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DUAL RBD VALIDATION

Increasing available price points within current frameworks

atpco

INTRODUCTION

ATPCO is proposing a Reservation Booking Designator (RBD) model that enables airlines to offer more price points while using current dual RBD validation processing. This model will give you more flexibility in controlling which fare level can be offered with a minimum of development effort, though it will not create the full number of price points that two-character RBDs would provide after significant industry development.

BACKGROUND

Today, airlines are restricted to twenty-six single letters for managing their availability. These RBDs are further divided by cabin and some may be defined for use only within the airline (for example, employee business travel or frequent flyer redemption), further reducing the number available for use.

One of the ways dual RBD validation is used today is to book a premium cabin based upon the availability of a coach cabin RBD. This validation requires the segment to be booked in the premium cabin RBD and then a secondary validation of availability of an economy RBD is also performed. This is then ticketed, reported, and settled as the primary RBD with the corresponding fare basis code. For example, the fare classes vary for different fare levels, but for the premium cabin the primary booking code is the same:

HUP.......................$500	books in A when H is available
H............................$350	books into H
QUP.......................$400	books in A when Q is available
Q $250	books into Q
VUP.......................$300	books in A when V is available
V $150	books into V

When a fare is booked in A, the system chooses the lowest A class fare based on secondary availability; if H and Q were both available but V was not, the QUP fare would be the lowest.

PROPOSAL

Airlines would manage fares using the same concept as for upgrade fares but within a cabin instead of between cabins by allocating a subset of the 26 RBDs for secondary RBD validation. This method would effectively allow for up-charges by closing the lower RBDs and leaving a higher RBD with discounted fare levels open. Managing this in a one-cabin process would allow for as many as 182 price points in a market (13 primary RBDs + 13 discounts per prime, including Blank, = 13 × 14.) These can be further defined with rule restrictions to create season or day of week fare groups, or other groupings based on rule provisions. If there is a requirement for more than one cabin, the carrier would decide how to divide the 26 RBDs across cabins. The more cabins a carrier has, the fewer the total number of fare levels available. For example:

Cabins	Possible Price Points	Cabin	RBDs	Primary RBDs	Secondary RBDs	Calculation
One	182	Y	26	13	13	13 × 14 = 182
Two	110	F	8	4	4	4 × 5 = 20
		Y	18	9	9	9 ×10 = 90
Three	72	F	6	3	3	3 × 4 = 12
		C	8	4	4	4 × 5 = 20
		Y	12	6	6	6 × 7 = 42

Let's assume we have 12 economy RBDs available and we decide to allocate those to 9 primary RBDs and 3 secondary. This division of RBDs allows for 36 distinct price points. The table at right reflects the 36 fare levels having primary RBDs: A, B, C, D, E, F, G, H, I, with 4 fare levels for each primary RBD represented by the discount RBDs blank, X, Y, Z.

Our airline opens all fares for potential sale at a level of $280 and higher within the cabin. The inventory decision would be the lowest available fare, which is highlighted in green. This would mean all higher fares, highlighted in yellow, could also be sold by validating that either the secondary discount RBD was available, or alternatively, the next lower primary RBD was available.

DUAL RBD VALIDATION

Fare Class	Primary RBD	Discount RBD	OR RBD	Price Point
AONE	A			$500
ATWO	A	X	B	$490
ATHREE	A	Y	B	$480
AFOUR	A	Z	B	$470
BONE	B			$460
BTWO	B	X	C	$450
BTHREE	B	Y	C	$440
BFOUR	B	Z	C	$430
CONE	C			$420
CTWO	C	X	D	$410
CTHREE	C	Y	D	$400
CFOUR	C	Z	D	$390
DONE	D			$380
DTWO	D	X	E	$370
DTHREE	D	Y	E	$360
DFOUR	D	Z	E	$350
EONE	E			$340
ETWO	E	X	F	$330
ETHREE	E	Y	F	$320
EFOUR	E	Z	F	$310
FONE	F			$300
FTWO	F	X	G	$290
FTHREE	F	Y	G	$280
FFOUR	F	Z	G	$270
GONE	G			$260
GTWO	G	X	H	$250
GTHREE	G	Y	H	$240
GFOUR	G	Z	H	$230
HONE	H			$220
HTWO	H	X	I	$210
HTHREE	H	Y	I	$200
HFOUR	H	Z	I	$190
IONE	I			$180
ITWO	I	X		$170
ITHREE	I	Y		$160
IFOUR	I	Z		$150

AVAILABILITY AND INVENTORY

Because systems currently accommodate the dual inventory validation in current availability requests and responses (PAOREQ/PAORES), we do not anticipate any modifications to those messages or displays.

Some, if not most, inventory management systems can accommodate many more buckets than the 26 RBDs represented here, so those systems should be able to accommodate the additional fares available. Inventory systems will, however, need to be modified to accommodate the need to know when to open and close RBDs to meet the desired result.

In our example above, our airline wants to set the rate at $280, so the system would need to know to make available seats for RBDs A, B, C, D, E, and F, as well as X and Y, to ensure that the discounted F fare classes are available. Our airline would need an availability response from XXX to YYY where we want to sell two more seats at the FTHREE, four at the FTWO and six at the FONE levels, as follows:

```
XX 123 A9 B9 C9 D9 E9 F6 G0 H0 XXXYYY  312P 743P

       I0 X4 Y2 Z0
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With this availability response, the RBD validation passes for FTHREE (F and Y), FTWO (F and X) and FONE (F), and it fails for fares FFOUR (Z and G are not available) and all the G, H, and I fares because their primary RBD is not available. All higher level fares pass RBD validation, because both their primary and the next lower primary are available.

The above processing demonstrates how dual RBD validation can be used to provide additional high-to-low price points. If you also need to inventory control these discounts independently without an RBD hierarchy, you can use the same mechanism for upgrade dual validation. For example, I want to have a "instant upgrade" that books into a higher cabin (as described previously), as well as a "premium seat" that is in the same physical cabin but is capacity-controlled separately from the rest of economy. I would take two more RBDs, one for first (V) and one for premium economy (W), and I would build associated versions of the economy fare.

Additionally, you may choose not to have the premium versions of very low economy fares offered, or you may not have deeply discounted versions of higher fares, by simply not publishing a fare at that level. As shown in the table at right, you may choose not to have an AFOUR fare because you do not want to offer a basic economy of an expensive fare and you do not want to offer a first-class upgrade CFIRST or premium CPREM version of the lowest economy fare.

First

U, V (Discounted First)

Economy

A, B, C, W (Premium Economy), X, Y, Z
(X, Y, Z are discount levels)

Fare Class	PRIMARY RBD	DISCOUNT RBD	OR RBD	Price Point
UFIRST	U			$1000
AFIRST	V	A		$750
APREM	A	W		$600
AONE	A			$500
ATWO	A	X	B	$490
ATHREE	A	Y	B	$480
~~AFOUR~~	~~A~~	~~Z~~	~~B~~	~~$470~~
BFIRST	V	B		$650
BPREM	B	W		$500
BONE	B			$460
BTWO	B	X	C	$450
BTHREE	B	Y	C	$440
BFOUR	B	Z	C	$430
~~CFIRST~~	~~V~~	~~C~~	-	~~$600~~
~~CPREM~~	~~C~~	~~W~~	-	~~$500~~
CONE	C			$420
CTWO	C	X		$410
CTHREE	C	Y		$400
CFOUR	C	Z		$390

SUMMARY

Implementing full two-character RBD would provide carriers with the capability to identify 702 distinct RBDs (676 two-character plus 26 single character), but issues with existing messages and processes would entail a sizable effort for systems to address. The dual RBD validation approach, while not providing the range of RBDs, would allow airlines to expand the number of fare levels they can offer with a smaller development effort using existing processes. By controlling the RBD hierarchy and secondary validation, airlines can control more price points and ensure they are offering the correct product.