agent comission has the following properties: – *type* (comission type: `fixed` or `percent`) – *currency* (comission currency code) – *amount* (comission amount) – *rate* (comission interest rate)
BOOK	Booking data has the following properties: – *agency* (agent code) – *date* (booking date) – *disp* (operator ID) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (booking terminal) – *time* (booking time) – *utc* (booking UTC date and time in *YYYYMMDDThhmmss* format)

Line	Description
DEAL	Operation data has the following properties: – *agency* (agent code) – *date* (operation date) – *disp* (operator ID) – *ersp* (Approved Location Numeric Code, it may be absent) – *pcc* (Pseudo City Code, it may be absent and is used for B1G session) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (operation terminal) – *time* (operation time) – *utc* (operation UTC date and time in *YYYYMMDDThhmmss* format)
SALE	Sale data has the following properties: – *agency* (agent code) – *date* (sale date) – *disp* (operator ID) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (sale terminal) – *time* (sale time) – *utc* (sale UTC date and time in *YYYYMMDDThhmmss* format)
FARECALC	The **Fare calculation** line
ENDORS_RESTR	Data from the **ENDORSEMENTS/RESTRICTION** ticket field
CONTACTS	Contact data batch with the **CONTACT** fields
EXCH_TICKET	Ticket exchange data (it is used in exchange operations only)

Table 3 — Flight segment data lines

Line	Description
SEGNO	Flight segment number
SEG_BSONUM	Segment ticket list number
COUPON_NO	Coupon number
IS_VOID	Flight segment status: – `F` (flight) – `V` (void) – `S` (surface)
STOP	Stopover flag: – `0` – granted – `1` – denied
CITY1CODE	Departure city code as on the ticket (e.g. `LED`)
CITY2CODE	Arrival city code as on the ticket (e.g. `MOW`)
PORT1CODE	Departure airport code as on the ticket (e.g. `PUL`)
PORT2CODE	Arrival airport code as on the ticket (e.g. `VKO`)
TERM1	Departure terminal
TERM2	Arrival terminal
CARRIER	Carrier code on the coupon (e.g. `S7`)
CLASS	Service class (e.g. `X`,`N`)
REIS	Flight number
FLYDATE	Departure date in *DDMMYYYY* format. The *changed_to* property may be included. It contains new departure date in case of the schedule change known at the ticketing time
FLYTIME	Departure time in *HHMM* format
ARRDATE	Arrival date in *DDMMYYYY* format
ARRTIME	Arrival time in *HHMM* format
BASICFARE	Fare basis

Line	Description
FFP_INFO	Frequent flyer data has the following properties: – *number* (bonus card number) – *certificate* (certificate number)
NFARE	Fare in calculation currency (e.g. `400.00`)
BAGGAGE	Baggage data has the following properties which may be absent: – *number* (baggage amount) – *qualifier* (baggage units: `P` — baggage pieces, `L` — lb, `K` — kg, `S` — seats)

Table 4 — Tax data lines

Line	Description
TAX	VAT on charges other than airport government taxes (TCH taxes (ZZ) only in present) has the following properties: – *vat_amount* (VAT amount) – *vat_rate* (VAT interest rate)
SEGNO	Flight segment number
CODE	Tax code (e.g. `RU`, `YQ`)
AMOUNT	Charge amount in payment currency (e.g. `389.00`)
NAMOUNT	Charge amount in charge base currency (e.g. `15.00`)
NCURRENCY	Charge base currency code (e.g. `EUR`, `USD`)
NRATE	Exchange rate from charge base currency to payment currency (e.g. `1.33`)
OAMOUNT	Charge amount in report currency (e.g. `500.00`)
OCURRENCY	Report currency code (e.g. `EUR`, `USD`)
ORATE	Exchange rate from charge base currency to report currency (e.g. `1.56`)
OPRATE	Exchange rate from report currency to payment currency

Table 5 — Payment type data lines

Line	Description
TYPE	Payment type (e.g. `CA`, `CC`, `INV`)
ORG	Institution (e.g. Ministry of Defense, Ministry of Interior, it is used for mutual payments between the institution and the carrier)
DOCSER	Document series
DOCNUM	Document number
DOCINFO	Payment card detailed data
AUTH_INFO	Payment card properties: – *code* (authentication code) – *currency* (payment currency code) – *amount* (payment amount)
AMOUNT	Total amount in payment currency (e.g. `389.00`)

Table 6 — Agent data lines

Line	Description
CLIENT_NUM	Client number
RESERV_NUM	PNR (Passenger Name Record)
INFO	SSR (Special Service Remarks)

Table 7 — Exchanged ticket data lines

Line	Description
FIO	Passenger full name
AMOUNT	Ticket exchange amount
SEGMENTS	Exchanged ticket segment batch
TAXES	Exchanged ticket charge batch

Table 8 — Flight segment data lines of exchanged ticket

Line	Description
SEGNO	Flight segment number
CITY1CODE	Departure city code
CITY2CODE	Arrival city code
PORT1CODE	Departure airport code
PORT2CODE	Arrival airport code
CARRIER	Carrier code
CLASS	Service class
REIS	Flight number
FLYDATE	Departure date in *DDMMYYYY* format
FLYTIME	Departure time in *HHMM* format
BASICFARE	Fare code

Table 9 — Tax data lines of exchanged ticket

Line	Description
SEGNO	Flight segment number
CODE	Tax code
AMOUNT	Tax amount in payment currency (e.g. 389.00)
NAMOUNT	Tax amount in charge base currency (e.g. 15.00)
NCURRENCY	Tax base currency code (e.g. EUR, USD)
NRATE	Exchange rate from tax base currency to payment currency (e.g. 1.33)

Insurance Data

Insurance data is included in the **TICKET** block of the **TICKETS** root node in XML-file.

Table 10 — Insurance data lines in the TICKET block

Line	Description
TYPE	Document type: – `INSURCAR` – `EINSURCAR`
SYSTEM	CRS (Computer Reservation System) has the following properties: – *id* (system code: `1H` for GDS, specific ID for others) – *session* (may be absent)
CURRENCY	Insurance payment currency (e.g. `USD`, `RUB`)
DEALDATE	Operation date

Line	Description
DEALTIME	Operation time
OPTYPE	Operation type has the following properties: – `SALE` (money from client) – `REFUND` (money to client)
TRANS_TYPE	Transaction type (`SALE`, `REFUND`, `ERASE`, `CANCEL`)
BSONUM	Insurance certificate series and number. The blank series are specified in the *ser* property
FIO	Passenger full name
PASS	Passenger ID data
BIRTH_DATE	Passenger birth date in *DDMMYYYY* format (e.g. `25011950`)
CARRIER	Carrier code
REIS	Flight number
FLYDATE	Departure date in *DDMMYYYY* format
FLYTIME	Departure time in *HHMM* format
CITY1CODE	Departure city code
CITY2CODE	Arrival city code
FARE	Insurance cover amount
FARE_CURRENCY	Insurance cover amount currency
AMOUNT	Insurance amount
PNR	PNR (Passenger Name Record) in Cyrillic characters
PNR_LAT	PNR (Passenger Name Record) in Latin characters
TO_BSONUM	Ticket number with attached insurance
INSURER	Insurance company name
INSURTYPE	Insurance type code
INSURCODE	Insurance cover code
INSURORDER	Insurance ID for several flight segments
FOPS	Payment type batch
DEAL	Operation data has the following properties: – *agency* (agent code) – *date* (operation date) – *disp* (operator ID) – *ersp* (Approved Location Numeric Code, it may be absent) – *pcc* (Pseudo City Code, it may be absent and is used for B1G session) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (operation terminal) – *time* (operation time) – *utc* (operation UTC date and time in *YYYYMMDDThhmmss* format)
SALE	Sale data has the following properties: – *agency* (agent code) – *date* (sale date) – *disp* (operator ID) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (sale terminal) – *time* (sale time) – *utc* (sale UTC date and time in *YYYYMMDDThhmmss* format)
SERVICES	Insurance data batch
CONTACTS	Contact data batch with the **CONTACT** fields

Table 11 — Insurance data lines in the SERVICE block

Line	Description
TYPE	Service type: – `ACCIDENT` – `LUGGAGE`

Line	Description
FARE	Insurance cover amount
FARE_CURRENCY	Insurance cover amount currency
AMOUNT	Insurance amount

Table 12 — Insurance data lines in the FOP block

Line	Description
TYPE	Payment type (e.g. `CA`, `CC`, `INV`)
ORG	Institution (e.g. Ministry of Defense, Ministry of Interior, it is used for mutual payments between the institution and the carrier)
DOCSER	Document series
DOCNUM	Document number
DOCINFO	Payment card detailed data
AUTH_INFO	Payment card properties: – *code* (authentication code) – *currency* (payment currency code) – *amount* (payment amount)
AMOUNT	Total amount in payment currency (e.g. `389.00`)

Aeroexpress Ticket Data

Aeroexpress ticket data is included in the **TICKET** block of the **TICKETS** root node in XML-file.

Table 13 — Aeroexpress ticket data lines in the TICKET block

Line	Description
TYPE	Document type (`AE_TICKET`)
SYSTEM	CRS (Computer Reservation System) has the following properties: – *id* (system code: `1H` for GDS, specific ID for others) – *session* (may be absent)
CURRENCY	Payment currency (e.g. `USD`, `RUB`)
DEALDATE	Operation date
DEALTIME	Operation time
OPTYPE	Operation type has the following properties: – `SALE` (money from client) – `REFUND` (money to client)
TRANS_TYPE	Transaction type (`SALE`, `REFUND`)
EMD_NUM	EMD (Electronic Miscellaneous Document) number if it is issued
TICKNUM	Ticket number
ORDER_NUM	Aeroexpress order number
FARE	Fare amount in payment currency
FARETYPE	Fare type has the following values: – `full` – `child` – `roundtrip` – `family`
PNR	PNR (Passenger Name Record) in Cyrillic characters if it is present
PNR_LAT	PNR (Passenger Name Record) in Latin characters if it is present
FOPS	Payment type batch

Line	Description
DEAL	Operation data has the following properties: – *agency* (agent code) – *date* (operation date) – *disp* (operator ID) – *ersp* (Approved Location Numeric Code, it may be absent) – *pcc* (Pseudo City Code, it may be absent and is used for B1G session) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (operation terminal) – *time* (operation time) – *utc* (operation UTC date and time in *YYYYMMDDThhmmss* format)
SALE	Sale data has the following properties: – *agency* (agent code) – *date* (sale date) – *disp* (operator ID) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (sale terminal) – *time* (sale time) – *utc* (sale UTC date and time in *YYYYMMDDThhmmss* format)
SEGMENTS	Trip segment data batch

Table 14 — Aeroexpress ticket data lines in the SEGMENT block

Line	Description
SEGNO	Trip segment number (always 1)
DEPPORT	Departure point code
ARRPORT	Arrival point code
CLASS	Service class
SEAT	Seat number
DEPDATE	Departure date in *DDMMYYYY* format
DEPTIME	Departure time in *HHMM* format

Table 15 — Aeroexpress ticket data lines in the FOP block

Line	Description
TYPE	Payment type (e.g. `CA`, `CC`, `INV`)
ORG	Institution (e.g. Ministry of Defense, Ministry of Interior, it is used for mutual payments between the institution and the carrier)
DOCSER	Document series
DOCNUM	Document number
DOCINFO	Payment card detailed data
AUTH_INFO	Payment card properties: – *code* (authentication code) – *currency* (payment currency code) – *amount* (payment amount)
AMOUNT	Total amount in payment currency (e.g. `389.00`)

Train Ticket Data

Train ticket data is included in the **TICKET** block of the **TICKETS** root node in XML-file.

Table 16 — Train ticket data lines in the TICKET block

Line	Description
TYPE	Document type (`TRAIN_TICKET`)
SYSTEM	CRS (Computer Reservation System) has the following properties: – *id* (system code: `1H` for GDS, specific ID for others) – *session* (may be absent)
CURRENCY	Payment currency (e.g. `USD`, `RUB`)
DEALDATE	Operation date
DEALTIME	Operation time
OPTYPE	Operation type: – `SALE` (money from client) – `REFUND` (money to client)
TRANS_TYPE	Transaction type: – `SALE` – `REFUND`
EMD_NUM	EMD (Electronic Miscellaneous Document) number
TICKNUM	Ticket number
ORDER_NUM	Train ticket order number
FARE	Fare amount in payment currency. May include: – *vat_amount* – VAT amount – *vat_rate* – VAT rate is specified only if it is provided by the carrier
FARETYPE	Fare type
FARE_CURR	Fare currency
PNR	PNR (Passenger Name Record) in Cyrillic characters if it is present
PNR_LAT	PNR (Passenger Name Record) in Latin characters if it is present
INSURANCE	Insurance amount in fare currency
SERVICES	Service amount in fare currency. May include (only if provided by the carrier): – *vat_amount* – service VAT amount – *vat_rate* – service VAT rate
COMMISSION	Commission amount in fare currency
TOTAL	Total amount in payment currency. May include (only if provided by the carrier): – *commission_fee_vat_amount* – VAT amount on refund commission fee – *commission_fee_vat_rate* – VAT rate on refund commission fee – *refund_tax_vat_amount* – VAT amount on refund tax – *refund_tax_vat_rate* – VAT rate on refund tax
CARRIER_VAT_ID	Carrier taxpayer number
DEAL	Operation data has the following properties: – *agency* (agent code) – *date* (operation date) – *disp* (operator ID) – *ersp* (Approved Location Numeric Code, it may be absent) – *pcc* (Pseudo City Code, it may be absent and is used for B1G session) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (operation terminal) – *time* (operation time) – *utc* (operation UTC date and time in *YYYYMMDDThhmmss* format)

Line	Description
SALE	Sale data has the following properties: – *agency* (agent code) – *date* (sale date) – *disp* (operator ID) – *opr_num* (operator number) – *stamp* (Agent Numeric Code) – *tap* (sale terminal) – *time* (sale time) – *utc* (sale UTC date and time in *YYYYMMDDThhmmss* format)
SEGMENTS	Flight segment data batch
PASSENGERS	Passenger data batch

Table 17 — Train ticket data lines in the SEGMENT block

Line	Description
SEGNO	Trip segment number (always 1)
DEPPORT	Departure point code
ARRPORT	Arrival point code
CLASS	Service class
SEATS	Seat data (in the **SEAT** blocks): – *seat number* – *seat tier*
DEPDATE	Departure date in *DDMMYYYY* format
DEPTIME	Departure time in *HHMM* format
ARRDATE	Arrival date in *DDMMYYYY* format
ARRTIME	Arrival time in *HHMM* format
TRAIN	Train number
COACH	Coach number

Table 18 — Train ticket data lines in the PASSENGER block

Line	Description
PASSNO	Passenger number
FIO	Passenger full name
PASS	Passenger ID

Appendix 3. Operation Properties

PTA MCO Issuance

One message with printed MCO is formed with the following properties:

- **/TICKETS/TICKET/TYPE** = 'MCO'
- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TRANS_TYPE** = 'SALE'
- **/TICKETS/TICKET/MCO_TYPE** = 'PTA'.

Ticketing

One or two messages are formed with the following properties:

- 1st message includes printed ticket data
  - **/TICKETS/TICKET/TYPE** = 'TICKET' or 'ETICKET'
  - **/TICKETS/TICKET/OPTYPE** = 'SALE'
  - **/TICKETS/TICKET/TRANS_TYPE** = 'SALE'
  - **/TICKETS/TICKET/MCO_TYPE** = *null*
- 2nd message includes receipt data (only for K95 receipt)
  - **/TICKETS/TICKET/TYPE** = 'RECEIPT'
  - **/TICKETS/TICKET/OPTYPE** = 'SALE'
  - **/TICKETS/TICKET/TRANS_TYPE** = 'SALE'
  - **/TICKETS/TICKET/TAXES/TAX** consists of receipt charge data
  - **/TICKETS/TICKET/MCO_TYPE** = 'RECEIPT'.

EMD or MCO Issuance on Agent Charge

One message is formed with the following properties:

- **/TICKETS/TICKET/TYPE** = 'EMD' or 'MCO'
- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TRANS_TYPE** = 'SALE'
- **/TICKETS/TICKET/TAXES/TAX** consists of charge data
- **/TICKETS/TICKET/MCO_TYPE** = 'RECEIPT'.

Ticket Exchange

Ticket exchange operation is used for:

- flight and/or date change

- passenger data change

Only one message with newly issued ticket data is formed with the following properties:

- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TRANS_TYPE** = 'EXCHANGE'
- newly charge and payment type data only
- **/TICKETS/TICKET/FOPS/FOP/TYPE** = 'EX' (see Appendix 4)
- **/TICKETS/TICKET/TYPE** = 'TICKET' or 'ETICKET'
- **/TICKETS/TICKET/MCO_TYPE** = *null*.

Ticket Void

One message with refunded ticket data is formed with the following properties:

- **/TICKETS/TICKET/TRANS_TYPE** = 'CANCEL'
- **/TICKETS/TICKET/OPTYPE** = 'REFUND'
- **/TICKETS/TICKET/TYPE** = 'TICKET' or 'ETICKET'
- **/TICKETS/TICKET/SALE** tag is filled
- **/TICKETS/TICKET/MCO_TYPE** = *null*.

Ticket Refund

One or two messages are formed with the following properties:

- 1st message includes printed ticket data
  - **/TICKETS/TICKET/TRANS_TYPE** = 'REFUND'
  - **/TICKETS/TICKET/OPTYPE** = 'REFUND'
  - **/TICKETS/TICKET/SALE** tag is filled
  - **/TICKETS/TICKET/MCO_TYPE** = *null*
- 2nd message includes receipt data (only for K95 receipt or MCO)
  - **/TICKETS/TICKET/TRANS_TYPE** = 'REFUND'
  - **/TICKETS/TICKET/OPTYPE** = 'SALE' or 'MCO'
  - **/TICKETS/TICKET/TYPE** = 'REF_NOTICE'
  - **/TICKETS/TICKET/MCO_TYPE** = 'RECEIPT'
  - **/TICKETS/TICKET/TO_BSONUM** is filled with strict security form number of refunded ticket (for the connection between MCO and refunded ticket by their **TO_BSONUM** and **BSONUM** values).

EMD Report Issuance on Ticket Refund

One message with refunded ticket data is formed with the following properties:

- **/TICKETS/TICKET/TRANS_TYPE** = 'REFUND'
- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TYPE** = 'EMD'
- **/TICKETS/TICKET/MCO_TYPE** = 'REF_NOTICE'
- **/TICKETS/TICKET/TO_BSONUM** is filled with strict security form number of refunded ticket (for the connection between EMD and refunded ticket by their **TO_BSONUM** and **BSONUM** values).

Penalty Issuance

One message with MCO or EMD data is formed with the following properties:

- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TYPE** = 'EMD' or 'MCO'
- **/TICKETS/TICKET/MCO_TYPE** = 'PENALTY'
- **/TICKETS/TICKET/TO_BSONUM** is filled with strict security form number of penalty ticket
- **/TICKETS/TICKET/TRANS_TYPE** = 'EXCHANGE' (on exchanged ticket) or 'REFUND' (on refunded ticket)
- **/TICKETS/TICKET/SEGMENTS** tag is not filled if penalty is not divided by flight segments.

Ticket Form Replacement

One message with damaged ticket form data is formed with the following properties:

- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TRANS_TYPE** = 'ERASE'
- **/TICKETS/TICKET/MCO_TYPE** = *null*.

Issuance of Used Transportation Receipt on EMD

One message with used transportation receipt data is formed with the following properties:

- **/TICKETS/TICKET/TRANS_TYPE** = 'EXCHANGE'
- **/TICKETS/TICKET/OPTYPE** = 'SALE'

- **/TICKETS/TICKET/TYPE** = 'EMD'
- **/TICKETS/TICKET/MCO_TYPE** = 'USED_NOTICE'
- **/TICKETS/TICKET/TO_BSONUM** is filled with strict security form number of refunded ticket (for the connection between EMD and refunded ticket by their **TO_BSONUM** and **BSONUM** values).

MCO Issuance on Excess Baggage

One message with MCO data is formed with the following properties:

- **/TICKETS/TICKET/TRANS_TYPE** = 'SALE'
- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TYPE** = 'MCO'
- **/TICKETS/TICKET/MCO_TYPE** = 'EXC_BAGGAGE'.

EMD Issuance on Special Services

One message with EMD data is formed with the following properties:

- **/TICKETS/TICKET/TRANS_TYPE** = 'SALE'
- **/TICKETS/TICKET/OPTYPE** = 'SALE'
- **/TICKETS/TICKET/TYPE** = 'EMD'
- **/TICKETS/TICKET/MCO_TYPE** = 'SERVICE'.

Appendix 4. Content Remarks

Pay Form (<FOP> Tag) Structure for Payment Cards

Payment document data and payment card number should match.

The system checks this condition automatically in two steps:

1) '*AADDDDDDDDDDDDDDD*' format match check
   - *A* for letter
   - *D* for digit
   - *AA* must have one of the values: 'VI', 'CA', 'JC', 'DC' or 'AX'.
2) Check of attachment between payment card and payment service.

If the test is passed then payment card number (without letters) is included in <DOCNUM>DDDDDDDDDDDDDDDD</DOCNUM> tag.

If payment service or data line size are mismatched then analyzed data line is placed in <DOCINFO> tag. <DOCNUM>, <DOCSER>, <ORG> tags are filled if payment document properties are defined by GDS.

Note. All payment card numbers are masked using digit 9 in accordance with the "6+4" rule: first 6 digits and last 4 digits remain original, and others are "replaced" with digit 9.

Pay Form (<FOP> Tag) Structure for Exchange (EX) Payment Type

The properties of the 'EX' payment type in the <**FOP**> block are as follows:

1) **TYPE** = 'EX'
2) **AMOUNT** = '0.00'
3) **DOCNUM** has *AAABBBBBBBBBBCDDDD* format:
   - *AAA* for carrier code
   - *BBBBBBBBBB* for exchanged document number
   - *C* for number check digit
   - *DDDD* for exchanged ticket coupon numbers.

Note. Number check digit is calculated by IATA rule: it is the excess of the division *AAABBBBBBBBBB* number by 7 (for numeric codes) or the excess of the division *BBBBBBBBBB* number by 7 (for alphanumeric codes).

MCO_TYPE Values

The values of MCO_TYPE (**/TICKETS/TICKET/MCO_TYPE**) line are as follows:

- ‘PTA’ for MCO on PTA
- ‘RECEIPT’ for K95/MCO/EMD receipt on agent charges
- ‘PENALTY’ for MCO/EMD issuance on the penalty
- ‘EXC_BAGG’ for MCO/EMD issuance on excess baggage
- ‘REF_NOTICE’ for K95/MCO/EMD report on ticket refund
- ‘USED_NOTICE’ for MCO/EMD issuance on used transportation receipt.

FARE Value on Private Fares

FARE (**/TICKETS/TICKET/FARE**) value is fare amount used for the ticketing. It may be absent or equals to 0.

Fare type (**/TICKETS/TICKET/FARE type**) value is fare type from ticket **Air Fare** column (e.g. ‘IT’, ‘BT’, negotiated fares).