

API Developer Notes

Availability on the Apollo and Galileo CRSs

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Overview

This document explains the sources of availability that are accessed via the Apollo and Galileo Computer Reservation Systems (CRSs).

Note: Regardless of carrier participation levels, all flights selected as a component of a low fare shopping request are validated using AVS/NAVS in the first instance.

Polling Availability

Availability can be polled, via the Host, from two sources:

1. Direct Access
2. AVS/NAVS database.

The polling of availability is determined by:

- The format of the request used.
- The vendor's participation level.

Direct Access

Availability is requested directly from the carrier inventory system using an interactive vendor link. The vendor must have a functional vendor link connected to the Galileo or Apollo CRS.

Direct Access transactions are Availability requests that are sent directly to the carrier. They are fulfilled if the requested carrier is:

- A Carrier Specific Display (CSD) or Last Seat availability (LSA) participant.
- A Seamless availability/Inside availability participant.

The advantage of Direct Access is up-to-the-minute inventory, directly from the vendor's system. If the vendor is a CSD or LSA participant, the following entries result in a direct access call.

XML Command

AirAvailability_# using <AirVSpecificAvail>.

XML Sample Request

The following sample uses a direct access request for Air Availability, on either the Galileo or Apollo CRS:

```
<AirAvailability_8>
  <AirAvailMods>
    <AirVSpecificAvail>
      <NumSeats/>
      <Class/>
      <StartDt>20080421</StartDt>
      <StartPt>LON</StartPt>
      <EndPt>NYC</EndPt>
      <StartTm>0800</StartTm>
      <TmWndInd>D</TmWndInd>
      <StartTmWnd>0600</StartTmWnd>
      <EndTmWnd>2359</EndTmWnd>
      <JrnyTm><![CDATA[ ]]></JrnyTm>
```

```

    <FltTypeInd/>
    <FltTypePref/>
    <StartPtInd/>
    <EndPtInd/>
    <IgnoreTSPref/>
  </AirVSpecificAvail>
  <AirVPrefInd>
    <AirVIncExcInd>O</AirVIncExcInd>
    <RelaxAirVPref>N</RelaxAirVPref>
  </AirVPrefInd>
  <AirVPrefs>
    <AirVAry>
      <AirVInfo>
        <AirV>YY</AirV>
      </AirVInfo>
    </AirVAry>
  </AirVPrefs>
</AirAvailMods>
</AirAvailability_8>

```

Focalpoint Equivalent

- (Galileo CRS) A21APRLONNYC*YY (where YY is the airline)
- (Apollo CRS) L@YY/A21APRLONNYC (where YY is the airline)

These Direct Access requests can only be directed at a single carrier.

For Seamless availability/Inside availability participants, the use of the vendor link may occur when the end user requests neutral availability. See *AVS/NAVS Database* on page 3 and *Inside Availability/Seamless Availability* on page 6 for details.

AVS/NAVS Database

Availability can be polled from the Galileo AVS/NAVS (numeric AVS) database.

The airline vendors are responsible for the inventory data held in the AVS/NAVS databases for all CRS systems. Vendors update the data at regular intervals when the inventory status is below the quota level.

The advantage of the AVS/NAVS database is that you do not need to limit a request to a specific airline, although you can. Another advantage is that non-seamless carriers do not impact the vendor's link.

The disadvantage is a reliance on the vendor to ensure all data is current.

Note: The flights initially selected by a low fare shopping request are polled for availability using AVS/NAVS data.

AVS Data

Vendors that supply Galileo with AVS data use status codes to indicate class availability. These status codes include:

A = Available.

C = Closed.

R = Restricted (may allow waitlist)

L = Limited (may allow waitlist)

X = Canceled/Not Operating

NAVS Data

Vendors that supply Galileo with NAVS data use numbers to indicate the number of seats available for sale in each booking code.

The highest permitted sales quota value is nine even though there may be more seats available for sale. Some carriers set their default sales quote to a maximum of four, even though there may be more seats available for sale.

XML Command

AirAvailability_8 and above using <GenAvail> with <InhibitLinkStatus> set to 'Y'

XML Sample Request

The following request shows the <InhibitLinkStatus> set to 'Y', indicating that Availability is not polled across the link:

```
<AirAvailability_8>
  <AirAvailMods>
    <GenAvail>
      <NumSeats/>
      <Class/>
      <StartDt>20080421</StartDt>
      <StartPt>LON</StartPt>
      <EndPt>NYC</EndPt>
      <StartTm>0800</StartTm>
      <TmWndInd>D</TmWndInd>
      <StartTmWnd>0600</StartTmWnd>
      <EndTmWnd>2359</EndTmWnd>
      <JrnyTm><![CDATA[ ]]></JrnyTm>
      <FltTypeInd/>
      <FltTypePref/>
      <StartPtInd/>
      <EndPtInd/>
      <IgnoreTSPref/>
```

```

    <InhibitLinkStatus>Y</InhibitLinkStatus>
  </GenAvail>
  <AirVPrefInd>
    <AirVIncExcInd>O</AirVIncExcInd>
    <RelaxAirVPref>N</RelaxAirVPref>
  </AirVPrefInd>
  <AirVPrefs>
    <AirVAry>
      <AirVInfo>
        <AirV>YY</AirV>
      </AirVInfo>
    </AirVAry>
  </AirVPrefs>
</AirAvailMods>
</AirAvailability_8>

```

This XML command can be used to determine if there are discrepancies between NAVS/AVS data and the vendor's own data, which can cause:

- FareQuoteSuperBB_# to leave flights out of the faring process if classes are marked as not available in AVS when in fact they are available
- Bookability errors if flights are marked as available in AVS when in fact they are not.

Focalpoint Equivalent

There is not an exact terminal entry to poll availability.

The terminal entry **A21APRLONNYC|YY** (Galileo CRS) or **A21APRLONNYC|YY** (Apollo CRS), where 'YY' is the airline, does not always poll availability from AVS/NAVS because of Seamless/Inside Availability, which is described in the next section.

Inside Availability/Seamless Availability

Inside Availability (Seamless) carriers can opt to receive interactive (linked) availability messages from Galileo even if the user specifically asks for General or Neutral availability using the /YY or <GenAvail> element with <InhibitLinkStatus> set to N.

Inside Availability only affects the results from:

- The 'YY' (Galileo CRS) or 'IYY' (Apollo CRS) terminal entry.
- The <GenAvail> of AirAvailability_# if <InhibitLinkStatus> is set to 'N'.
- The FareQuoteFlightSpecific_# transaction if <InhibitLinkStatus> is set to 'N'.

The following sample shows the <InhibitLinkStatus> set to 'N', indicating that the link will be used for 100% seamless participants or may be used for partially seamless participants:

```
<AirAvailability_8>
  <AirAvailMods>
    <GenAvail>
      <NumSeats/>
      <Class/>
      <StartDt>20080421</StartDt>
      <StartPt>LON</StartPt>
      <EndPt>NYC</EndPt>
      <StartTm>0800</StartTm>
      <TmWndInd>D</TmWndInd>
      <StartTmWnd>0600</StartTmWnd>
      <EndTmWnd>2359</EndTmWnd>
      <JrnyTm><![CDATA[ ]]></JrnyTm>
      <FltTypeInd/>
      <FltTypePref/>
      <StartPtInd/>
      <EndPtInd/>
      <IgnoreTSPref/>
      <InhibitLinkStatus>N</InhibitLinkStatus>
    </GenAvail>
    <AirVPrefInd>
      <AirVIncExcInd>O</AirVIncExcInd>
      <RelaxAirVPref>N</RelaxAirVPref>
    </AirVPrefInd>
    <AirVPrefs>
      <AirVAry>
        <AirVInfo>
```

```

        <AirV>YY</AirV>
    </AirVInfo>
</AirVary>
</AirVPrefs>
</AirAvailMods>
</AirAvailability_8>

```

There are two levels of inside/seamless availability:

- The vendor is a 100% seamless participant and all availability is polled from across the link.
- The vendor is partially seamless; this is known as selective polling where a particular flight/cabin class that has been marked by the vendor is always polled across the link.

The result is that the AirAvailability_# and FareQuoteFlightSpecific_# transactions do not receive availability from AVS/NAVS for any 100% seamless carriers. Also, the results may not receive availability from AVS/NAVS for a partially seamless carrier.

The <InsideAvailOption> indicator returned in the <GenAvail> response can be reviewed to determine whether the carrier is an Inside Availability participant, as shown in the following sample:

```

<AvailFlt>
    <AirV>UA</AirV>
    <FltNum>923</FltNum>
    <OpSuf/>
    <StartDt>20080421</StartDt>
    <StartAirp>LHR</StartAirp>
    <EndAirp>IAD</EndAirp>
    <StartTm>755</StartTm>
    <EndTm>1112</EndTm>
    <DayChg>00</DayChg>
    <Conx>Y</Conx>
    <AirpChg>N</AirpChg>
    <Equip>763</Equip>
    <Spare1/>
    <NumStops>0</NumStops>
    <OpAirVInd>N</OpAirVInd>
    <Perf/>
    <LinkSellAgrmnt>SS</LinkSellAgrmnt>
    <DispOption>Y</DispOption>
    <InsideAvailOption>L</InsideAvailOption>
    <GenTrafrRestriction/>
    <DaysOperates>YYYYYYY</DaysOperates>
    <JrnyTm>658</JrnyTm>
    <EndDt>20080421</EndDt>

```

L= Inside Avail participant
& flight was link stasured
(polled).

<OpAirV/>
<OpFltDesignator/>
<OpFltSuf/>
<StartTerminal>3</StartTerminal>
<EndTerminal/>
<FltTm>497</FltTm>
<LSAInd>N</LSAInd>
<GalileoAirVInd>Y</GalileoAirVInd>
<ETktEligibility>E</ETktEligibility>
<ScheduleLevelCarrier/>
<FrstDwnInStp/>
<LastDwnInStp/>
<SponsoredFltInd>N</SponsoredFltInd>
<SponsoredFltLineNum>00</SponsoredFltLineNum>
<NeutralFltLineNum>01</NeutralFltLineNum>
<SponsoredFltKey>00000</SponsoredFltKey>
</AvailFlt>

Participants

Last Seat Availability/Carrier Specific Display (Direct Access)

Note: The information below is accurate as of **April 2007**, but is subject to change.

The following list contains details of all carriers who have functional vendor links and allow for Direct Access/CSD availability requests from Galileo:

AA	AB	AC	AE	AF	AH	AI	AM	AP	AQ
AR	AS	AT	AU	AV	AY	AZ	A3	A7	A9
BA	BD	BE	BI	BP	BR	BT	BW	B3	B7
B8	CA	CB	CE	CF	CG	CI	CM	C0	CW
CX	CY	CZ	C9	DE	DI	DL	D0	DT	D6
EA	EG	EI	EK	EN	E0	ET	EY	EZ	E0
E3	E5	E8	FB	FC	FI	FJ	FM	FN	FT
FV	F9	GA	GF	GJ	GR	GT	HA	HF	HG
HM	HQ	HR	HU	HY	IB	IC	IE	IF	IG
IK	IN	IQ	IR	IT	IY	JJ	JK	JL	JM
JO	JV	JZ	J2	KA	KC	KD	KE	KK	KL
KM	KQ	KS	KU	LA	LG	LH	LM	LO	LP
LR	LT	LV	LX	LY	MA	MD	ME	MF	MH
MI	MK	MP	MR	MS	MU	MX	MY	NA	ND
NF	NG	NH	NI	NT	NW	NX	NZ	OA	OK
OM	ON	OR	OS	OV	OZ	PG	PH	PJ	PK
PR	PS	PU	PW	PX	PY	PZ	P2	QF	QI
QM	QR	QS	QT	QV	RG	RJ	RO	SA	SB
SC	SE	SK	SN	SP	SQ	SS	SU	SV	SW
SY	S2	S3	S4	S7	TA	TC	TE	TF	TG
TK	TM	TN	TP	TS	TU	TX	TZ	T3	T6
UA	UF	UL	UM	UN	UP	US	UU	UX	U8
VG	VH	VK	VN	V0	VR	VS	VV	WB	WF
WP	WY	W5	XL	XM	XR	YN	YX	ZH	ZI
ZL	Z6	2J	2L	3W	4M	5K	5N	5T	6A
7B	7D	7F	7H	8U	9H	9M	9U	9W	

Inside Availability/Seamless Availability

Note: The information below is accurate at time of writing (**April 2007**) but is subject to change.

The following carriers have active **Inside Availability/Seamless Availability** agreements with Galileo:

AA	AB	AC	AF	AM	AQ	AZ	BA	CM	CO
CX	CY	DI	DL	EK	GF	HA	IB	JJ	JT
KL	KQ	KU	LA	LH	LP	LR	LX	ME	MX
MY	NF	NW	OS	QF	SK	SQ	TA	UA	US
VS	WA								

Numeric AVS

Note: The information below is accurate at time of writing (**April 2007**) but is subject to change.

The following carriers provide **Numeric AVS** data to Galileo:

AY	BD	BT	CE	CF	E0	GT	IG	I5	JK
KA	OA	OV	QI	SA	SN	SV	T3	UX	XM
3W									

All other carriers provide Standard AVS data to Galileo.

Appendix: Related Documents

See the following API Developer Notes for information that can be used in conjunction with the *Availability on the Apollo and Galileo CRSs* document:

Document	Description
<i>Creating a PNR</i>	Explains how to create a PNR or Booking File for Air.
<i>Low Fare Air Shopping</i>	Describes the two transactions that can be used for low fare shopping.
<i>Using Fare Quote Super Best Buy on the Apollo CRS</i>	Explains how FareQuoteSuperBB_# functions on the Apollo CRS.
<i>Using Fare Quote Super Best Buy on the Galileo CRS</i>	Explains how FareQuoteSuperBB_# functions on the Apollo CRS.