

### Flight Type Modifier Enhancements

<b>Developer Advisory Number:</b>	243				
<b>Document Version:</b>	01				
<b>Load To Production:</b>	08-Nov-12	12:00	EST	17:00	GMT
<b>Product Version:</b>	Universal API™ 4.0				
<b>High Level Description:</b>	Added a Flight Type element in the Low Fare Shopping, Low Fare Asynch Shopping and Air Availability transactions to allow searches for multiple types of flights such as single connection only, single and double connection or direct non-stop.				
<b>Impact Summary:</b>	The new element impacts the AirSearchModifiers and AirLegModifiers for the Air Availability, Low Fare Shopping and Low Fare Asynch Shopping requests.				
<b>Reason For Issue:</b>	First notification				
<b>Customer Impact:</b>	<input type="checkbox"/>	Internal Only	<input checked="" type="checkbox"/>	Universal API Developers	
<b>System:</b>	<input checked="" type="checkbox"/>	Galileo			
	<input checked="" type="checkbox"/>	Apollo			
	<input checked="" type="checkbox"/>	Worldspan			
	<input checked="" type="checkbox"/>	ACH			
	<input type="checkbox"/>	RCH			
	<input type="checkbox"/>	Travelport Rooms and More			
<input type="checkbox"/>	Merchandising				
<b>Load To Pre-Production:</b>	31-Oct-12	13:00	EST	18:00	GMT
<b>Issue History:</b>	Version 01				

## Overview

Previously, Travelport Universal API functionality in the Low Fare Shopping, Low Fare Asynch Shopping and Air Availability request allowed three attributes to define the flight type:

- RequireSingleCarrier
- MaxConnections
- MaxStops

Using these modifiers, only a single connection (online/interline) or direct flights (with stops or non-stop) could be requested. Now, with the addition of the FlightType element in AirSearchModifiers and AirLegModifiers, a user can search for up to three additional flight types as well as search for direct flights.

## Scope

Galileo™ (1G), Apollo™ (1V), Worldspan™ (1P) and Airline Content Hub (ACH) are affected by the update.

## Customer Benefit

- Now users will be able to search for direct, single, double and triple connections using the Low Fare search services

## Schema Changes

A new **FlightType** element was added to AirSearchModifiers and AirLegModifiers in the Air\_v21\_0 schema. The following attributes were moved from AirSearchModifiers and AirLegModifiers into the new element:

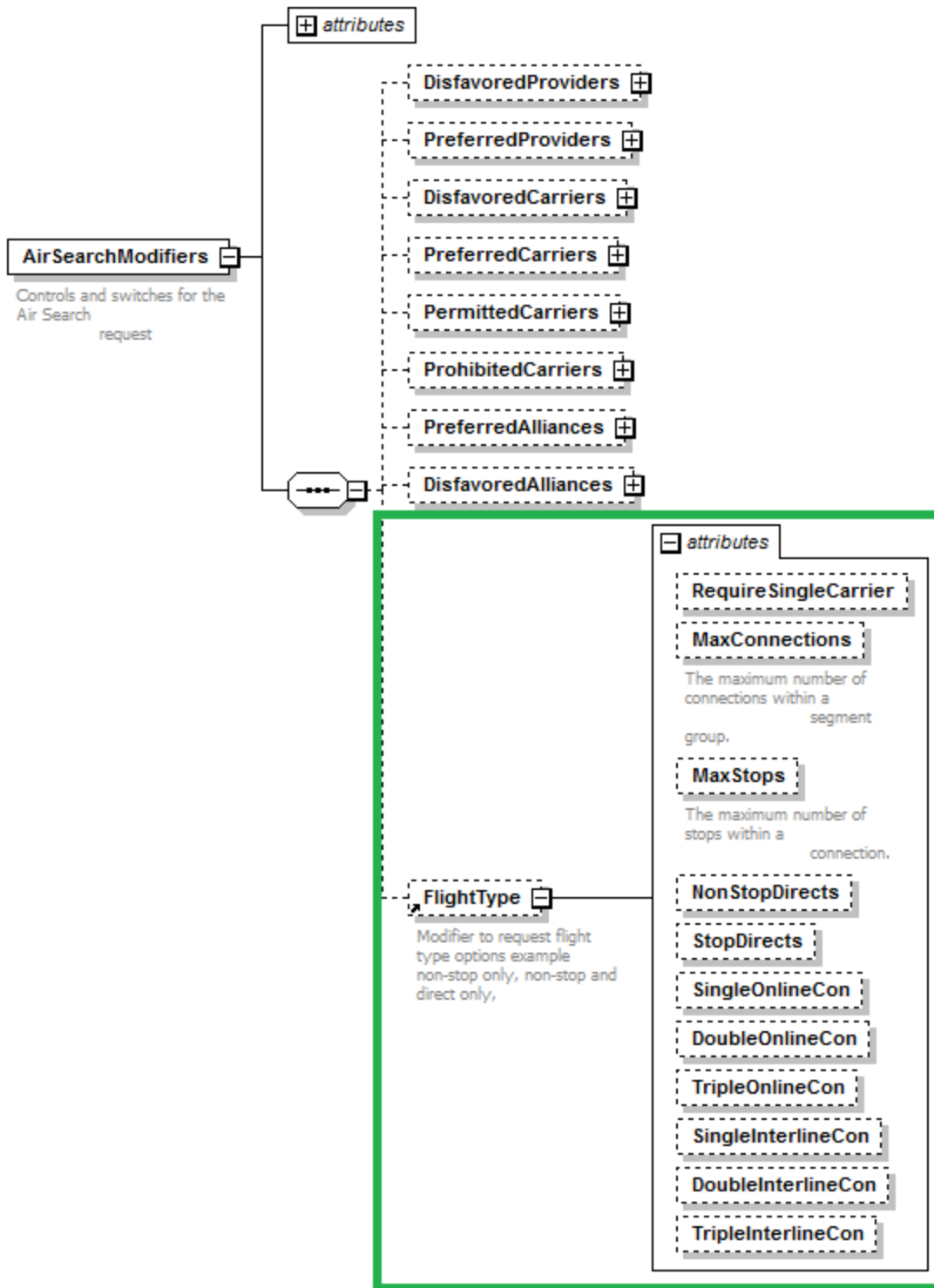
- RequireSingleCarrier
- MaxConnections
- MaxStops

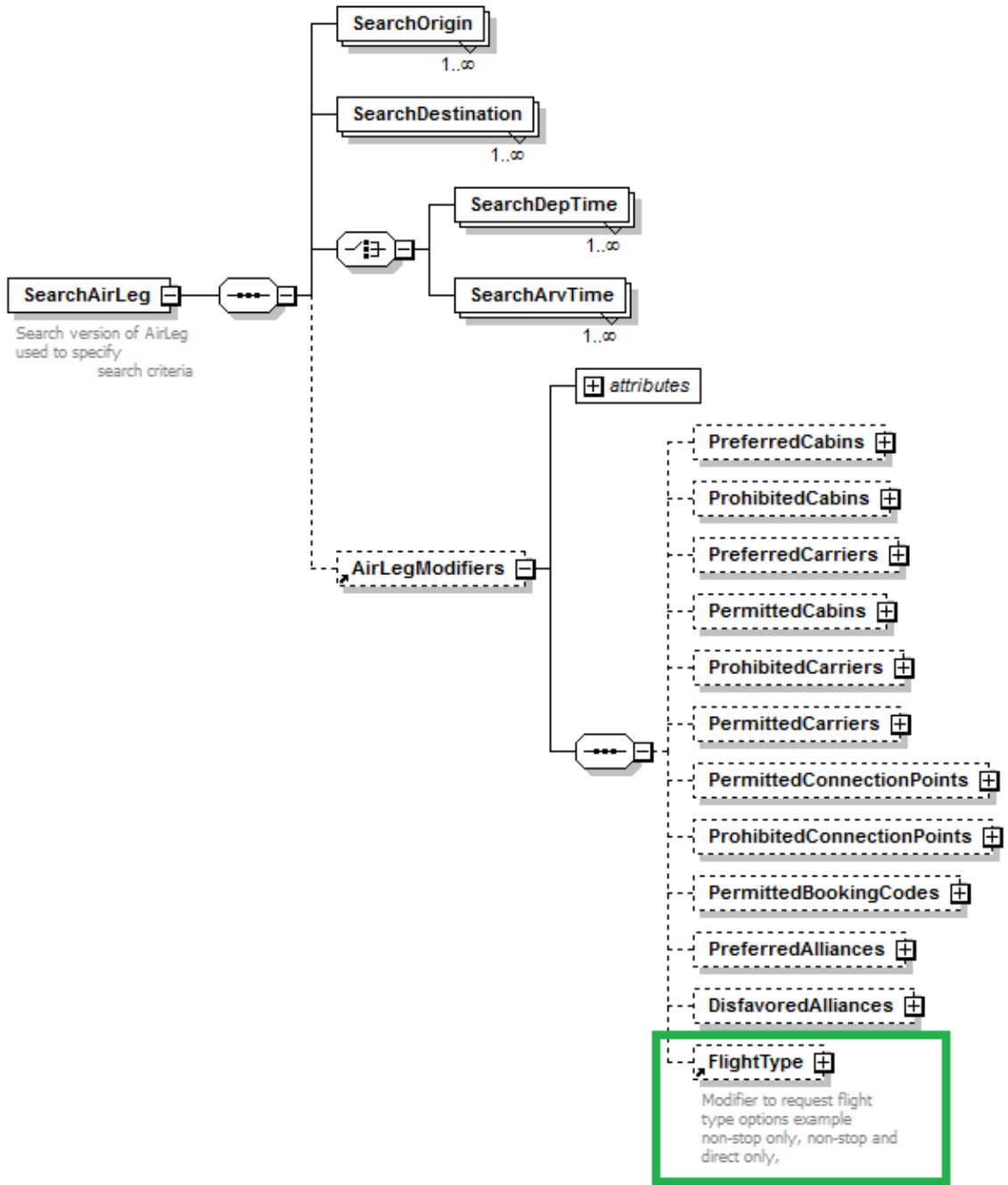
In all Air schema versions before v21\_0:

- The behavior of the RequireSingleCarrier, MaxConnections and MaxStops attributes remains as it was previously

In Air schema version 21\_0 and above:

- Galileo and Apollo ignore the RequireSingleCarrier, MaxConnections and MaxStops attributes when they are sent in Low Fare Shopping, Low Fare Shopping Asynch or Air Availability
- Worldspan ignores the RequireSingleCarrier and MaxConnections attributes when they are sent in Low Fare Shopping, Low Fare Shopping Asynch or Air Availability
- Worldspan ignores the MaxStops attribute when it is sent in Air Availability





## Impacted Services and Schema

The following transactions are affected:

- LowFareSearchAsynchReq
- LowFareSearchReq
- AvailabilitySearchReq

## Detailed Description

Previously, functionality in the Low Fare Shopping, Low Fare Asynch Shopping and Air Availability request allowed searches for only a single connection (online/interline) or direct flights (with stops or non-stop) using three attributes to define the flight type:

- RequireSingleCarrier
- MaxConnections
- MaxStops

Now, with the addition of the FlightType element in AirSearchModifiers and AirLegModifiers, a user can search for up to three additional flight types as well as search for direct flights.

### Airline Content Hub (ACH)

There is no change in ACH logic for the Low Fare Shopping, Low Fare Shopping Asynch or Air Availability requests with the exception of RequireSingleCarrier, MaxConnections and MaxStops being attributes of the FlightType element.

### Galileo (1G) and Apollo (1V)

The following applies to the Low Fare Shopping, Low Fare Shopping Asynch and Air Availability requests. The RequireSingleCarrier, MaxConnections and MaxStops attributes are ignored regardless of whether any of the following attributes are specified:

- NonStopDirects
- StopDirects
- SingleOnlineCon
- DoubleOnlineCon
- TripleOnlineCon
- SingleInterlineCon
- DoubleInterlineCon
- TripleInterlineCon
- When a modifier is used in both SearchAirLeg and AirSearchModifiers, the Segment level takes precedence over the Itinerary level
- Implementation of permitted connection point uses the two direct flight attributes (stop & non-stop)
- If both a permitted connection point and either of the direct flight attributes (NonStopDirects or StopDirects) are provided in FlightType, the direct flight attributes are ignored and a warning is returned: *Direct Flight indicators ignored as Permitted Connection Point specified in request*

## Worldspan (1P)

### Low Fare Shopping and Low Fare Shopping Asynch

For both Low Fare Shopping and Low Fare Shopping Asynch, the following modifiers are only processed at the Itinerary level (AirSearchModifiers). The Leg level is not supported. Note that each combination has a type:

- Direct and Online Connection Flights only – Type A
- Direct, Interline & Online Connection Flights (all flights) – Type B
- Direct Flights only – Type C
- Non-stop Direct Flights only – Type D
- Single Online Connection Flights only – Type E
- Single Interline & Online Connection Flights only – Type F
- All Direct & Online Connection Flights excluding Double Connection flights – Type G
- All Direct, Interline & Online Connection Flights excluding Double Connection Flights – Type H
- Non-stop Direct & Online Connection Flights only – Type I
- Non-stop Direct, Interline & Online Connection Flights only – Type J

A specific combination of attributes in Travelport Universal API must be sent in the request to match the specific Worldspan flight type desired. The following table shows the Type combinations, reading down each column, from A to J:

Universal API Indicator	Worldspan Flight Type ID									
	A	B	C	D	E	F	G	H	I	J
<b>NonStopDirects</b>	true	true	true	true	false	false	true	true	true	true
<b>StopDirects</b>	true	true	true	false	false	false	true	true	false	false
<b>SingleOnlineCon</b>	true	true	false	false	true	true	true	true	true	true
<b>DoubleOnlineCon</b>	true	true	false	false	false	false	false	false	true	true
<b>TripleOnlineCon</b>	true	true	false	false	false	false	true	true	true	true
<b>SingleInterlineCon</b>	false	true	false	false	false	true	false	true	false	true
<b>DoubleInterlineCon</b>	false	true	false	false	false	false	false	false	false	true
<b>TripleInterlineCon</b>	false	true	false	false	false	false	false	true	false	true

The maximum number of stops can also be provided using MaxStops. If MaxStops is not accepted with a particular flight type, an error is returned from Worldspan and displays in Universal API.

The RequireSingleCarrier and MaxConnections attributes are always ignored.

If an invalid combination is submitted, Universal API defaults to Flight Type ID *B*.

## Air Availability

For Air Availability, the following flight types are available:

- All Flights – Type A
- Direct Flights Only – Type B
- Non-stop Direct Flights only – Type C
- Online Connection Flights only – Type D
- Stop Direct Flights only – Type E

A specific combination of attributes in Universal API must be sent in the request to match the specific Worldspan flight type desired. The following table shows the Type combinations, reading down each column, from A to E:

Universal API Indicator	Worldspan Flight Type ID				
	A	B	C	D	E
<b>NonStopDirects</b>	true	true	true	false	false
<b>StopDirects</b>	true	true	false	false	true
<b>SingleOnlineCon</b>	true	false	false	true	false
<b>DoubleOnlineCon</b>	true	false	false	true	false
<b>TripleOnlineCon</b>	true	false	false	true	false
<b>SingleInterlineCon</b>	false	false	false	false	false
<b>DoubleInterlineCon</b>	false	false	false	false	false
<b>TripleInterlineCon</b>	false	false	false	false	false

The RequireSingleCarrier, MaxStops and MaxConnections attributes are always ignored.

If an invalid combination is submitted, Universal API defaults to Flight Type ID A.

## Customer Examples

The following examples show the FlightType element used in:

- A Low Fare Shopping request to Galileo
- A Low Fare Shopping request to Airline Content Hub
- An Availability Search request to Worldspan

Only requests are provided as there is no change in response processing.

### Low Fare Shopping Request with Flight Type Modifiers to Galileo (1G)

The following LowFareSearchReq uses NonStopDirects, DoubleOnlineCon and SingleInterlineCon at both the Leg and Segment level of the request:

#### Request

```

<LowFareSearchReq TargetBranch="TRGT_BRCH" AuthorizedBy="ABC" TraceId="e8c3e75a-
f1ce-421c-96e0-47aa4e9371e8" xmlns="http://www.travelport.com/schema/air_v21_0">
  <BillingPointOfSaleInfo OriginApplication="UAPI"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
  <SearchAirLeg>
    <SearchOrigin>
      <CityOrAirport Code="AMS"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    </SearchOrigin>
    <SearchDestination>
      <CityOrAirport Code="LHR"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    </SearchDestination>
    <SearchDepTime PreferredTime="2012-11-29"/>
    <AirLegModifiers>
      <FlightType NonStopDirects="true" DoubleOnlineCon="true"
SingleInterlineCon="true"/>
    </AirLegModifiers>
  </SearchAirLeg>
  <SearchAirLeg>
    <SearchOrigin>
      <CityOrAirport Code="LHR"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    </SearchOrigin>
    <SearchDestination>
      <CityOrAirport Code="AMS"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    </SearchDestination>
    <SearchDepTime PreferredTime="2012-12-29"/>
    <AirLegModifiers>
      <FlightType NonStopDirects="true" SingleOnlineCon="true"
SingleInterlineCon="true"/>
    </AirLegModifiers>
    <AirSearchModifiers SearchWeekends="false">
      <DisfavoredProviders>
        <Provider Code="ACH"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
        <Provider Code="RCH"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
      </DisfavoredProviders>
    </AirSearchModifiers>
  </SearchAirLeg>

```



```

    <FlightType NonStopDirects="true" SingleOnlineCon="true"
TripleOnlineCon="true"/>
    </AirSearchModifiers>
    <SearchPassenger PricePTCOnly="false" Code="ADT"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    <AirPricingModifiers FaresIndicator="PublicAndPrivateFares">
        <ExemptTaxes/>
    </AirPricingModifiers>
</LowFareSearchReq>

```

## Low Fare Shopping Request with Flight Type Modifiers to Airline Content Hub

The following LowFareSearchReq uses MaxConnections, MaxStops and RequireSingleCarrier at the Segment level of the request:

### Request

```

<LowFareSearchAsynchReq TargetBranch="TRGT_BRCH" AuthorizedBy=" ABC" TraceId="14d89962-
626d-42b0-8698-f4605012e88f" xmlns="http://www.travelport.com/schema/air_v21_0">
    <BillingPointOfSaleInfo OriginApplication=" UAPI"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    <SearchAirLeg>
        <SearchOrigin>
            <Airport Code="SYD" xmlns="http://www.travelport.com/schema/common_v18_0"/>
        </SearchOrigin>
        <SearchDestination>
            <Airport Code="MEL" xmlns="http://www.travelport.com/schema/common_v18_0"/>
        </SearchDestination>
        <SearchDepTime PreferredTime="2012-10-10"/>
    </SearchAirLeg>
    <AirSearchModifiers SearchWeekends="false">
        <PreferredProviders>
            <Provider Code="ACH" xmlns="http://www.travelport.com/schema/common_v18_0"/>
        </PreferredProviders>
        <FlightType MaxConnections="1" MaxStops="1" RequireSingleCarrier="true"/>
    </AirSearchModifiers>
    <SearchPassenger PricePTCOnly="false" Code="ADT"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    <AirPricingModifiers FaresIndicator="PublicFaresOnly">
        <ExemptTaxes/>
    </AirPricingModifiers>
</LowFareSearchAsynchReq>

```

## Air Availability Request with Flight Type Modifiers to Worldspan

The following AvailabilitySearchReq uses NonStopDirects, SingleOnlineCon and SingleInterlineCon at the Segment level of the request:

### Request

```
<AvailabilitySearchReq AuthorizedBy="ABC" TargetBranch="TRGT_BRCH" TraceId="94a3c66e-
32b5-409d-9f92-f20a5aca3b46" xmlns="http://www.travelport.com/schema/air_v21_0">
  <BillingPointOfSaleInfo OriginApplication="UAPI"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
  <SearchAirLeg>
    <SearchOrigin>
      <CityOrAirport Code="CCU"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    </SearchOrigin>
    <SearchDestination>
      <CityOrAirport Code="PHX"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    </SearchDestination>
    <SearchDepTime PreferredTime="2012-09-24"/>
    <AirLegModifiers/>
  </SearchAirLeg>
  <AirSearchModifiers SearchWeekends="false">
    <DisfavoredProviders>
      <Provider Code="ACH"
xmlns="http://www.travelport.com/schema/common_v18_0"/>
    <FlightType NonStopDirects="true" SingleOnlineCon="true"
SingleInterlineCon="true"/>
  </DisfavoredProviders>
</AirSearchModifiers>
</AvailabilitySearchReq>
```

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