



An architecture's response to growth and change

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Orbitz World Wide

QCon SF 2007
November 9, 2007

Time



ORBITZ
WORLDWIDE

Airport



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Orbitz World Wide

- **Five major B2C online travel agency brands across the globe**
- **Orbitz for Business**
- **Orbitz Worldwide's white label business powers airlines and hotel websites**
- **Away.com, an online travel content brand including GORP and Outside Online**
- **Orbitz Worldwide's brand portfolio includes over 14 million unique monthly visitors**



Additional Perspective

500

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Additional Perspective

100,000,000

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Agenda

- **Walk Through**
- **Going Global and White Label**
- **Operational Efficiency**

Disclaimer



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Bumps



Agenda

- **Walk Through**
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- **Operational Efficiency**

Orbot

ORBITZ A STEP AHEAD™

Quick Search | Custom Packages | Hotels | Flights | Cars & Rail | Cruises | Activities | Deals

Flight
 Hotel
 Car
 Activities

Flight + Hotel
 Flight + Car
 Hotel + Car
 Flight + Hotel + Car

Sun & Ski Sale
SAVE \$150
[Get Details](#)

From City name or airport: SEA
To City name or airport: SFO

Leave: 11/06/07
Anytime

Return: 11/10/07
Anytime

Travelers (up to 4)
Adult (18+): 2
Child (0-17): 0

Rooms: 1

Flight preference
 I prefer non-stop flights

Specify a hotel
Hotel name contains...

[Find](#)



Services

Webapp

Travel Business Services

Switching Services

Switching Services


Supplier Services

Supplier Services

Suppliers

Matrix







Seattle to San Francisco 11/06/2007 - 11/10/2007



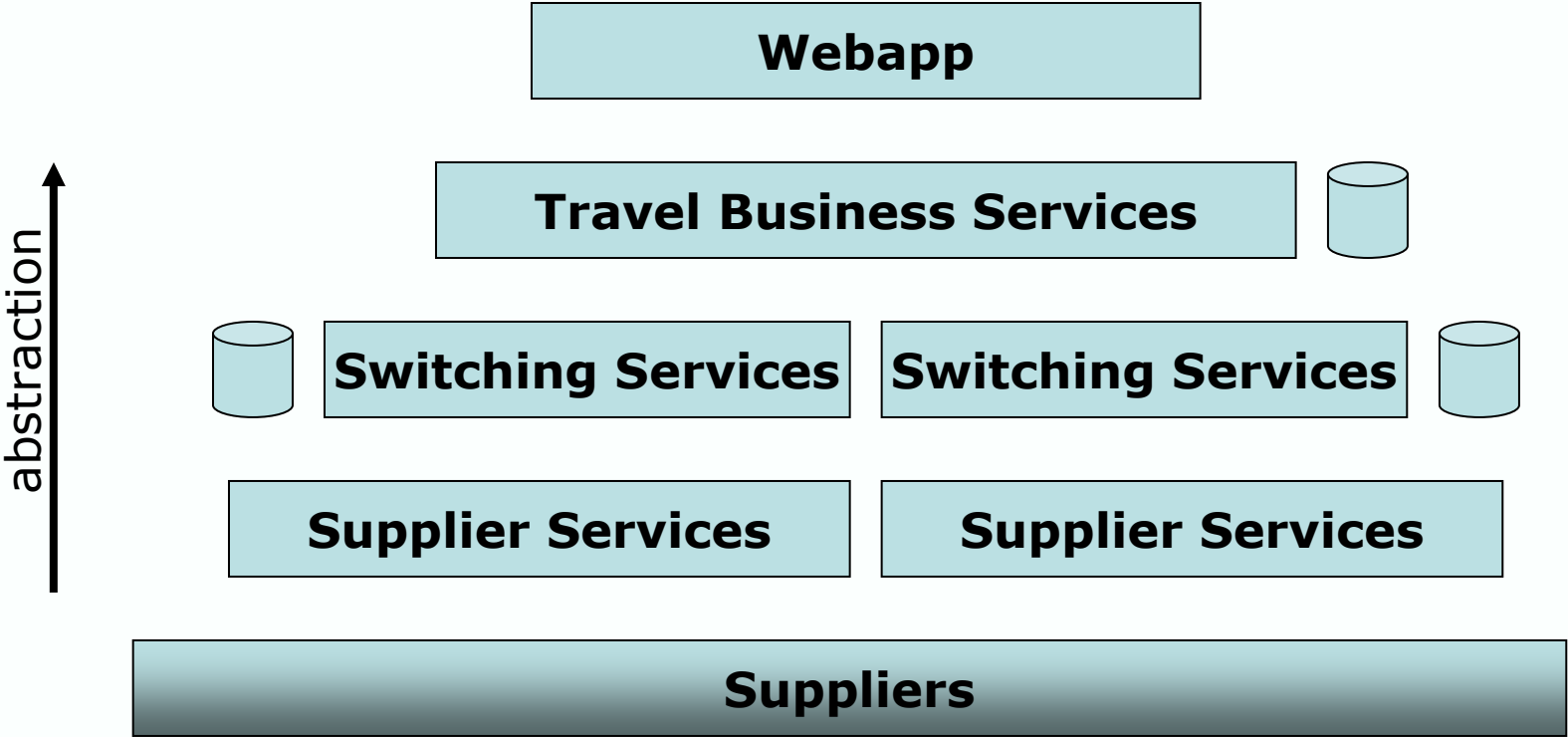
The Westin San Francisco Market Street
 50 Third Street, San Francisco, CA 94103
 0.3 Miles East of San Francisco
 ★★★★★
 Check in: Tue, Nov 6, 2007 (3 PM)
 Check out: Sat, Nov 10, 2007 (12 Noon)
 Guests: 2 | Rooms: 1

[Change hotel](#)

Select package below:

 Alaska Airlines Non-stop	 American Airlines Non-stop	 United Airlines Non-stop	 Delta Air Lines 1 stop	 Northwest Airlines Non-stop	 US Airways 1 stop
your price	your price	your price	your price	your price	your price
\$751 per person 2 tickets + 4 nights	\$805 per person 2 tickets + 4 nights	\$805 per person 2 tickets + 4 nights	\$816 per person 2 tickets + 4 nights	\$867 per person 2 tickets + 4 nights	\$877 per person 2 tickets + 4 nights
Flight Info	Flight Info	Flight Info	Flight Info	Flight Info	Flight Info
Save \$592	Save \$484	Save \$484	Save \$530	Save \$484	Save \$484

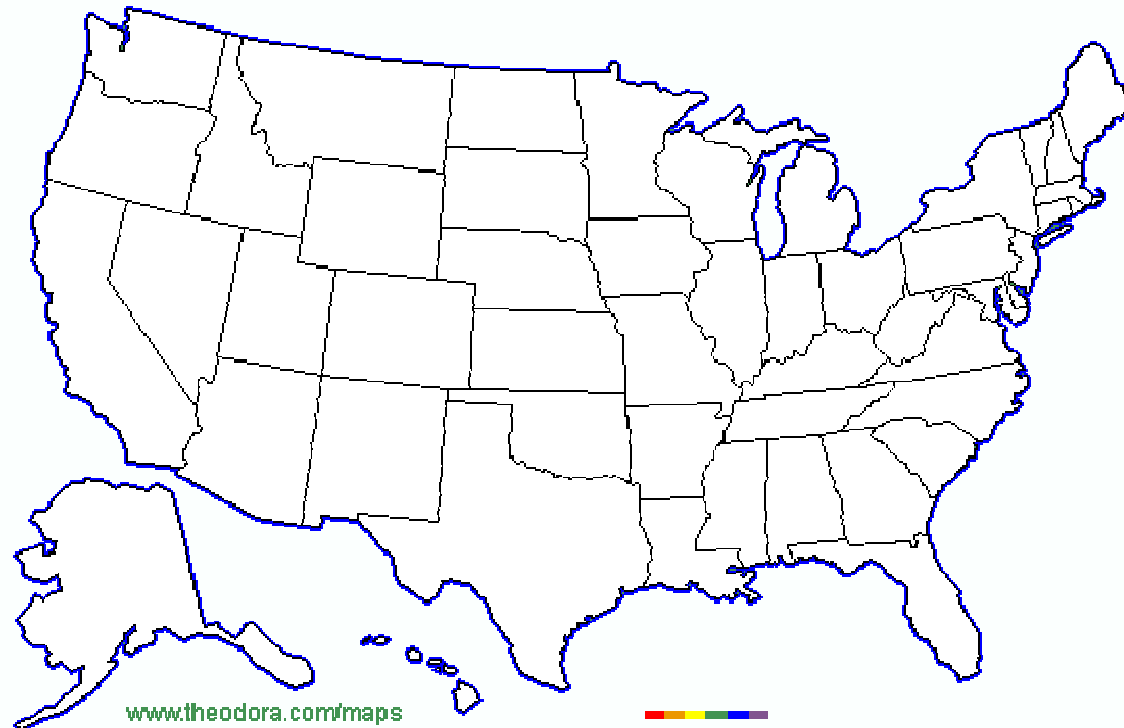
Services



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The world according to Orbitz – at launch.



Maps courtesy of www.theodora.com/maps, used with permission.

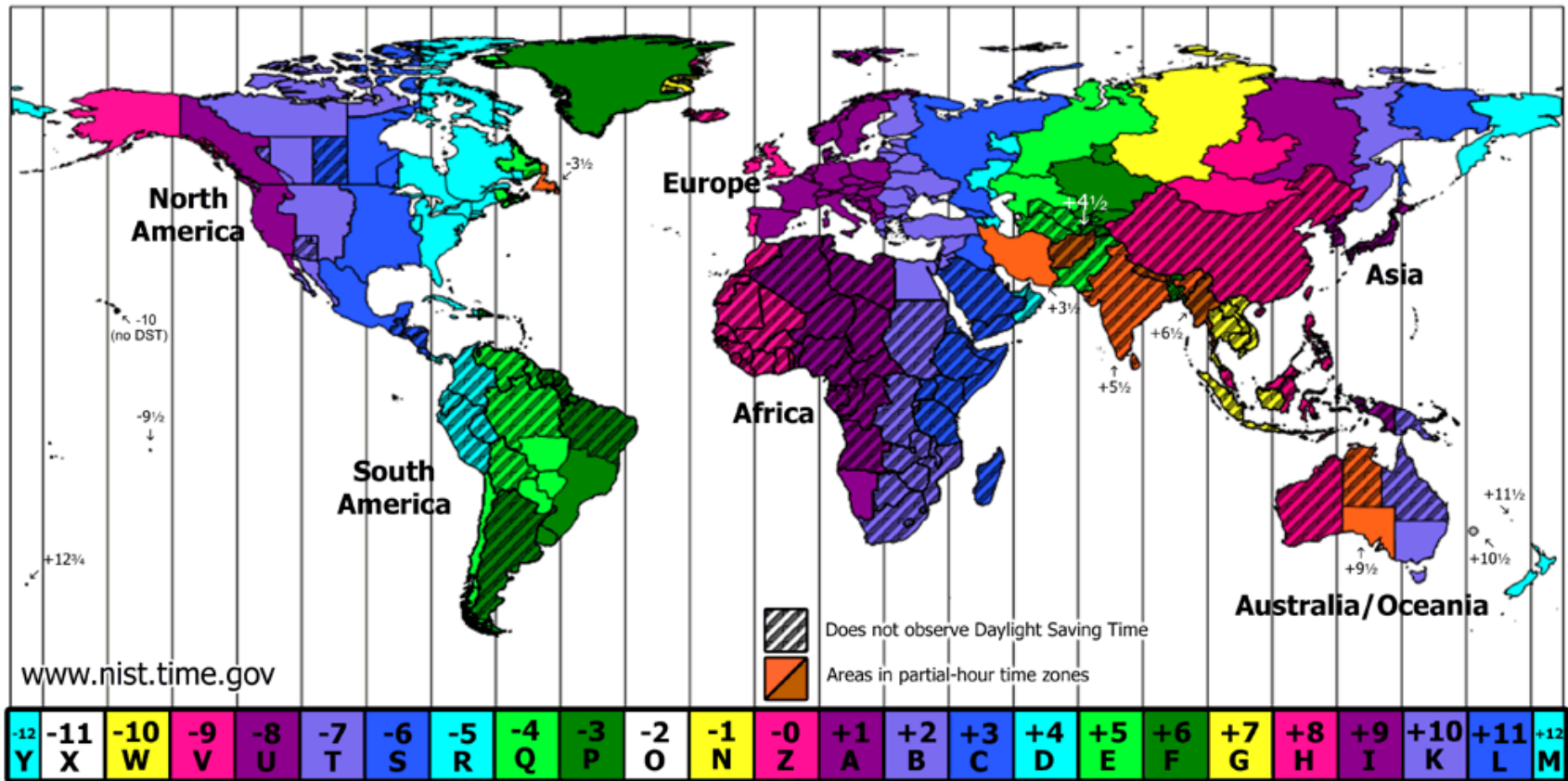
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Obvious: Money



Photo courtesy of Chuck Clark, used with permission.

Obvious: Time Zones



Obvious: Content

Здравствуйте

Guten Tag

Bonjour

Hello

नमस्ते

Obvious?

```
airItinerary.isDomestic()
```

Questions

- **i18n?**

- **l10n?**

- **Unified paths?**

Answers

- JScience for measurement, geo
- ICU4j for text and content formatters, comparisons
- Joda Time for calendars, date arithmetic, time zones
- CMS for content
- Education for developers

Classic



International & White Label Platform

Webapp

Travel Business Services

Switching Services

Supplier Services

Suppliers

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

Localized Presentation

ebookers.com

Flight + Hotel ▲ Taxes and fees included
 Seattle/Tacoma Intl (SEA), Seattle, Washington, United States to San Francisco
 Int'l airport (SFO), San Francisco, California, United States
 06/11/07 to 10/11/07 | Traveler(s) 1 | Flight 1 ticket(s) | Trip 4 night(s) [Change search](#)

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	 Alaska Airlines non-stop Flight details	 United Airlines non-stop Flight details	 American Airlines non-stop Flight details	 US Airways non-stop Flight details
<p>W San Francisco More hotel details Virtual tours</p> <p>Overview Description Photos Map Amenities</p> <p>★★★★★</p> <p>181 3rd Street, San Francisco, California 94103 0.4 miles Southeast of San Francisco</p> <p>4.9 out of 5 11 user reviews</p> 	<p>£946.16 average per person* total £946.16</p> <p>Select and continue</p> <p>Taxes and fees included</p>	<p>£946.16 average per person* total £946.16</p> <p>Select and continue</p> <p>Taxes and fees included</p>	<p>£951.56 average per person* total £951.56</p> <p>Select and continue</p> <p>Taxes and fees included</p>	<p>£1,340.66 average per person* total £1,340.66</p> <p>Select and continue</p> <p>Taxes and fees included</p>

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Travel Business Services

Conductor
+ Unified Model
+ Unified Paths

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Database

One schema

+ Instance per brand per site

- Unicode

- Universal time

Database

**Federated
+ Service-managed
+ Unicode
+ UTC**

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The world according to Orbitz – now.

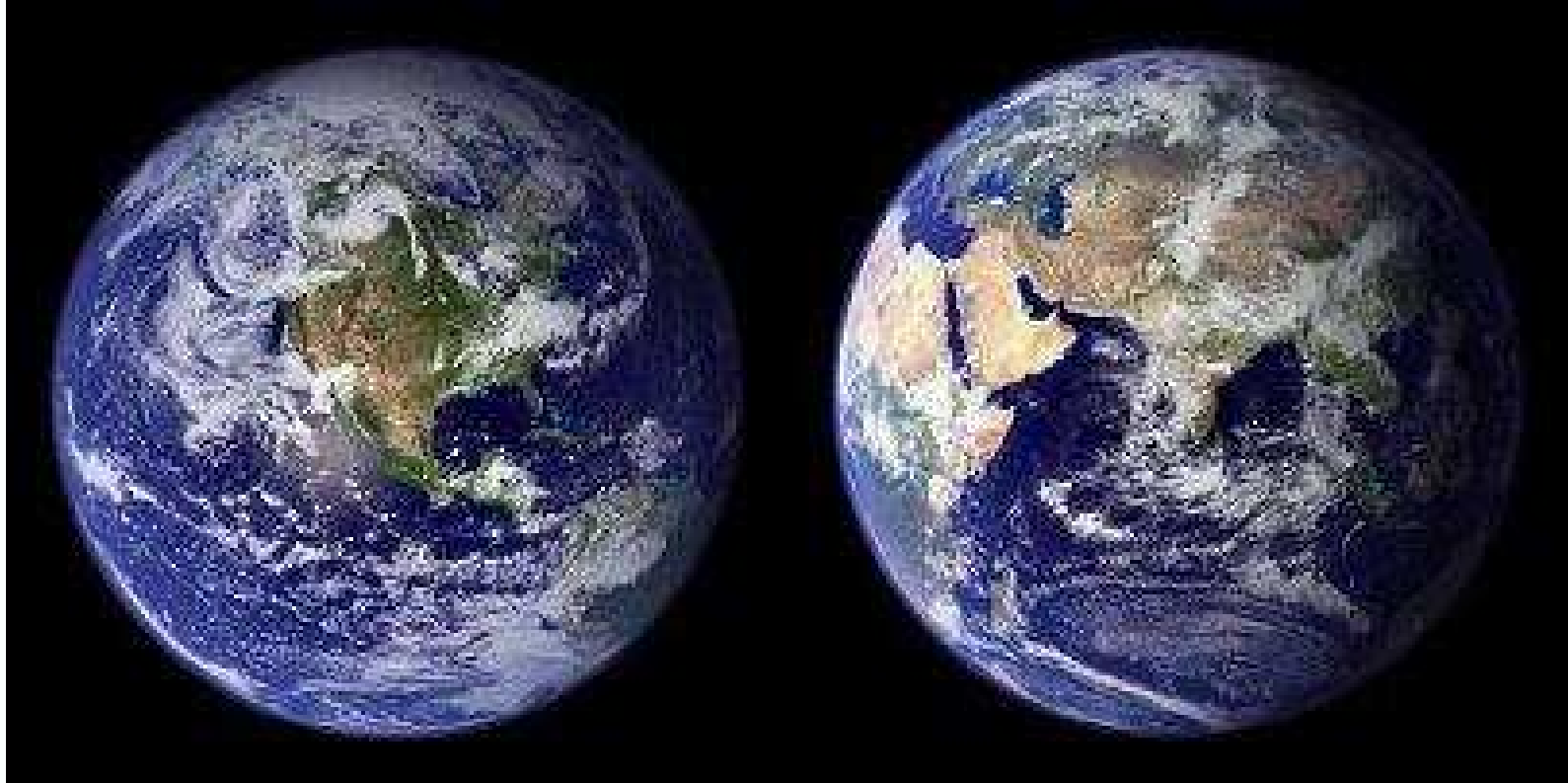


Image courtesy of <http://visibleearth.nasa.gov/>, used with permission.

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Failures Happen



<http://www.archive.org/details/Pa2096Tacoma>

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Spring-wired, Jini-connected



Monitoring

- **Logging**
- **Complex Event Processing**

Customers Are Waiting



Photo courtesy of Steven Balogh, used with permission.

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Java Concurrency Techniques

- `java.lang.Thread`
- `java.nio`
- `java.util.concurrent`

Futures

I.O.U.

Caching

- **Deflection**
- **Availability**

Deflection



Rate Cache

Jini

+ database

+ application-specific partitioning

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Rate Cache

**In-memory distributed cache
+ application-agnostic partitioning**

Availability

- **TBS**
- **Web Session**

Cache Cloud



Tree



Airport



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Q & A



bzimmer@orbitz.com

