API Developer Notes

Travel Industry Overview – Airlines and Air Fares

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Version 1.1

Contents

Overview

This document provides a high-level overview of airline industry codes, airline routing, airline ticketing, and how fares are created.

The rules described in this document are general rules. For each fare rule, many exceptions may exist; therefore, all fares and exceptions should be investigated through the airline for which the fare applies. A well known exception is baggage allowance. Normally, you are allowed 20 kilos of baggage on economy class when flying most places in the world. However, if you are flying to or from the United States, you are allowed two pieces of luggage, although these bags may also have size and weight restrictions. Galileo 360°Fares displays the applicable baggage allowance for each flight segment.

This document simplifies the description of many rules. Refer to official IATA documentation for complete rules and exceptions.

Travel Industry

This section describes the travel industry codes and abbreviations that are used throughout the document.

Travel Organizations

The **International Air Transport Association** or **IATA** is the global trade organization for air transportation. Its mission is to represent, lead, and serve the airline industry. One of IATA's main responsibilities includes negotiating rules, standards, and security audits for airlines.

The **Billing and Settlement Plan** or **BSP** allows travel agencies and carriers to settle bills by a simplified method.

The **Airlines Reporting Corporation** or **ARC** is an airline-owned company serving the travel industry with financial services, data products and services, ticket distribution, and settlement in the United States, Puerto Rico and the U.S. Virgin Islands.

Airline Carriers and Alliances

All carriers are identified by a two- or three-letter code. All carriers also have a three-digit numeric identifier used for tickets. For example, Scandinavian Airlines code is SK, and its numeric identifier is 117. For the most part, airline codes are unique to an airline; however, a few "controlled" duplicates exist, which means that some smaller, regional carriers might use the same designator if their regions are not likely to overlap.

Carriers often participate in an alliance, which is a commercial relationship between three or more carriers. Two well known alliances are:

- **Star Alliance:** Airlines in the Star Alliance include Air Canada, Air New Zealand, ANA, Asiana Airlines, Austrian, bmi, LOT Polish Airlines, Lufthansa, Scandinavian Airlines, Singapore Airlines, South African Airways, Spanair, SWISS, TAP Portugal, THAI, United, US Airways, and other regional members. The Star Alliance is sometimes abbreviated as *A.
- **One World:** Airlines in One World include American Airlines, British Airways, Cathay Pacific, Finnair, Iberia, Japan Airlines (JAL), LAN, Malev, Qantas, Royal Jordanian, and other regional members. One World is sometimes abbreviated as OW.

A passenger who keeps a journey within an alliance can earn frequent flyer miles for a preferred carrier on the entire journey, even though the passenger may fly different airlines for portions of the journey or the entire journey.

Flight Numbers and Code Shares

Each scheduled, commercial flight is identified with a flight number, normally between one and four digits, inclusive. The flight number is usually prefixed by the carrier code. For example, OS0034 indicates flight number 0034 on Austrian Airlines (OS is the carrier code for Austrian Airlines). The same flight number can be in use each day of the week and normally departs at the same time for each scheduled day of operation.

Code share flights are flights that have multiple flight numbers due to an alliance association. For example, the flight from Copenhagen to London leaving at 1600 is both BA817 and QF3617. As the flight is actually flown by BA, BA is called the operating carrier and QF is called the marketing carrier.

Legs, Sectors, and Segments

The following terms are used within airline travel:

- A leg is the space between two continuous, scheduled touchdowns on a scheduled flight (IATA definition).
- A segment is a leg or a group of legs. For example, a single flight that makes an intermediate stop is a segment.
- A sector is also a leg or a group of legs. However, sectors are normally used for calculating the fare to be paid.

Geography

In the travel industry, the world is divided into categories of different sizes.

- Continents
- Countries (represented with a two-letter code, e.g., US for United States)
- States, provinces, or territories (represented with a two-letter code, e.g., FL for Florida).
- Cities (represented with a three-letter code, e.g., LON for London)
- Airports (represented with a three-letter code, e.g., LHR for London Heathrow)

The codes mentioned above are in use for flights. Hotels and trains can use different codes.

Notice that the codes are only unique within one type of category. For example, in a geographical context, the code ***SK*** can mean Slovakia (country) or Saskatchewan in Canada (state). A code can also be shared between a city and an airport; for example, ***CPH*** is used for both Copenhagen and Copenhagen Airport. Having an airport and city share the same code is normally not an issue. However, some cities with multiple airports have the same code for the city as well as for one of the airports within the city. For example, the code ***SYD*** can refer to either the city of Sydney or the Sydney Airport. If in doubt about the meaning of a code, it is safest to assume that the code represents the airport.

For fare calculation purposes, some countries can sometimes be grouped together. For example, sometimes Denmark, Norway, and Sweden are considered one country, and sometimes the USA and Canada are considered one country.

Areas

IATA also divides the world in three areas for fare calculation purposes. The most basic definition of the areas is as follows:

- Area 1 is all of North America and South America.
- Area 2 is Europe, Africa, the Middle East, and Asia west of the Ural Mountains.
- Area 3 is Asia (except where included in Area 2), Australia, and New Zealand.

Global Distribution Systems

Global distribution systems (GDS), formerly known as Computer Reservations Systems (CRS), are privately owned reservation databases. GDSs are used by travel agencies, web sites, and airlines to query pricing and availability for various flights as well as to book seats for passengers. The four biggest GDSs are:

- Galileo (in North America, the GDS Company is called Galileo, the system itself is called Apollo)
- Sabre
- Amadeus
- Worldspan

All four GDSs are based on mainframe databases. Today, all GDSs support both a terminal connection (also known as green screen), where agents enter commands, and a more user-friendly, Windows-based connection, where the agent can point and click to issue commands.

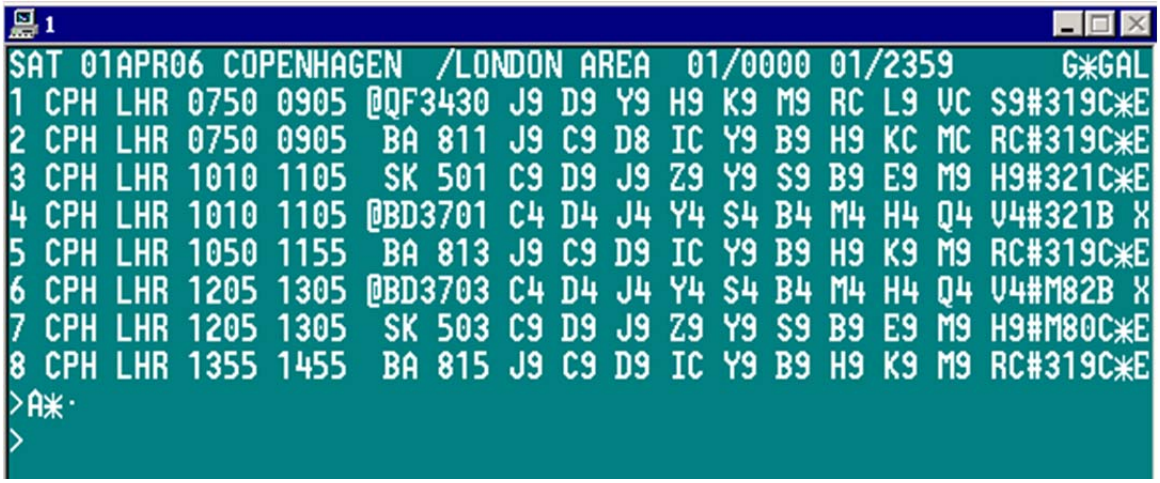

Figure 1 Green screen in Galileo

The example above shows an availability request in Galileo. In this example, the user is looking for availability from Copenhagen to London on 1 April 2006 (the first line).

The numbered lines below that list each of the possible flights. Each line includes the following information (from left to right):

- Line number
- Origin airport (CPH=Copenhagen)
- Destination airport (LHR=London Heathrow)
- Departure time (times are always local times)
- Arrival time
- @ signifies a code share flight
- Carrier (BA=British Airways, QF=Qantas, SK=Scandinavian, BD=British Midland)

- Flight number
- A list of booking classes together with either the number of available seats or a letter (A for available, C for closed, etc.). On line 2, flight BA811 has a booking class of J with 9 seats available. In that same line, classes I, K, M, and R are listed as C, which means that the class is closed and there are no more seats available. The maximum number of seats returned is always 9, which means that there are 9 or more seats. For more information on booking classes, see Classes.
- The hash symbol (#) indicates that more booking classes exist. BA811 has a total of 16 booking classes listed.
- The equipment (or plane type) used. 319 is an Airbus A319.
- The next two characters have to do with how the availability was retrieved.
- The last character, either an X or E, signifies the way in which the flight can be sold. E means that the flight can be sold as an electronic ticket (or e-ticket). X means that the flight cannot be sold as an e-ticket.

#	Air	Flight	From	To	Departs	Arrives						Booking Codes and Availability
Date: 1. april 2006 Time: 00:01 From: Copenhagen - DK (Copenhagen Arpt) CPH To: London - GB LON												
	QF*	3430	CPH	LHR	07:50	09:05	0	319	*	*	*	J9 D9 Y9 H9 K9 M9 RC L9 VC S9 NC Q9 O9
	BA	811	CPH	LHR	07:50	09:05	0	319	*	*	*	J9 C9 D8 IC Y9 B9 H9 KC MC RC VC NC L9 S9 Q9 O9
	SK	501	CPH	LHR	10:10	11:05	0	321	*	*	*	C9 D9 J9 Z9 Y9 S9 B9 E9 M9 H9 Q9 V9 WA UA KA LA TC GA
	BD*	3701	CPH	LHR	10:10	11:05	0	321		*	*	C4 D4 J4 Y4 S4 B4 M4 H4 Q4 V4 W4 T4
	BA	813	CPH	LHR	10:50	11:55	0	319	*	*	*	J9 C9 D9 IC Y9 B9 H9 K9 M9 RC VC NC L9 S9 Q9 O9
	BD*	3703	CPH	LHR	12:05	13:05	0	M82		*	*	C4 D4 J4 Y4 S4 B4 M4 H4 Q4 V4 W4 T4
	SK	503	CPH	LHR	12:05	13:05	0	M80	*	*	*	C9 D9 J9 Z9 Y9 S9 B9 E9 M9 H9 Q9 V9 WA UA KA LA TC GA
	BA	815	CPH	LHR	13:55	14:55	0	319	*	*	*	J9 C9 D9 IC Y9 B9 H9 K9 M9 RC VC NC L9 S9 Q9 O9
	BD*	3705	CPH	LHR	14:55	15:50	0	M81		*	*	C4 D4 J4 Y4 S4 B4 M4 H4 Q4 VC W4 T4
	SK	505	CPH	LHR	14:55	15:50	0	M80	*	*	*	C9 D9 J9 Z9 Y9 S9 B9 E9 M9 H9 Q9 V0 WA UA KC LC TC GA
	QF*	3617	CPH	LHR	16:00	16:55	0	319	*	*	*	J9 D9 Y9 H9 K9 M9 RC L9 VC S9 NC Q9 O9
	BA	817	CPH	LHR	16:00	16:55	0	319	*	*	*	J9 C8 D8 IC Y9 B9 H9 K9 M9 RC VC NC L9 S9 Q9 O9
	BD*	3709	CPH	LHR	18:10	19:05	0	M87		*	*	C4 D4 J4 Y4 S4 B4 MC HC QC VC WC TC
	SK	1507	CPH	LHR	18:10	19:05	0	M80	*	*	*	C7 D7 J7 Z5 Y6 S6 B5 E4 M2 H0 Q0 V0 WC UC KC LC TC G1
	BA	821	CPH	LHR	19:30	20:35	0	319	*	*	*	J9 C9 D9 I9 Y9 B9 H9 K9 M9 R9 VC NC L9 S9 Q9 O9

Figure 2 Availability in Galileo ViewPoint

Figure 2 Availability in Galileo ViewPoint shows the same query result that was displayed in the Green Screen above, but in a more user-friendly format.

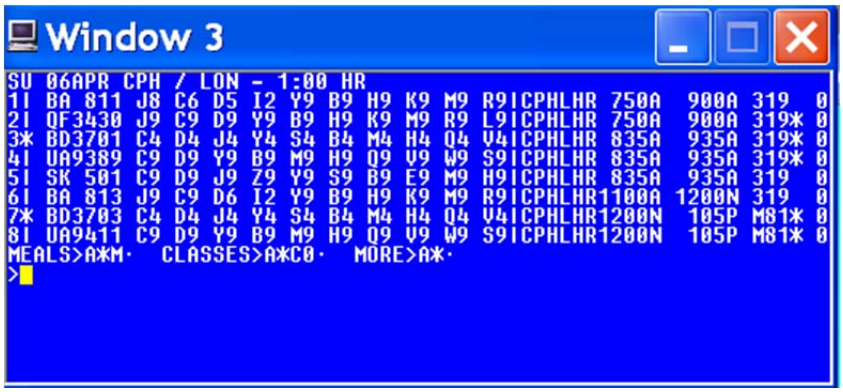

Figure 3 Green screen in Apollo

Note that the Apollo green screen displays results in a similar format to the Galileo green screen in Figure 1.

Airline Fares

Determining the fare for a particular journey can be quite complicated, as many factors work together to determine the fare. Such factors include the date, the class of service, the time and day of the week of your flight, advance ticket purchase, the type of passenger that you are, the number of passengers traveling in your party, and the route that you select.

Why Are Fares Complicated?

Two main areas of faring affect the price that a traveler pays for a particular seat: yield management and class. Yield management is the process some airlines use to sell as many seats as possible while still charging the highest individual price. Class refers to both booking class and service class; both types of class affect fares.

Yield Management

Which is worse for an airline?

- Selling tickets at an expensive price and only filling one third of the plane *or*
- Filling the plane but at a very cheap price?

From an airline's point of view, each option is bad. Therefore, airlines sell seats on the same flight at various prices; even the price of seats within the same class of service can vary greatly. Business class seats are more expensive than economy class seats. Economy class itself can have a large number of different prices available, depending on many factors, such as when you buy, the flexibility of your ticket, the day of the week on which you are flying, the length of your stay, the number of stops, and the flight number.

Yield management is the process of finding a way to fill the plane at the highest individual price possible. Note that not all carriers participate in yield management.

Classes

Classes can be divided into service classes and booking classes. Service classes are what most passengers care about, while booking classes are what the airline (especially those in yield management) care about.

Four types of service classes exist today: First, Business, Economy Flex/Plus/Extra, and Economy. Notice that airlines might use different names for their service classes. Economy Flex is currently not an official class in the published fares system (see *Published Fares*). Discounted economy is another class that some carriers are using. With Discounted Economy, you normally get the same service as all other passengers in economy, but you typically sit in the back of the plane and earn less frequent flyer mileage for the trip.

Booking classes are a one-letter code dividing service classes into subclasses for yield management purposes. Even though booking classes are within the same service class, you pay different prices and have more or less flexibility, depending on the service class. On a carrier not doing yield management, the booking class could be as simple as:

- First class = booking class F
- Business class = booking class C
- Economy class = booking class Y

In reality it is not unusual to have 15 different booking classes in use per flight. The mapping of booking classes to service classes is dependent upon the carrier, and even though there are some guidelines you can apply, no absolute rules apply for mapping service classes to booking classes.

Some service classes might be set aside for special purposes, such as passengers taking a bonus trip using their frequent flyer miles and for other passengers receiving a special discount.

A flight has a number of seats available for each of the booking classes. The number of seats can change over time, depending on the number of days before departure, and the same seat can be sold using different booking classes.

If you added the number of seats for each booking class together at any given point in time, you might have a total number of seats that exceeds the number of seats physically available on the airplane. Finding the number of seats available for a booking class on a specific flight is called searching for availability.

How Travelers Affect Fares

One factor that complicates faring is how the traveler affects the fare. Fares depend on the type of traveler (e.g., infant, student, seaman) purchasing the ticket. Groups traveling together can also receive fare discounts.

Passenger Type Codes

People traveling on special fares or under special circumstances (e.g., infants) are associated with a Passenger Type Code in the booking. The three-letter codes shown below are examples of Passenger Type Codes.

Children and Infants

Children and infants traveling with an adult passenger normally receive a discount. The general guidelines for published fares are:

- Children aged 0 to 2 (exclusive) at the beginning of travel are categorized as an infant (INF). An infant passenger normally pays 10% (INF is free within North America) of the adult fare and does not get a seat; the infant sits on the lap of an adult. There is a limit of one infant per adult passenger. In some cases, an infant can be booked as a child (e.g., for an adult traveling with two infants or if the customer wants to purchase a seat for the infant), and the infant pays the applicable child fare.
- Children aged 2 (inclusive) to 12 (exclusive) at the beginning of travel are categorized as a child (CHD). If child discounts are offered, they are normally 67% or 75% of the adult fare.

The age guidelines vary by carrier. For some carriers, if you are traveling on business class, children can be up to 15 years and still get a discount.

Infants that turn two before commencing the inbound part of the journey will, on some carriers, have to pay infant price on the outbound part and child price on the inbound part of the journey.

Unaccompanied Minors

Children traveling alone are called unaccompanied minors. Not all carriers allow unaccompanied minors. Typically a child has to be five years of age to be accepted without an adult companion. The carrier may charge an additional service fee if they accept unaccompanied minors.

IATA Agents

Travel agents working for an IATA agency can often get heavily discounted air fares, although these fares do not guarantee a seat on a specific flight.

Eligibilities

Some groups, such as senior citizens (SRC), can get a discount on air fares. There are many different groups, a few of which are listed below:

- Youth (YTH) – anyone not a child up to the age of 26 (typically).
- Student (STU) – a traveler with a special student ID (often known as an ISIC card) and up to the age of 26. For some carriers/areas the maximum age can be higher.
- Seaman (SEA) – a government regulated group; seamen and their family can get a discount when traveling to and from port.
- Pilgrim fares (PIL) – travelers on a pilgrimage (e.g., Mecca).
- Ethnic fares – sometimes national carriers provide special fares to nationals of the carrier's country. In Denmark, ethnic fares are being investigated as to whether they are legal according to the Danish Discrimination Act.

Number of Passengers

Typically, up to nine passengers can be booked together, and a group booking is required to book more than nine passengers. Special fares often apply to group bookings, and a group fare may not be valid for less than the number of passengers required for group status.

How Travel Type Affects Fares

Faring can vary greatly for similar journeys, depending on the type of route that you select. For example, simple travel is usually cheaper than travel with open jaws or stopovers.

Simple Travel

Travel normally takes one of three simple forms:

- **One-way (OW)** – you are flying from somewhere (your origin) to somewhere else (your destination).
- **Return or Round Trip (RT)** – you are flying from your origin to your destination (which for return fares is also called the point of turnaround) then back to your origin. Notice that for complex routings what you consider your destination might not be what the airline considers your point of turnaround, which is used primarily for fare calculations.
- **Open Jaw (OJ)** – your travel includes a surface sector (traveled other than by air) either at the origin or the turnaround of the journey. See *Open Jaws and Surfaces* for details.

Routings

When flying from your origin to your destination, there are two options:

- Non-stop flights flying directly without any touchdown between origin and destination.
- Flights that touch down.

It is the last option that generates a lot of complications with fares.

When you land en-route, it can take the following forms:

- **Intermediate stop/technical stop.** The plane touches down to take on fuel, off-load passengers, or on-load passengers, then you continue your journey on the same plane with the same flight number.
- **Change of equipment/change of gauge.** Your flight touches down and you change to a different airplane. However, the flight number stays the same throughout your journey. Notice that a change of equipment with the same flight number still counts as a direct flight according to IATA rules.
- **Online transfer.** You change from one flight to another flight operated by the same carrier.
- **Interline transfer.** You change from one flight operated by one carrier to a flight operated by another carrier.

In the routing EDI-BM/M-LHR-QF/Y-SIN-QF/Y-SYD, you are flying from Edinburgh (EDI) on a British Midland flight (BM) in M class. You are flying to London Heathrow (LHR) where you have an interline transfer to a Qantas (QF) flight in Y class and continue to Singapore (SIN). In Singapore you have an online transfer to another Qantas flight in Y class, continuing on to Sydney (SYD). In between your flight from London to Singapore, you have an intermediate stop in Bangkok (BKK), but as it is not considered a transfer, this stop does not necessarily display in the routing.

The routing might show only the points traveled and omit the carrier/class designation (e.g., EDI-LHR-SIN-SYD).

Transits and Stopovers

If your plane touches down and you transfer to another plane (either online or interline), you have two options:

- **Transit** is when you continue your journey as soon as possible, normally on the first scheduled flight onwards, but at least within 24 hours. In Central America, the rule is within 6 hours rather than 24 hours, and in North America it is within 4 hours.
- **Stopover** is when you stay more than 24 hours. With a stopover, you can fly from London to Sydney, but spend a few days en route in Singapore. Stopovers provide a whole different set of fare rules. In North America, stopovers are any time spent that is more than 4 hours.

A transit normally displays in the routing with a lower case ***x*** (e.g., LHR-xSIN-SYD or LHR-(x)SIN-SYD).

Open Jaws and Surfaces

In the *Simple Travel* section above, a return trip was described as flying from your origin to your destination and back to your origin; your destination could also be referred to as your point of turnaround. There is another type of travel called Open Jaw (OJ) in which you return to a different airport than where you originated, or you leave from a different airport than where you arrived. This type of travel is called Open Jaw because your air routing looks like an open mouth (from the side) if you draw the routing on a map (see *Figure 3* below).

For example, you are flying from London Heathrow (LHR) to Paris (CDG) and then flying from Paris to Manchester (MAN). Your air routing is as follows:

Outbound:

LHR-CDG

Inbound:

CDG-MAN

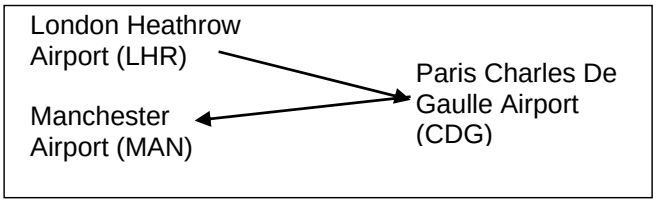

Figure 3 Origin Open Jaw

In the example above, the open jaw occurs at the origin, which is called an origin open jaw (OOJ). An open jaw at your destination is called a turnaround open jaw/destination open jaw (TOJ)

The following example is an open jaw that occurs at the destination. For example, you are traveling from London Heathrow to Sydney, Australia (SYD). You decide to take a train from Sydney to Brisbane and then return to London. The train trip from Sydney to Brisbane is referred to as a surface sector, which is any part of your journey in which the mode of travel is not flying. Surface sector travel can include non-flight options such as ship or boat. Your routing would be as follows.

Outbound:

LHR-SIN-SYD

Inbound:

BNE-SIN-LHR

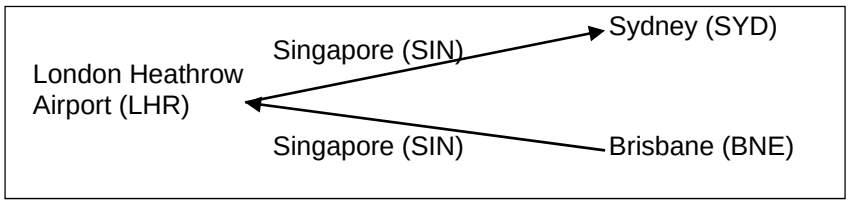

Figure 4 Destination Open Jaw

When you have an open jaw at either the origin or destination, you have a Single Open Jaw (SOJ). If you have an open jaw at both the origin and destination, you have a Double Open Jaw (DOJ).

Outbound:

LHR-SIN-SYD

Inbound:

BNE-SIN-MAN

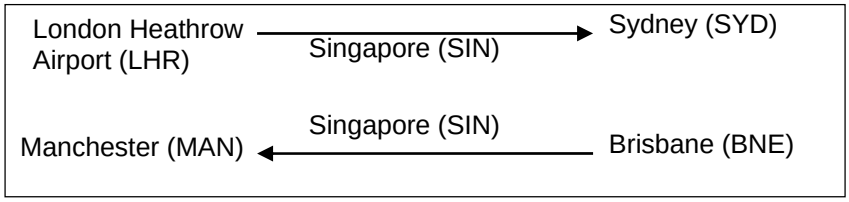

Figure 5 Double Open Jaw

Complex Travel

A special form of return trip is a Circle Trip (CT). A circle trip is a return trip that usually includes multiple stops along the route of travel before returning to the point of origin. For example, London to Australia via Asia on the way out and Australia to London via the United States on way back.

A Round The World (RTW) fare is a fare with no destination or, where the origin and the destination are the same. You are traveling around the world and as long as you are within the rules of your ticket, the RTW fare applies. The RTW fare specifies a number of details, including how many times you can stop and how many miles you can fly.

How Fare Sources Affect Fares

There are two main types of fare sources that affect faring: published fares and private fares.

Published Fares

Published fares are fares that an airline makes generally available through various distribution channels. Normally published fares are retrieved through GDSs.

Private Fares

One of the main reasons why fares can be very complex is what is called private fares or negotiated fares. These types of fares are fares that a carrier makes available for a specific location in the form of paper **contracts**. Almost any rule that can be written down on a piece of paper can apply here and many carriers use contracts to the extreme. These fares may also be available as published fares through GDSs; the Galileo Agency Private Fares product allows a location to enter their private fares and make them available to other locations (as applicable) through the GDS.

How Dates Affect Fares

The days on which you fly and the length of your stay affect faring. Faring is also affected by the length of time between ticket purchase and departure date.

Dates

A number of dates are used to restrict fares. The most typical date restrictions are:

- **Booking period** – the period during which the fare can be booked.
- **Ticketing period** – the period during which a ticket can be issued. This period is often the same as the booking period and is sometimes referred to as the “Advance Purchase.” It usually refers to the number of days before departure that the travel must be booked and ticketed.
- **Ticket deadline** – the last date on which a ticket can be issued. The ticket deadline is often a calculated date based on the number of days from the booking date to the departure date. For example, if the booking date is 60 to 30 days before departure, the ticket must be issued one week later; if the booking date is 30 to 2 days before departure, the ticket must be issued 48 hours after the reservation; if the booking date is 2 to 0 days before departure, the ticket must be issued immediately. If the ticket is not issued at the ticket deadline the booking is cancelled.
- **Outbound travel period** – the period during which outbound travel can commence. This travel period is normally split into seasons.
- **Seasons** – divisions within travel periods. For example, one contract might have several seasons, each with different prices. The seasons are typically named (from lowest to highest price): Low, Low shoulder, High shoulder, High. Normally the date of departure from your origin determines which season you are using. However, a few fares have what is called directional seasonality, where a fare from the season containing your outbound departure date is added to the fare from the season containing your inbound departure date, and then the sum is divided by two. Note that there are many ways that a carrier can apply seasons.
- **Inbound travel period** – the period during which inbound travel can commence. This travel period is normally the first travel date after your point of turnaround and applies only to return fares. Inbound travel period is not used often; rather, min/max stay restrictions (see below) are used.

- **Blackout periods** – a date interval within normally allowed travel periods in which travel cannot take place. For example, if a travel period for low season is 1 November – 31 January, a blackout period might occur during the Christmas holiday. Therefore, the blackout period for this travel period might be 20 December – 28 December, during which the low season fares do not apply.

Minimum/Maximum Stay

Most people know that staying away over a weekend often results in cheaper air fares. The reason is the minimum stay rule that some fares apply. The rule can take two forms:

- A minimum number of days/nights you must stay away. For example, a minimum stay rule of two days means that if you arrive on a Monday, you can fly home Wednesday at the earliest.
- A specific night you have to stay away, typically either Friday or Saturday night.

Either one of above or both can be in effect for the same fare. If both rules are used, they can be used in either an “And” relationship or an “Or” relationship, specifying if both rules need to be true or only one of them. For example, if both rules must be true, you would need to stay away at least two days and one of those nights must be either a Friday or Saturday night.

A rule can also take a maximum form, such as:

A maximum number of days/nights you are allowed to stay away. For example, a maximum stay rule of 30 days means that if you arrive on July 1, you must leave by July 31 at the latest.

Weekdays Allowed

Some fares are divided into midweek and weekend fares, where the price you pay depends on the weekdays on which outbound and inbound travel commence.

The days that are actually considered midweek and weekend vary from carrier to carrier and from fare to fare.

A recent example from a carrier of midweek and weekend fares follows. Bold days are valid days.

Fare Type	Days of Week	Explanation
Outbound travel, midweek fare	**MTW**TFS**S**	For outbound travel, the midweek fare is available on Monday, Tuesday, Wednesday, and Sunday.
Inbound travel, midweek fare	M**TWTF**SS	For inbound travel, the midweek fare is available on Tuesday, Wednesday, Thursday, and Friday.
Outbound travel, weekend fare	MTW**TFS**S	For outbound travel, the weekend fare is available on Thursday, Friday, and Saturday.
Inbound travel, weekend fare	**M**TWTF**SS**	For inbound travel, the weekend fare is available on Monday, Saturday, and Sunday.

If you fly outbound during midweek and inbound during the weekend, you receive a combined fare (i.e., a fare that is constructed by taking the midweek fare and the weekend fare and combining them to give you a new fare). Normally, the combined fare is created by adding the midweek out and the weekend in price.

APEX Fares

Some Advance Purchase fares are also APEX fares, which means that they must be bought a certain number of days before departure.

The opposite faring also exists, which means that the fare must be bought a certain number of days within departure (e.g., between seven and zero days before departure).

IT Fares

Inclusive Tour (IT) fares are fares that cannot be sold alone. IT fares can also be split into IIT (Individual IT) and GIT (Group IT) fares. In order to sell IT fares, you must have a surface arrangement that is not public transportation (e.g., a tour or a transfer from the airport to the hotel).

How Restrictions Affect Fares

A number of restrictions might be applicable for each fare. For example, some fares restrict the carriers on which you can fly, the flight numbers, the direction or via points that you can fly, and the maximum mileage that you can accumulate.

Flight Restrictions

A number of restrictions apply to the flights you can choose. The most common restrictions are:

- Code shares allowed (see *Flight Numbers and Code Shares*). If you are buying a Qantas fare, you might not necessarily be allowed to fly on flights operated by British Airways. On the other hand your fare might depend on you taking one or more code share flights.

- Specific flight numbers can be explicitly allowed or disallowed.
- Only flights leaving within a specified time frame can be allowed.

The restrictions can apply on the entire routing or on specific sectors. For example, code shares in general might not be allowed, with the exception of flights between London and Singapore, where code share operated by BA is allowed.

Global Indicators

A global indicator for a fare indicates the direction in which the routing can take you. Global indicators are linked to IATA areas (see *Areas*). A few examples of global areas are as follows.

- AT (Atlantic) – Between Area 1 and Area 2 or 3 via the Atlantic Ocean.
- PA (Pacific) – Between Area 1 and Area 3 via the Pacific Ocean.
- AP (Atlantic Pacific) – Between Area 2 and Area 3 via the Atlantic and the Pacific (e.g., from UK to Australia via the United States).
- EH (Eastern Hemisphere) – Between Area 2 and Area 3 via Eastern Hemisphere (e.g., from UK to Australia via Asia).
- WH (Western Hemisphere) – Within Area 1.

How Routings Affect Fares

Your journey's direction and type of routing affects the fare that you pay. Some fares include specific carriers and booking classes applicable to that fare.

Allowed Routings

Many fares come with a set of allowed routings to get you from your origin to your destination. The routings might include specific carriers or a list of carriers for each of the segments. Each segment might also have a list of possible booking classes.

Alternatively, the agreement might list a global indicator for outbound travel and the same or another indicator for inbound travel (e.g., EH/EH, which means that travel has to be via Asia in both directions).

Routings might also include either a list of permitted transfers or a maximum number of transfers that can be taken outbound and inbound.

Example routing with carriers specified:
You can fly from LON to LAX via either JFK or SEA. If you fly via SEA you have to use carrier UA between SEA and LAX.

Example routing with transfers and gateway specified:
You can fly from LON to LAX. You must fly via JFK, which is a UA hub. From JFK, you can transfer up to a maximum of three times between JFK and LAX, where UA operates.

Note: Many carriers have certain hub airports, normally within their country. If you fly Scandinavian, which is partly owned by the Danish, Swedish, and Norwegian governments together, you will usually have to fly via Copenhagen (CPH), which is the hub airport for Scandinavian.

Maximum Permitted Mileage

Each routing comes with a Ticketed Point Mileage (TPM), which is the number of the miles flown between any two points and added for all points in the routing. These values are defined by IATA and can be checked using a GDS session.

LHR to LAX:

5442 miles

LHR to LAX via JFK:

3458 miles+2459 miles=5917 miles

A fare might specify a Maximum Permitted Mileage (MPM), which is the maximum TPM that the fare allows. Published MPM values can be retrieved using a GDS session. If a routing selected by a traveler exceeds the MPM for the contract, it is either disallowed or a surcharge is added for the excess miles, depending on the rules.

Round Trip (Vice Versa)

International fares apply from the country of origin. For round trip travel, the fare for the return or inbound travel is the applicable fare *from* the country of origin. In other words, the fare for the return applies in the opposite direction of the actual travel. For example, for travel from New York to London back to New York, the fare for the outbound applies from NYC to LON. The fare for the return is the NYC to LON fare also. This means that the fare from NYC to LON is doubled for round trip travel.

Domestic Add-ons

In many cases international fares only apply from the major airports. In order to travel from a small airport to your destination, your fare might be constructed of a main fare plus an add-on fare.

For example, you want to travel from Edinburgh to Sydney. Carrier A only has fares from LHR to SYD, but allows you to fly from EDI to LHR on another carrier by paying an extra amount. The extra amount is added to your main fare in order to calculate your total fare for the entire trip.

Add-ons at the beginning of your journey are also known as feeders; add-ons at your destination are known as trailers.

Fares Combinations

Fares can be combined to create Open Jaws, Round Trips, and Circle Trips. The combined fare may have different booking classes outbound and inbound, or midweek and weekend fares. When you combine two different fares, you apply calculation rules to find the new fare.

The following example uses the half/half calculation for an open jaw trip.

Fare 1: LHR to NYC is 1.000 GBP (RT)

Fare 2: LHR to SFO is 1.400 GBP (RT)

Using the half/half fare construction calculation to determine the cost of the open jaw above, add half of the fare for the outbound flight to half of the fare for the inbound flight (0.500+0.700=1.200). The fare for this open jaw is 1.200 GBP for the entire journey, assuming that the fares listed are the round trip amounts.

Gateway (Exit) Points

The departure date is normally used for finding the season date and the day of week for midweek/weekend fares. However, some fares use an exit point to find the dates. An exit point, or Gateway point, is defined as “the first point of arrival or the last point of departure in a country or area.” This definition applies to inbound travel also.

For example, you are flying on British Airways from Manchester via London to New York. You have a two-day stopover in London.

30MAR: MAN-LHR

01APR: LHR-JFK

If the exit point for your fare is London or UK, April 01 is used for finding your season (or whichever day of week April 01 is will be used for determining if you pay midweek or weekend fare).

For inbound travel, the exit point is an entry point. Therefore, the departure date of the first segment that departs outside the exit point and arrives within the exit point is used.

Ticketing

A ticket is a contract of carriage between a carrier and a passenger. Tickets are identified by a 14-digit number (e.g., 125-2430289196). The first three digits are the carrier's numeric identifier (see *Airline Carriers and Alliances*), in this case British Airways. The next ten digits are the ticket number. The last digit is a check digit. The check digit is calculated by performing a modulus 7 calculation on the ten-digit ticket number, the result of which should be the check digit.

Paper Tickets

Various forms of paper tickets exist. One of the most common types of paper ticket is the Automated Ticket and Boarding Pass (ATB), combining the ticket with a boarding pass, which is the right-most part.

If a ticket is printed by someone other than a carrier (e.g., an agent), the ticket is known as an Off-Premises (OP) ticket.

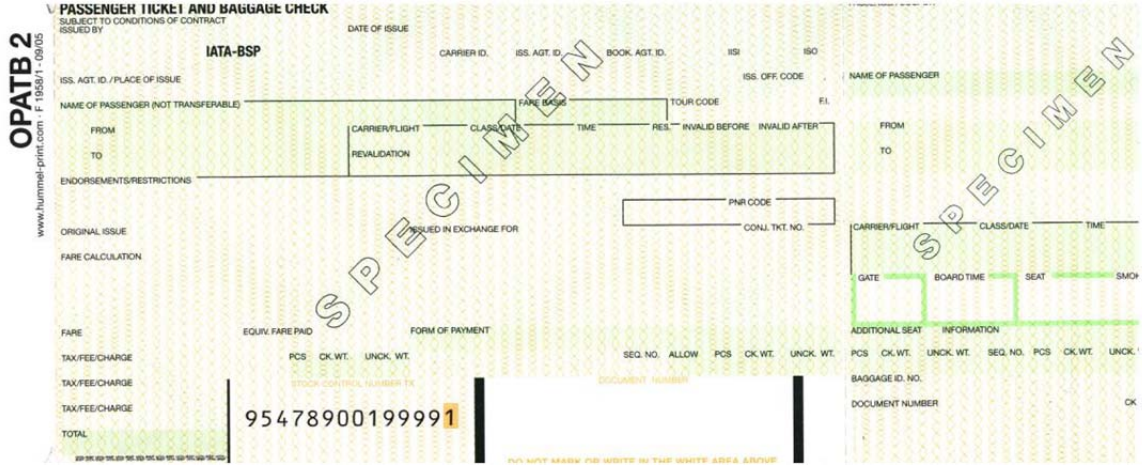

Figure 6 OPATB 2 ticket

When a paper ticket is issued, multiple pages are printed for an ATB. Each page is one instance of the ATB; a page is called a coupon. A passenger receives one flight coupon for each stopover, connection, or destination city in the journey. The passenger also receives one or more passenger coupons as a receipt. More coupons are printed but are used within the issuing carrier/travel agency for audit purposes.

A maximum of four flight coupons is allowed per ticket number. If more coupons are needed (e.g., for journey EDI-LHR-BKK-SIN-SYD-SIN-BKK-LHR-ED, eight coupons are required) several tickets are issued, known as conjunction tickets.

Paper tickets have some disadvantages. As they are valuable in much the same way money is valuable, you cannot throw away a paper ticket and expect board your flight. In case of a lost paper ticket, a new ticket has to be issued using the reissue process.

If you want to make any changes outside of what the ticket explicitly allows, you have to exchange your ticket for a new one. This exchange process puts the original ticket number on your new paper ticket so that an audit trail is maintained.

E-ticketing

Most tickets today are issued as e-tickets, which means that you do not receive a paper ticket, only a receipt for your purchase, typically with the ticket number listed. All the necessary information is held in the airline's database, so there is no chance of losing the ticket. Most airlines charge a fee for issuing a paper ticket, as IATA is trying to phase out the use of paper tickets.

Ticket Information

The following table lists some of the information available on a ticket.

Field	Description
Fare basis	A unique identifier (within the airline) for the fare being used to issue to the ticket.
Tour code	An identifier for the fare typically used for reduced fares (e.g., an IT fare, see *How Restrictions Affect Fares*).
NVB/NVA	Not valid before, not valid after. The first and last date the coupon can be flown.
Endorsement	Any special rules that apply to the ticket. Some examples of endorsements are as follows: ▪ **NONEND** (non endorsable) means that the ticket can only by used on the carrier listed on the ticket. ▪ **NONREF** (non refundable). ▪ **Valid on *xx* only** means that the ticket is valid only on the listed carriers.
PNR code	A Passenger Name Record locator (or "reloc") is the booking code used to find the booking in the GDS used. The PNR code is sometimes suffixed with a two-letter code identifying the GDS (e.g., ABCDEF/1G is the Galileo PNR ABCDEF).
Fare calculation	Lists how the fare used for selling the ticket was calculated. This fare includes taxes. It might also include the word NUC, which means that the prices are in Neutral Unit of Construction (a fictitious currency used to calculate across multiple currencies). Normally the fare calculation also lists ROE (Rate of Exchange) followed by a conversion from NUC to a local currency.

Appendix A: Example Contract on Airline XX

DREAMTIME Please enter deal LA295 in the tour code box.						
	V CLASS			L CLASS		
Ex LHR or MAN X/LHR VALID FOR DEPARTURE	PER via EH/EH	SYD, MEL, BNE, ADL, CNS, DRW via EH/EH & ALSO AKL via AP/AP	AKL, CHC, WLG via EH/EH	PER via EH/EH	SYD, MEL, BNE, ADL, CNS, DRW via EH/EH & ALSO AKL via AP/AP	AKL, CHC, WLG via EH/EH
16 - 27 MAR 2005	410	660	660	630	600	100
28 MAR - 30 JUN 2005	430	560	660	560	520	620
01 JUL - 14 AUG 2005	540	620	120	650	130	230
15 AUG- 09 DEC 2005	410	660	660	630	600	100
10 - 23 DEC 2005	460	250	405	240	220	4020
24 DEC - 31 DEC 2005	530	600	100	660	640	140
01 JAN - 15 JAN 2006	550	130	230	620	160	260
16 JAN - 31 MAR 2006	530	600	100	660	640	140
UPGRADE TO ZZ WORLD TRAVELLER PLUS FOR A SUPPLEMENT OF £225 PER SECTOR SECTOR DEFINITION: LHR - SIN - SYD = 2 SECTORS LHR – SYD = 2 SECTORS **A 7 DAY APEX MUST BE APPLIED**						

VALID FOR SALE	For new bookings effective 16 Mar 2005 - 31 Mar 2006
TICKETING	Must be ticketed on XX paper and within 14 days of the booking.
BOOKING CLASS	XX/ZZ: V or L depending on level used. Economy World Traveller Plus ZZ: T Combining booking classes at the point of turnaround permitted at half and half of the applicable return levels.
ROUTINGS	Valid via EH/EH or AP/AP only. **EH/AP & VV ROUTINGS NOT COMBINABLE**
INTERNATIONAL STOPOVERS	EH/EH routings: 1 permitted in each direction only at BKK/SIN/DPS AP/AP routings: 1 permitted in each direction only at JFK/LAX For EH/EH routings to New Zealand, a further stopover is permitted in each direction at SYD/BNE/MEL/ADL.
NZ DOMESTIC OPTION	On AP/AP routings only to AKL, flights permitted to either CHC or WLG at £25 each way - a maximum of two.

TRANS TASMAN	All Trans Tasman direct flights (including transfers) MUST be charged in conjunction with AP/AP travel at £50 each way. A maximum of two flights permitted
UK DOMESTICS	ZZ direct services from/to LON: £39 r/t & £20 o/w if booked in N class or £55 r/t & £28 o/w if booked in V/R/M class. BD direct services from/to BFS to LHR: book H class at £70 r/t & £35 o/w
VIA EUROPE	Direct ZZ services from MAN/BHX via FRA are discounted £15 each way from above levels. Direct ZZ services via all other UK airports to FRA are common rated with above levels.
CODESHARE	Permitted, but not on ZZ services within USA. **ZZ World Traveler / Economy operated services between LHR-BKK/SIN-SYD/MEL & vv, must be booked using the XX code. When flying ZZ World Traveler Plus, please book the ZZ flight number.**
TRANSFERS	Transfers permitted within 24 hours at LON/FRA/BKK/SIN/DPS/JFK/LAX. Further transfers are permitted at SYD/BNE/MEL/ADL when travel is to New Zealand via EH/EH.
MPM	Must be within maximum permitted mileage.
SURFACE	Permitted.
MIN / MAX STAY	Nil / 1 year. If a routing has any World Traveller Plus sectors, **1 Saturday night** minimum stay applies.
FARE BASIS	Against the published V(*season)DREAM1 or L(*season)DREAM1
REBOOKING	Date changes permitted subject to availability in the original booked class but may be subject to a local service fee. Date change ex UK must be within the same season.
REROUTING	One free reroute before departure. If ticketed, a local service fee may apply. There after £50 per re-route.
CANCELLATION	After ticketing - £200. After travel has commenced - no refund.
DISCOUNTS	Children: pay 75% of net. Infants: pay 10% of net.
ENDORSEMENTS	Valid XX/ZZ/AO only - conditions apply. **Date of booking must be shown (e.g., DOB20MAY05)**
If the itinerary booked is valid for e-ticket then an e-ticket must be issued. **Failure to issue an e-ticket will result in the generation of an ADM at a penalty of £25.** **Any agent/operator who cancels an existing booking sold at a higher fare level and creates a new booking** **to access any lower fare to increase their margin, will receive an ADM for the difference.** **Failure to comply with the ticketing conditions will result in an ADM being issued for the next highest published fare level.**	
Issued: 16MAR2005	

Appendix B: Star Alliance Round the World Fare

The following information is taken from:
http://www.staralliance.com/star_alliance/star/frame/main_10.html

- You can travel with any Star Alliance member airline subject to some flight exceptions. Start and end of your journey must be located in the same country, and one Atlantic and one Pacific crossing have to be included in your itinerary.
- Star Alliance Round the World Fare is available for travel in First, Business, or Economy Class.
- There are four fare levels, allowing you to travel up to 26,000 miles (Round the World Special available only in Economy Class), 29,000, 34,000 or 39,000 miles. The exact fares depend on the origin and the class of service of your journey.
- Round the World tickets may be purchased at any time prior to departure, except if you purchase a Round the World Special Economy fare or if your journey originates in Canada, USA, or Mexico. Then, you can buy your ticket up to seven days before departure. In all other cases, you can buy your ticket at any time before you depart.
- There is no high season surcharge, so it does not matter when you depart. You simply need to determine the class of service and the total mileage you need.
- Your journey may last any time between ten days and a year. You can change the dates of most of your flights at any time, except for those flights up to and including your first international or intercontinental journey. For a small fee, you are permitted to change destinations.
- You can take as few as three or as many as fifteen stopovers in different cities (within the permitted mileage). The maximum number of stopovers within certain regions may be limited. For the Round the World Special Economy the maximum number of stopovers is five.
- The fares and more specific conditions for a Round the World ticket depend on where you start your journey. In order to find out specific information, please be advised that you can either contact your travel agent or your nearest Star Alliance member airline's reservation department or download our new **Round the World Mileage Calculator** to plan your journey.

Appendix C: Glossary

For official definitions of the following terms, refer to IATA documentation.

Advanced Purchase (APEX) Fares: Excursion Fares that must be purchased a certain number of days before departure.

Airline Carrier Code: The two- or three-letter code that identifies an airline carrier (e.g., SK is the carrier code for Scandinavian Airlines).

Alliance: A commercial relationship between three or more carriers.

Area: Geographic IATA divisions of the world used for fare calculations.

Automated Ticket and Boarding Pass (ATB): The most common type of paper ticket issued; it combines the ticket with a boarding pass.

Billing and Settlement Plan (**BSP**): Allows travel agencies and carriers to settle bills by a simplified method.

Blackout Period: A date interval within a normally allowed travel period in which the fare is not available. For example, if a fare is available for travel from 1 November – 31 January, except for during Christmas, the blackout period for this fare might be 20 December – 28 December.

Booking Class: A one-letter code that divides a service class into subclasses for yield management purposes.

Change of Equipment / Change of Gauge: The plane touches down and you change to a different airplane. However, the flight number stays the same throughout the journey. Notice that a change of equipment still counts as a direct flight according to IATA rules.

Circle Trip (CT): A trip from city A to city B to city C and return to city A on the same or different carriers, on the same or different fare basis codes. Half round trip fares are used for each fare component.

E-ticket: An electronic ticket that replaces a paper ticket for airline travel. All necessary ticketing information is stored in the airline's database; the traveler receives a receipt for purchase. The benefit of an e-ticket is that it cannot be lost.

Exit Point: See Gateway Point.

Gateway Point: The segment in your itinerary that leaves a certain region (normally a country). Exit points are used to determine the date, which in turn determines the fare to be used.

Global Distribution Systems (GDS): Privately owned reservation databases, formally known as Computer Reservations Systems (CRS). GDSs are used by travel agencies to query pricing and availability for various flights as well as to book seats for passengers.

Global Indicators: Indicates the direction in which routing can be made for a particular fare. Global indicators are linked to IATA areas.

Inclusive Tour (IT) Fare: A fare that cannot be sold alone. In order to sell an IT fare, you must have a surface arrangement is not public transportation (e.g., a tour or a transfer from the airport to the hotel).

Interline Transfer: The plane touches down and you change from one flight operated by one carrier to a flight operated by another carrier.

Intermediate Stop / Technical Stop: The plane touches down to take on fuel/off-load passengers, then the journey continues on the same plane with the same flight number; also known as a technical stop.

International Air Transport Association (IATA): The global trade organization for air transportation. Its mission is to represent, lead, and serve the airline industry. One of IATA's main responsibilities includes negotiating rules, standards, and security audits for airlines.

Leg: The space between two continuous, scheduled touchdowns on a scheduled flight.

Maximum Permitted Mileage (MPM): Specifies the maximum Ticketed Point Mileage that the fare allows. MPM values are usually used for Round the World fares.

Off-Premises (OP) Ticket: A ticket that is not printed by a carrier (e.g., printed by a travel agent).

One Way (OW): A trip from an origin to a destination.

Online Transfer: The plane touches down and you change from one flight to another flight operated by the same carrier.

Open Jaw (OJ): Air travel in which your origin airports differ or your point of turnaround differs. Open jaws can occur at your origin or destination. A trip with two open jaws is called a double open jaw.

Passenger Type Codes: Three-letter codes that define a special fare or travelers with special circumstances (e.g., Infant (INF) or Child (CHD)).

Point of Turnaround: Usually, the destination in a return trip, used for fare calculations. For complex routings, what you consider your destination might not be what the airline considers your point of turnaround.

Private Fares: Fares that a carrier makes available for a travel agency in the form of a contract; also known as negotiated fares.

Published Fares: Fares that an airline makes generally available through the various distribution channels. Published fares are normally retrieved through GDSs.

Return Trip (RT): A trip from an origin to a destination back to the origin.

Round the World (RTW): A trip with no destination, or a trip where the origin and destination are the same.

Seasons: Divisions within travel periods. Seasons are typically named (from lowest price to highest price): low, low shoulder, high shoulder, high.

Sector: A leg or group of legs. Sectors are normally used for calculating the fare to be paid.

Segment: A leg or group of legs.

Service Class: The classes of service available on an airplane. Four types of service classes exist today: First, Business, Economy Flex/Plus/Extra, and Economy.

Stopover: Your plane touches down and you stay for more than 24 hours before continuing on your journey. Different fare rules apply to journeys with stopovers.

Surface Sector: A portion of your journey that is not conducted by flight (e.g., by boat or train).

Technical Stop / Intermediate Stop: The plane touches down to take on fuel/off-load passengers, then the journey continues on the same plane with the same flight number; also known as an intermediate stop.

Ticketed Point Mileage (TPM): The number of the miles flown between any two points and added for all points in the routing. These values are defined by IATA and can be checked using a GDS session.

Transit: Your plane touches down and you transfer to another plane and continue on your journey within 24 hours, though usually on the next scheduled flight onwards. Notice that in Central America, the transit rule is that you continue your journey within 6 hours.

Yield Management: The process of finding a way to fill the plane at the highest individual price possible.