



# FlightStats Value of Data

ICAO Business Class Symposium

ICAO Headquarters, Montréal

14 – 16 October, 2014



***A leading global provider of data services and solutions to the travel industry and traveling public by delivering reliable, relevant and resourceful airline, airport and traveler information.***

# Global reach

A man in a dark striped shirt and khaki pants is sitting on a grey airport-style bench, working on a silver laptop. He is in an airport terminal with a high ceiling and yellow structural beams. Other empty benches and a digital display are visible in the background.

**FlightStats data  
reaches >35% of  
global air travelers  
each day**

**30 million flight alert  
messages sent each  
month**

**Over 6 million unique  
monthly visitors to  
FlightStats Web, mobile  
site and apps**

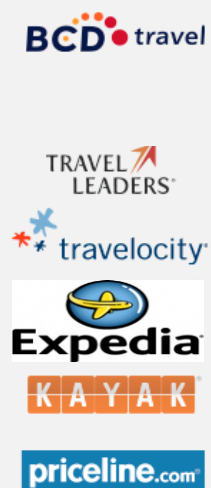
**300 million data  
requests by leading  
brands each month**

# Global partnerships

## Booking Application and Agent Desktops



## Travel Agencies and Travel Management



## Search Engines and Media



## Mobile Applications and Navigation



## Airports



## Airlines



## Hotels and Digital Signage





## Dynamic Data Management



---

**“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”**

**-Sir Arthur Conan Doyle, Sherlock Holmes**



# Acquisition of data

Aviation data is fragmented and not uniformed to one standard.

Flight Status

Positional  
(ASDI & ADS-B)

Global Flight Schedules

Weather (METAR)

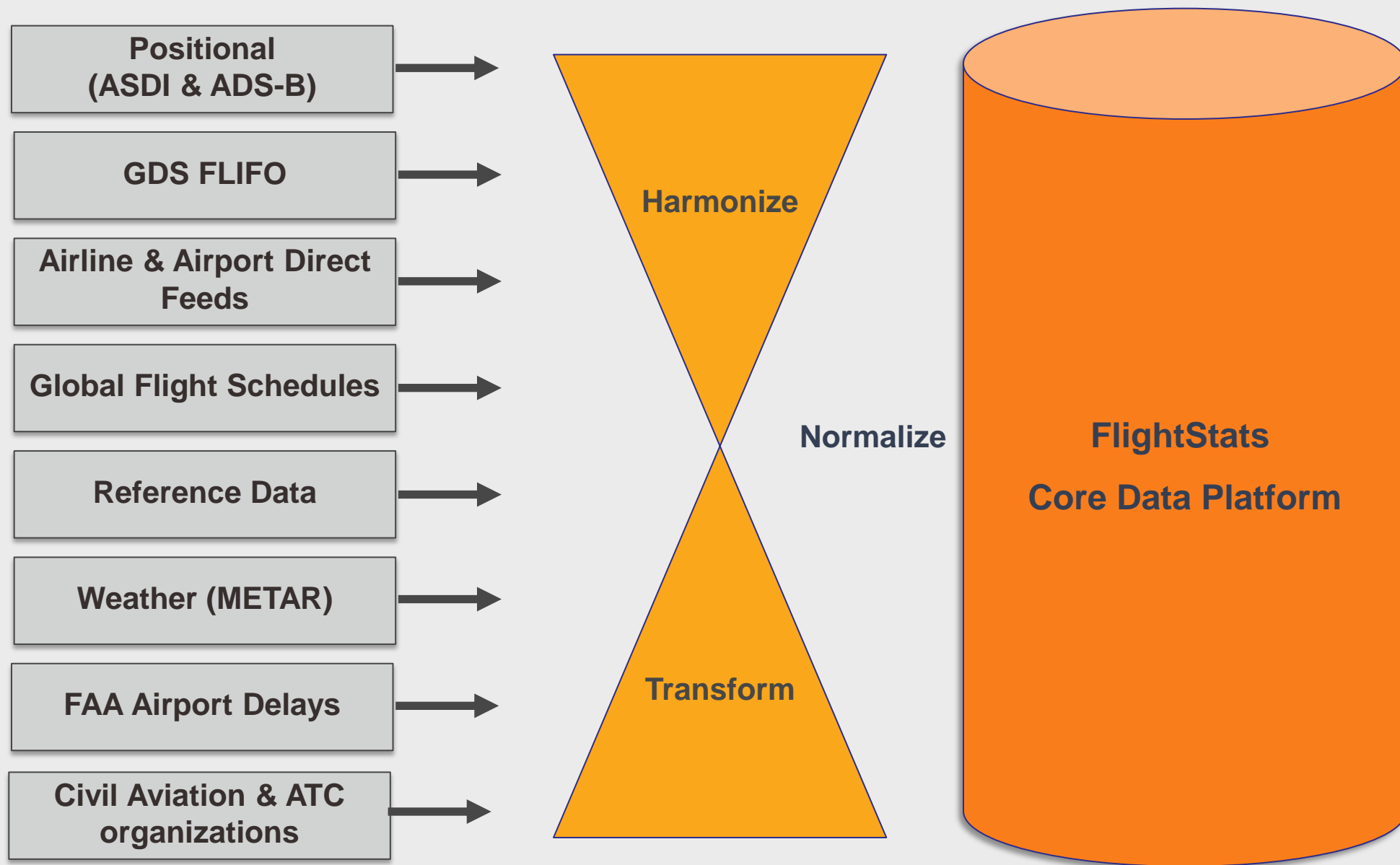
GDS FLIF0

Civil Aviation & ATC  
organizations

FAA Airport Delays

Reference Data

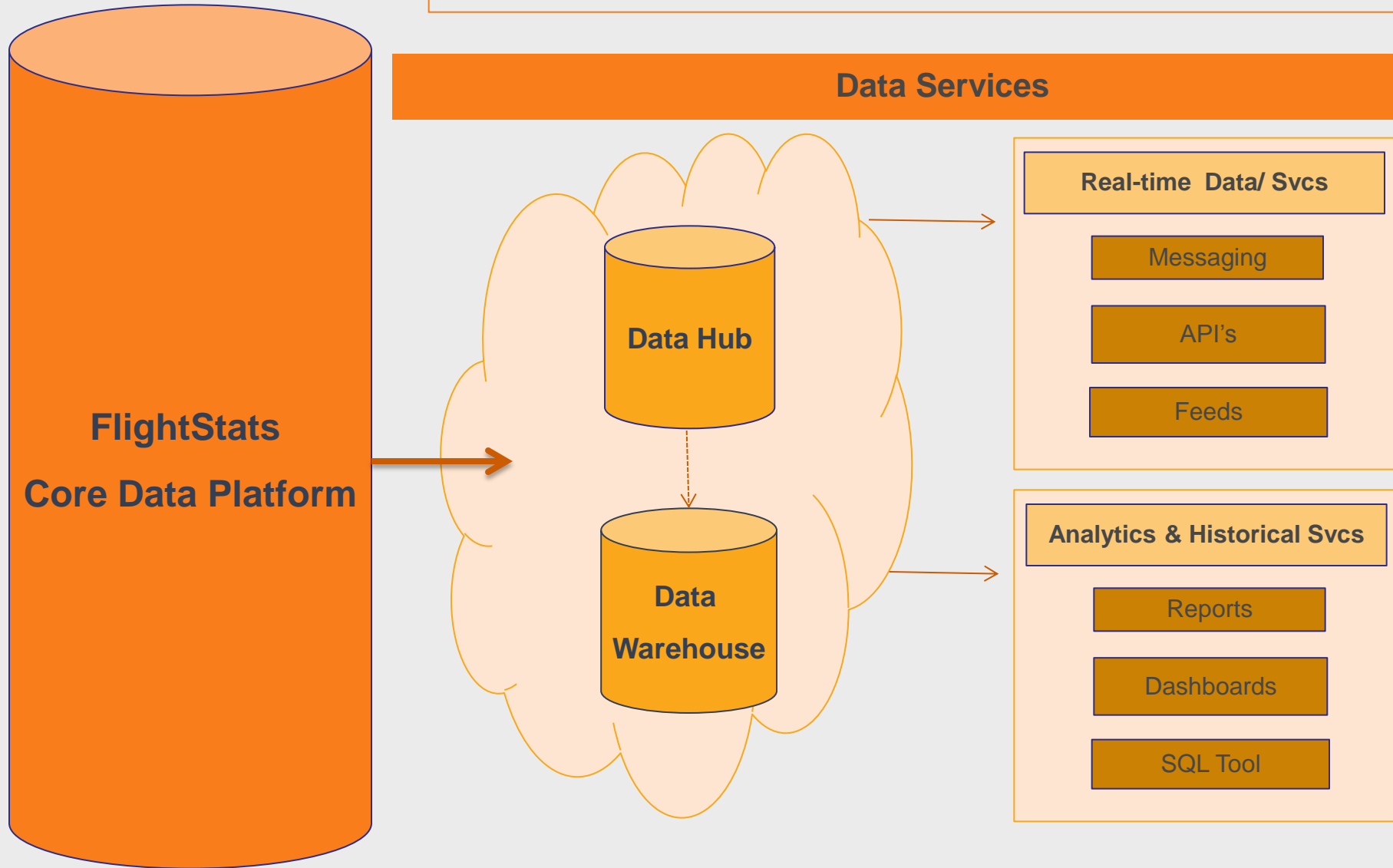
# FlightStats Data collection sources





# FlightStats Data Infrastructure

## Dynamic Data Management





FlightStats Data Services

Data Service Use cases



# Data services – Real time

## Flight Status

Airline flight information compatible across all platforms:


- ❖ Mobile
  - ❖ Web
  - ❖ Tablet
- Operated and codeshare/alliance partner flight status
  - Alerts with gates, terminal and baggage claim information
  - Local Language API responses (Chinese, Japanese, German, French, Spanish and English)

### F9 1315 Flight Events

This section shows the various changes that were made to the information about the flight including the time the source was changed as well as the data source that caused the change. The date and time information in the Data Updated section are in airport local time.

Date	UTC	Time DTW	IAD	Source	Event	Data Updated
Oct 7	23:18	7:18 PM	7:18 PM	Schedules	RecordCreated	
Oct 9	07:10	3:10 AM	3:10 AM	Airline	Time Adjustment	<ul style="list-style-type: none"><li>Estimated Gate Departure Changed To 10/10/14 08:10 AM</li><li>Departure Gate Changed To D16</li><li>Estimated Gate Arrival Changed To 10/10/14 09:30 AM</li></ul>
Oct 9	23:00	7:00 PM				
Oct 10	11:00	7:00 AM				
Oct 10	11:15	7:15 AM				
Oct 10	12:40	8:40 AM				

### F9 1315 Flight Status



## (F9) Frontier Airlines 1315

(DTW) Detroit, MI, US to (IAD) Washington, DC, US

Status:

# En-Route - Delayed 15 minutes

Last change to status 11 minutes ago

#### DEPARTURE

Scheduled Departure:  
**8:10 AM - Fri Oct-10-2014**

Actual Departure:  
**8:32 AM - Fri Oct-10-2014**

Arrival Gate:  
**Z9**

#### ARRIVAL

Scheduled Arrival:  
**9:30 AM - Fri Oct-10-2014**

Estimated Gate Arrival:  
**9:45 AM - Fri Oct-10-2014**


Baggage Claim:  
**N/A**

Departure Flight Notes:

- Departure delay calculation based on comparing actual gate time with scheduled gate time.


Arrival Flight Notes:

- Arrival delay calculation based on comparing estimated gate time with scheduled gate time.



**Set up a Flight Alert ▶**  
STATUS & ARRIVAL NOTIFICATIONS

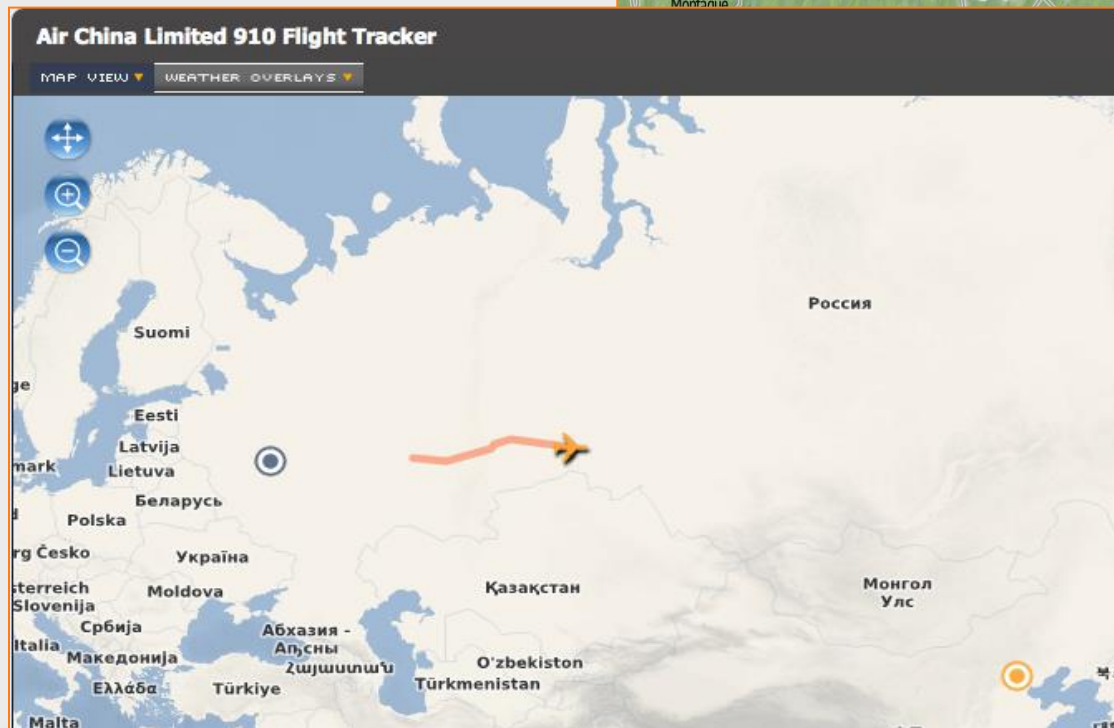
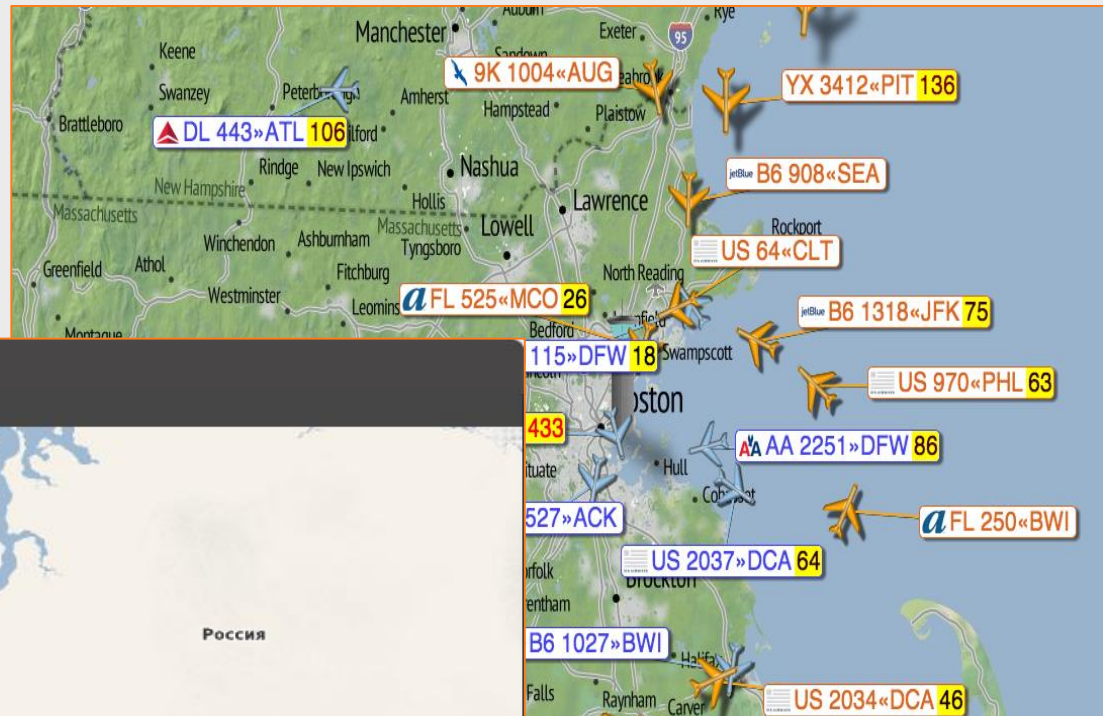
Copyright © 2014 FlightStats, Inc.

FLIGHTSTATS

# Data services – Flight tracking

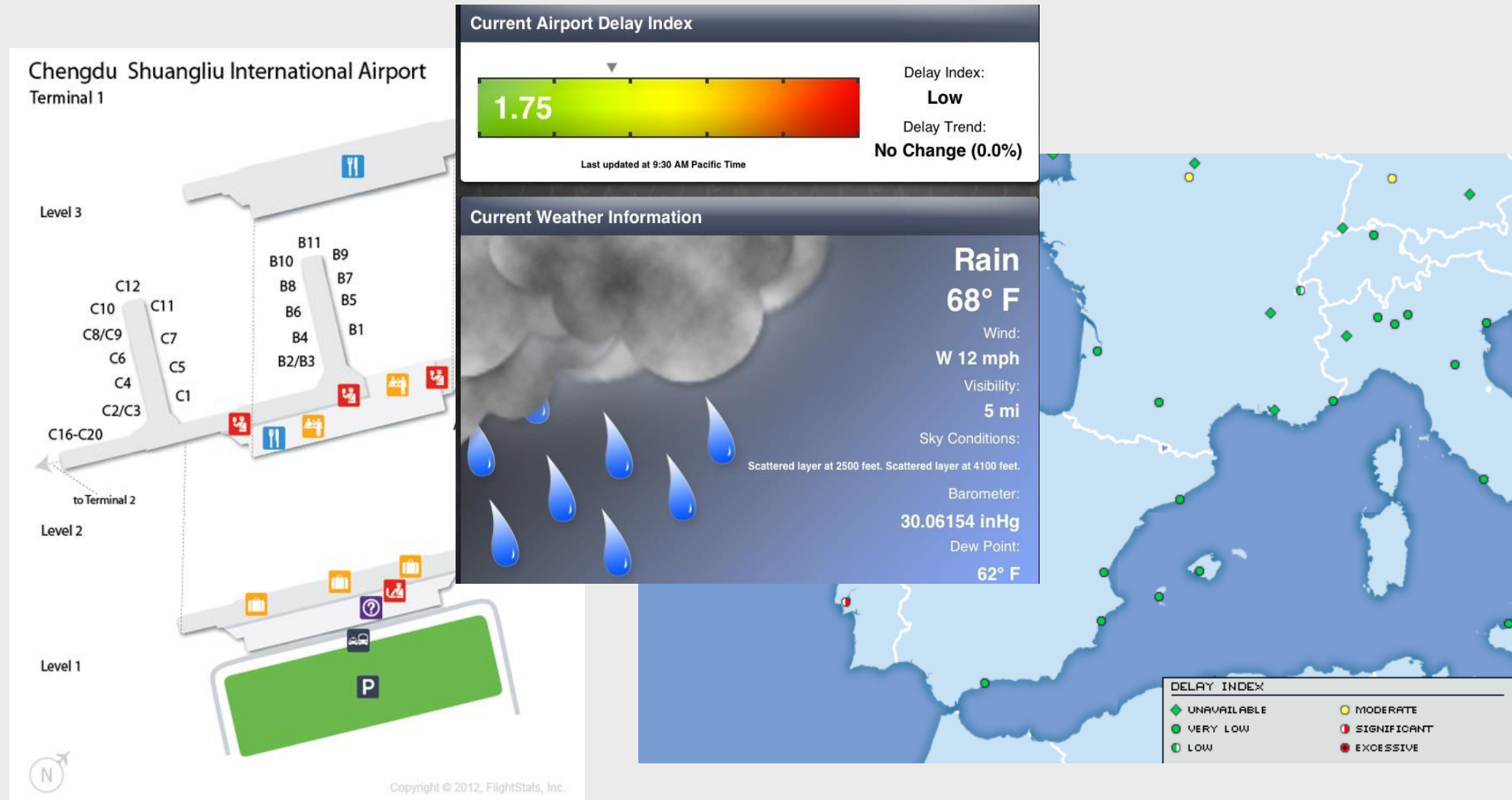
## Flight Tracking – Flight, Fleet and Airport

- ❖ Arrival hall
- ❖ Departure hall
- ❖ Airport lounges



# Data services – Reference information

## Airport location data, maps, delays, and weather



## Flight Information Displays (FIDS)

- ❖ Highly Configurable API
- ❖ Show/hide codeshares
- ❖ Local language support
- ❖ Show/hide airlines
- ❖ Specify fields, order
- ❖ Airline Logos



The screenshot shows the FlightStats iPad app interface. At the top, it displays 'PEK' and the 'FLIGHTSTATS' logo. Below this, a header bar indicates 'Beijing Capital International Airport - Departures' and a time range 'Today 3:00 p.m. - 5:00 p.m.'. The main content is a table of flight information with columns: City, Airline, Flight, Time, Terminal, Gate, and Status. The table lists various flights to and from cities like Chengdu, Chicago, Chongqing, and Dalian, including airlines such as ANA, Shenzhen Airlines, Sichuan Airlines, United Airlines, US Airways, Air China, and China Southern. The status column shows icons and text like 'Canceled', 'Arrived', and 'En Route'. At the bottom, there is a navigation bar with icons for Departures, Arrivals, Airport Tracker, Services, Top Talk, Terminal Maps, and Airport Info.

City	Airline	Flight	Time	Terminal	Gate	Status
Chengdu	ANA - All Nippon...	5780	3:00 PM	3		Canceled
Chengdu	Shenzhen Airlines	4116	3:00 PM	3		Canceled
Chengdu	Sichuan Airlines	8886	3:20 PM	3		Arrived
Chicago	United Airlines	850	4:10 PM	3	E29	Arrived
Chicago	US Airways	6692	4:10 PM	3	E29	Arrived
Chicago	Air China Internatio...	7201	4:10 PM	3	E29	Arrived
Chongqing	Air China Internatio...	1435	4:30 PM	3		Arrived
Chongqing	Shenzhen Airlines	1435	4:30 PM	3		Arrived
Chongqing	Air China Internatio...	1409	3:30 PM	3		Arrived
Chongqing	Shenzhen Airlines	1409	3:30 PM	3		Arrived
Chongqing	ANA - All Nippon...	5792	3:30 PM	3		Arrived
Dalian	China Southern	6122	3:50 PM	2		En Route
Dalian	China Eastern Airli...	3079	3:50 PM	2		En Route
Dalian	Air China Internatio...	8906	4:35 PM	3		Arrived



# FlightStats TDM (Trip Disruption Management)



## Global Search

Search by record locator, name, or email

## VIP Indicators

Star indicates VIP Traveler

## Account Stats

High-level stats on Disruption Factor, PNR Load, Airport Delays





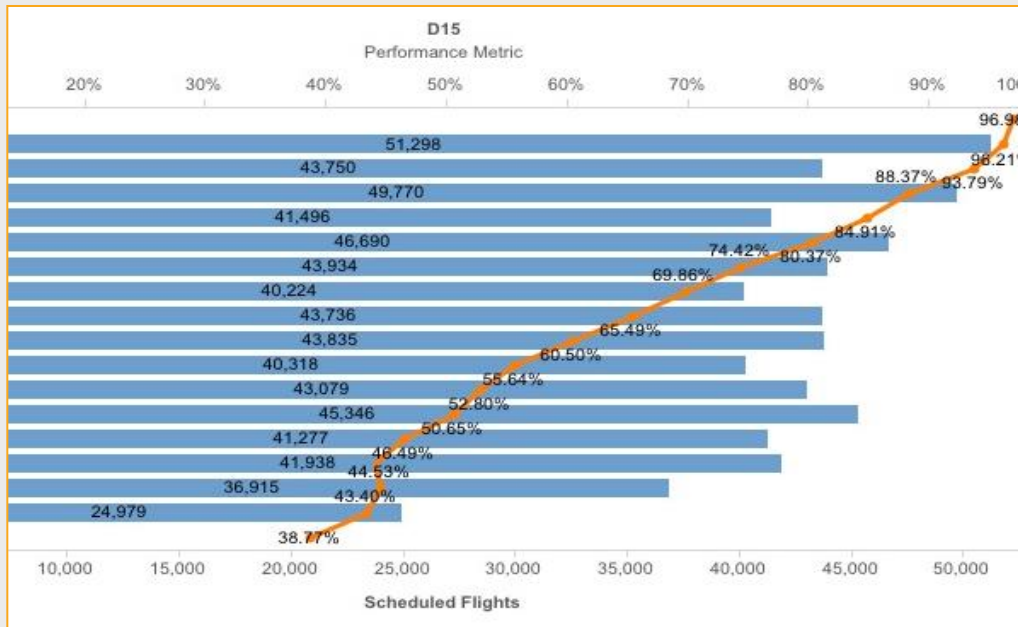
# FlightStats Data Services

## Analytic Use Cases

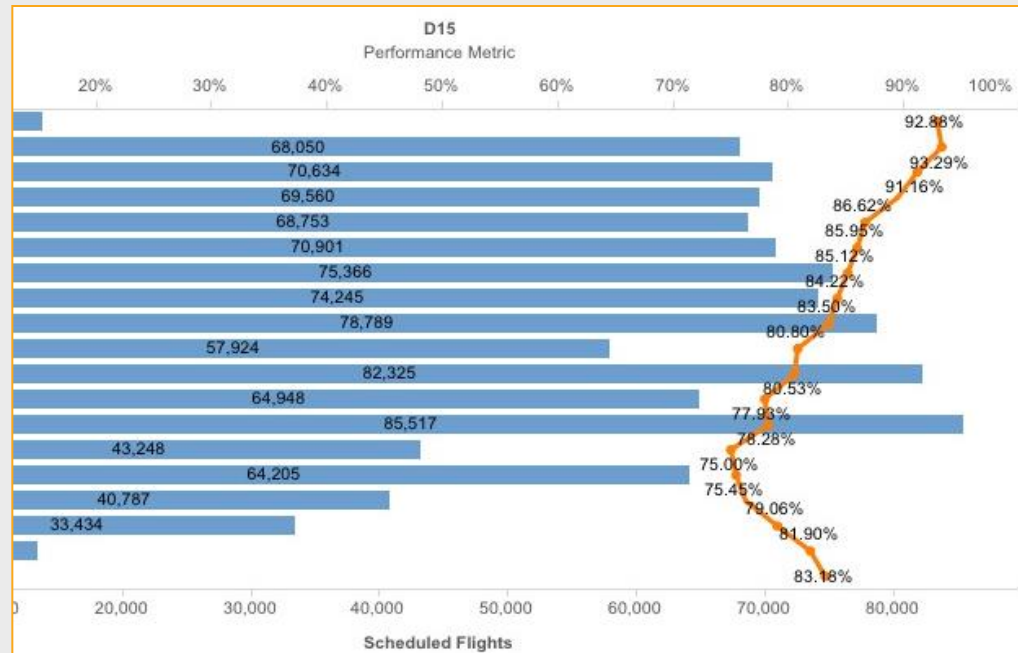


# Network performance by time of day - airlines

## Low Cost – Point to Point Network

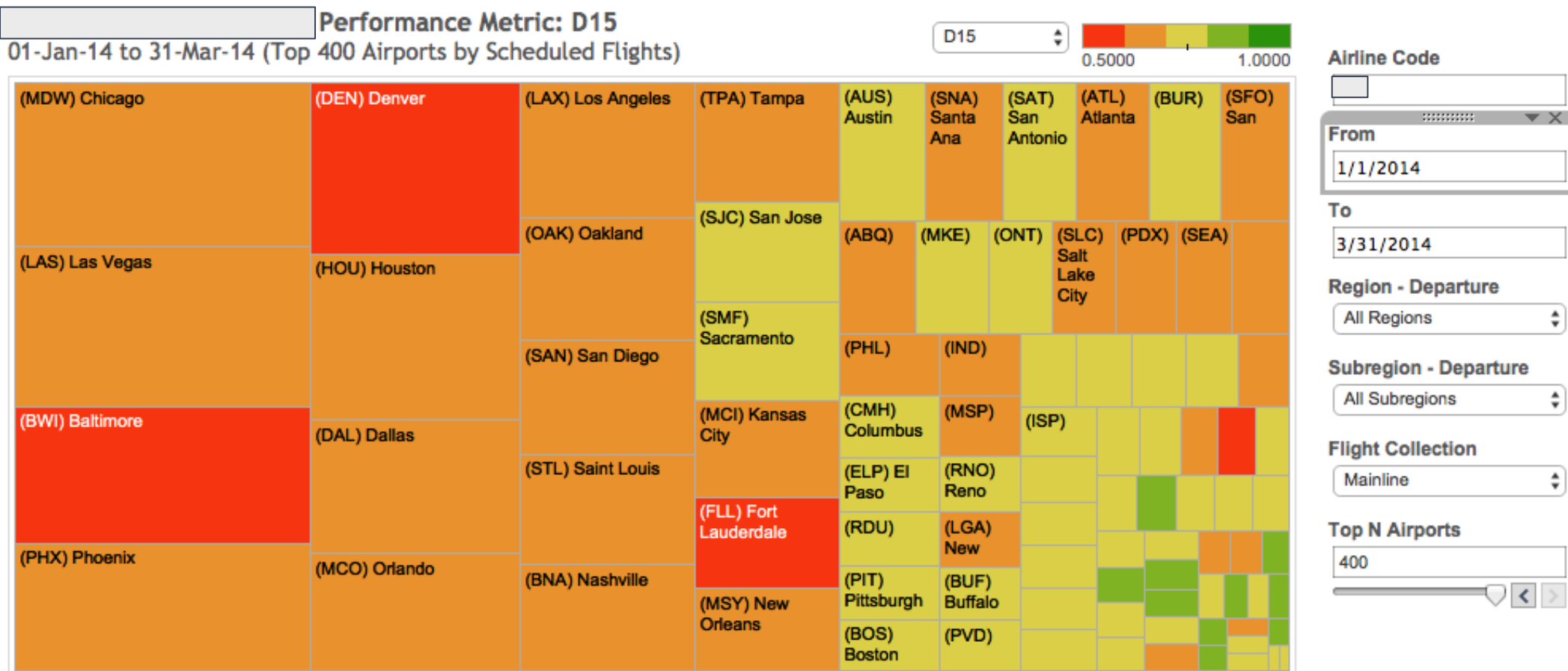


## Major – Hub and Spoke Network



# Airline departure performance by airport

## Departure Performance by Airport - All Regions, Mainline Flights



		Fligh...	Tracked	Comp Rate	cancel	divert	D0	D5	D14	D15	D30	B0
MDW	Chicago, IL, US	17,872	0.9368	0.9207	1,293	35	0.2499	0.4042	0.5910	0.6076	0.7820	0.7011
LAS	Las Vegas, NV, US	17,496	0.9399	0.9873	187	22	0.2948	0.4409	0.6164	0.6320	0.7916	0.8106
BWI	Baltimore, MD, US	14,929	0.9482	0.9497	670	42	0.2644	0.3988	0.5743	0.5937	0.7636	0.6830
PHX	Phoenix, AZ, US	13,941	0.9360	0.9886	127	22	0.2702	0.4323	0.6199	0.6347	0.8011	0.7398
DEN	Denver, CO, US	13,308	0.9463	0.9846	172	22	0.2109	0.3535	0.5473	0.5635	0.7556	0.7351

# Departure Performance Multiple Airlines by airport

## Departure Performance

Departure Airport

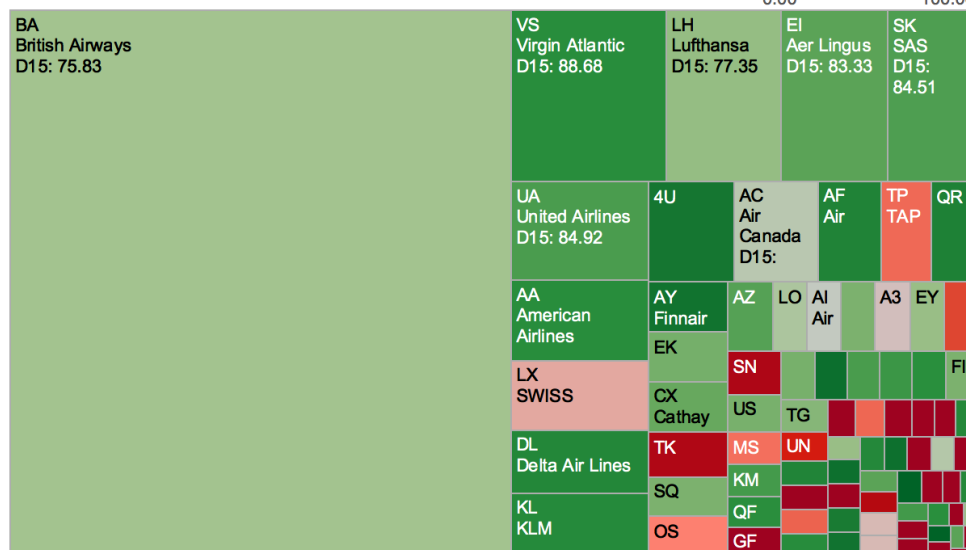
LHR

Departure Date

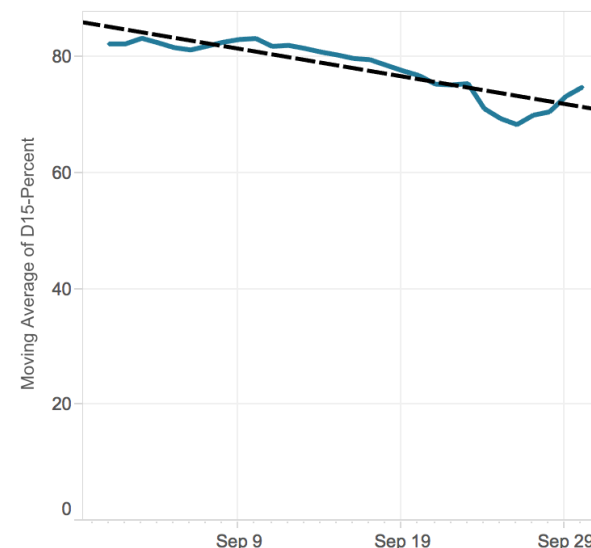
Previous month



### Departure Performance (D15) Sized By Number of Flights



### Seven Day D15 Moving Avg - All



### Detailed Airline Performance

Airline Code	Carrier Short N..	Flights	Seats	Market%	Tracked	Cov%	Cancel	CF%	D0%	D5%	D15%	D30%
BA	British Airways	10,306	1,901,876	47.33%	10,099	97.99	14	99.86	37.14	50.07	75.83	89.99
VS	Virgin Atlantic	1,003	274,496	6.83%	319	31.80	1	99.69	68.87	72.64	88.68	94.97
AA	American Airlines	420	119,160	2.97%	418	99.52	2	99.52	69.95	81.49	88.70	93.99
EI	Aer Lingus	686	116,004	2.89%	686	100.00	2	99.71	52.49	67.40	83.33	94.15
UA	United Airlines	510	113,760	2.83%	510	100.00	6	98.82	56.94	73.61	84.92	92.46
LH	Lufthansa	742	109,726	2.73%	740	99.73	7	99.05	25.24	49.52	77.35	91.81
SK	SAS	586	92,265	2.30%	585	99.83	4	99.32	52.50	69.02	84.51	96.21
AC	Air Canada	322	84,825	2.11%	319	99.07	0	99.37	33.44	51.74	72.56	85.80
DL	Delta Air Lines	330	77,514	1.93%	299	90.61	0	100.00	76.59	83.28	90.30	93.31
EK	Emirates	150	76,350	1.90%	149	99.33	0	100.00	44.97	63.76	80.54	91.28
LX	SWISS	360	58,801	1.46%	359	99.72	2	99.44	27.45	40.06	63.31	84.31
QR	Qatar Airways	180	49,520	1.23%	174	96.67	1	99.43	49.71	74.57	91.91	96.53
4U	Germanwings	224	47,872	1.18%	224	74.30	0	100.00	38.10	67.07	84.84	100.00

© 2014 FlightStats, Inc.

<http://www.flightstats.com>

# Arrival Performance

## Arrival Performance

Arrival Airport

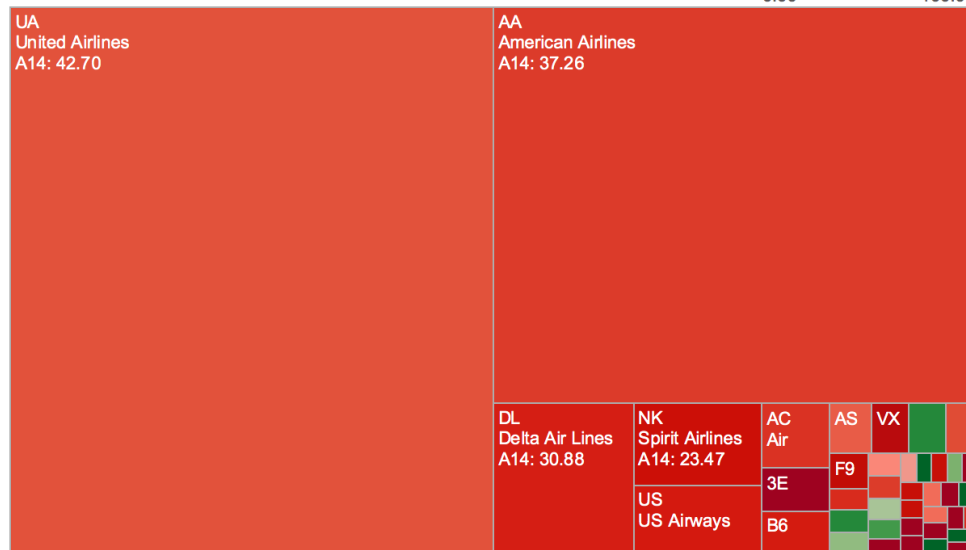
ORD

Arrival Date

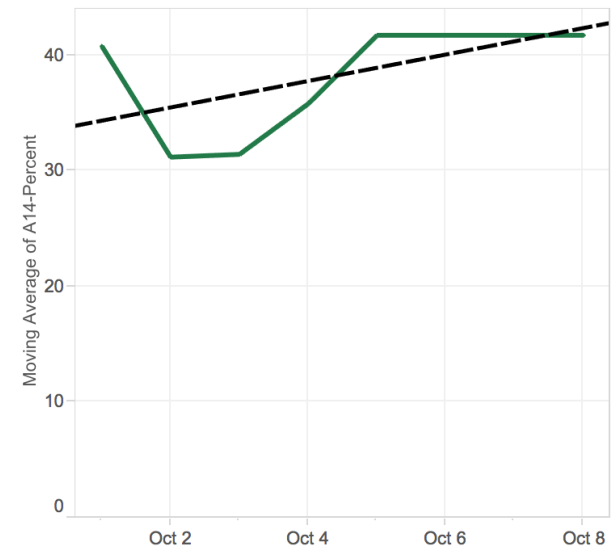
This month



### Arrival Performance (A14) Sized by Number of Flights



### Seven Day A14 Moving Avg - All



### Detailed Airline Performance

Airline Code	Carrier Short Name	Flights	Seats	Market%	Tracked	Cov%	Cancel	CF%	A0%	A5%	A14%	A30%
UA	United Airlines	4,403	377,036	43.36%	2,807	63.75	275	89.99	21.85	29.73	42.72	56.89
AA	American Airlines	3,206	309,638	35.61%	2,064	64.38	250	87.89	18.63	25.30	37.27	54.47
DL	Delta Air Lines	353	35,718	4.11%	219	62.04	15	93.15	12.75	20.10	30.88	45.59
NK	Spirit Airlines	173	28,418	3.27%	107	61.85	9	91.59	14.29	20.41	23.47	37.76
US	US Airways	146	25,435	2.92%	94	64.38	6	93.62	11.36	15.91	29.55	51.14
AC	Air Canada	72	5,256	0.60%	45	62.50	4	88.89	17.50	27.50	35.00	62.50
3E	Air Choice One	48	528	0.06%	0	0.00	0					
B6	JetBlue Airways	48	5,850	0.67%	31	64.58	1	96.77	13.33	16.67	30.00	53.33
AS	Alaska Airlines	36	5,730	0.66%	22	61.11	0	100.00	31.82	36.36	45.45	54.55
VX	Virgin America	31	4,589	0.53%	17	54.84	0	100.00	5.88	5.88	11.76	17.65
AM	Aeromexico	30	4,390	0.50%	20	66.67	0	100.00	70.00	80.00	90.00	100.00
LH	Lufthansa	26	5,747	0.66%	17	65.38	0	100.00	17.65	29.41	41.18	82.35
F9	Frontier Airlines	22	2,468	0.40%	12	54.55	0	100.00	8.33	8.33	16.67	50.00

© 2014 FlightStats, Inc.

<http://www.flightstats.com>

# Departures

## Hourly Scheduled & Actual Departures



Departure Airport

Departure Date

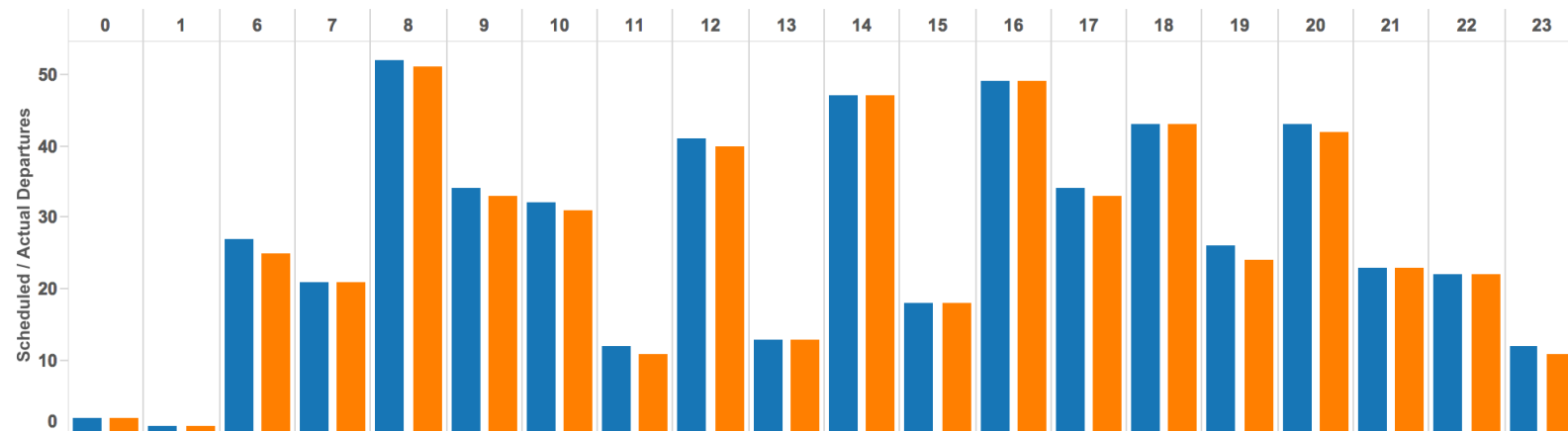
YYZ

Yesterday

Hourly Departures: (YYZ) Pearson International Airport

Airline Filter: All

Flights  
Actual Departures



### Detailed Airline Performance (Click to filter by airline)

Airline Code	Carrier Short N..	Flights	Seats	Market%	Tracked	Cov%	Cancel	CF%	D0%	D5%	D15%	D30%
AC	Air Canada	341	34,397	56.02%	338	99.12	4	98.52	64.26	72.97	85.29	92.19
WS	WestJet	91	12,341	20.10%	87	95.60	0	100.00	63.22	79.31	88.51	89.66
AA	American Airlines	26	2,440	3.97%	26	100.00	4	84.62	36.36	54.55	54.55	72.73
DL	Delta Air Lines	24	1,486	2.42%	24	100.00	0	100.00	75.00	79.17	87.50	91.67
UA	United Airlines	23	1,649	2.69%	23	100.00	1	95.65	63.64	68.18	100.00	100.00
US	US Airways	13	770	1.25%	13	100.00	0	100.00	61.54	76.92	84.62	84.62
TS	Air Transat	7	1,796	2.93%	0	0.00	0					
SWG	Sunwing	4	680	1.11%	0	0.00	0					
BA	British Airways	2	473	0.77%	2	100.00	0	100.00	100.00	100.00	100.00	100.00
KL	KLM	2	704	1.15%	2	100.00	0	100.00	100.00	100.00	100.00	100.00
LH	Lufthansa	2	578	0.94%	2	100.00	0	100.00	0.00	0.00	100.00	100.00
9W	Jet Airways (India)	1	265	0.43%	1	100.00	0	100.00	100.00	100.00	100.00	100.00
AF	Air France	1	247	0.40%	1	100.00	0	100.00	0.00	0.00	0.00	0.00
AV	AVIANCA	1	150	0.24%	1	100.00	0	100.00	100.00	100.00	100.00	100.00
AZ	Alitalia	1	224	0.36%	1	100.00	0	100.00	100.00	100.00	100.00	100.00
BW	Caribbean Airlines	1	170	0.28%	0	0.00	0					

© 2014 FlightStats, Inc.

<http://www.flightstats.com>

# Inbound Route performance

## Inbound Route Performance

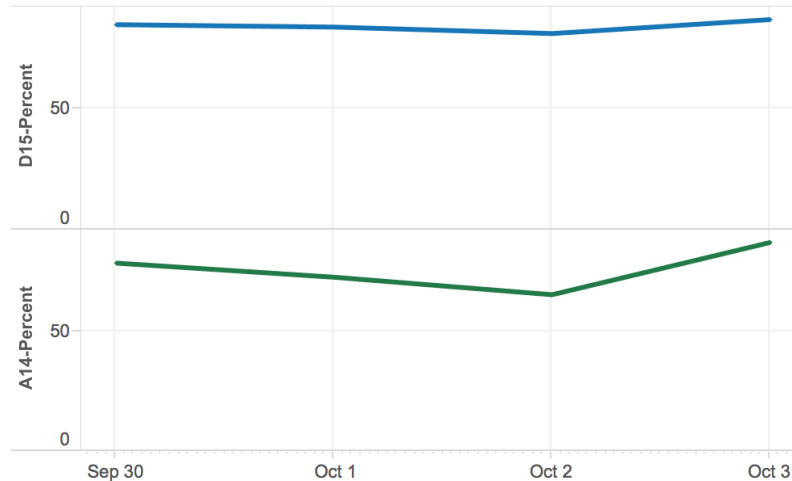
Airport Code

JFK

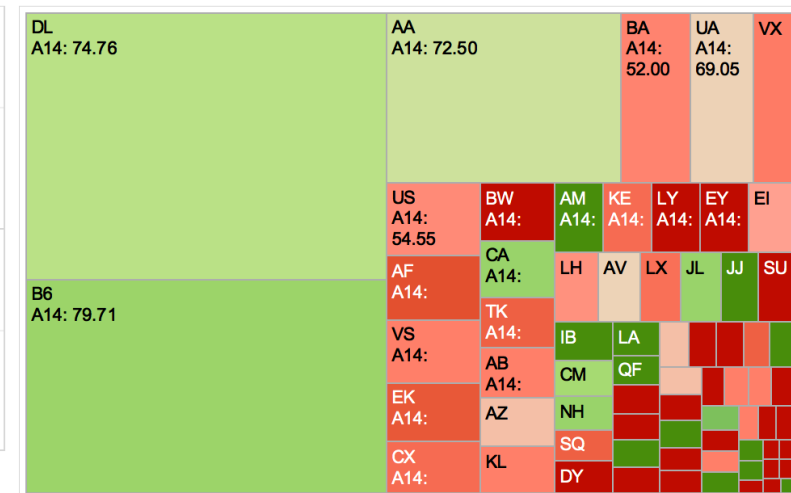
Arrival Date

Last 3 days

### D15 & A14 Performance - All



### Market Share & A14



### Detailed Performance (Click to filter by airline)

Airline Code	Carrier Short Name	Route	Flights	Seats	Market%	Tracked	Cov%	Cancel	CF%	D15%	A14%	B0%	Avg. Dep Delay	Avg. Arr Delay
DL	Delta Air Lines	ACC -> JFK	2	422	0.15%	2	100.00	0	100.00	100.00	100.00	100.00	3.00	-16.50
		BDA -> JFK	1	126	0.05%	1	100.00	0	100.00	100.00	100.00	100.00	-10.00	-23.00
		BRU -> JFK	3	667	0.24%	3	100.00	0	100.00	66.67	100.00	100.00	4.33	-5.67
		DKR -> JFK	1	183	0.07%	1	100.00	0	100.00	100.00	0.00	0.00	1.00	28.00
		PRG -> JFK	1	211	0.08%	1	100.00	0	100.00	100.00	100.00	0.00	-6.00	4.00
		SAT -> JFK	3	504	0.18%	3	100.00	0	100.00	100.00	100.00	66.67	-4.33	-10.00
		TLV -> JFK	3	1,179	0.43%	3	100.00	0	100.00	100.00	100.00	100.00	-4.33	-13.33
		DUB -> JFK	3	549	0.20%	3	100.00	0	100.00	100.00	100.00	33.33	3.33	-1.67
		RIC -> JFK	9	450	0.16%	8	88.89	0	100.00	87.50	100.00	87.50	-2.00	-8.63
		YUL -> JFK	9	450	0.16%	8	88.89	0	100.00	100.00	100.00	87.50	0.63	-10.63
		BOG -> JFK	1	128	0.05%	1	100.00	0	100.00	100.00	0.00	0.00	12.00	16.00
		FCO -> JFK	3	894	0.33%	2	66.67	0	100.00	100.00	50.00	0.00	-4.33	18.50
		ROC -> JFK	9	450	0.16%	8	88.89	0	100.00	100.00	100.00	50.00	-7.50	-8.38
		BOS -> JFK	18	1,920	0.70%	15	83.33	0	100.00	66.67	60.00	53.33	13.33	17.87
		DCA -> JFK	0	0	0.00%	0	0.00	0	100.00	0.00	0.00	0.00	0.00	0.00

© 2014 FlightStats, Inc.

<http://www.flightstats.com>



# Gate utilization

## Gate Utilization

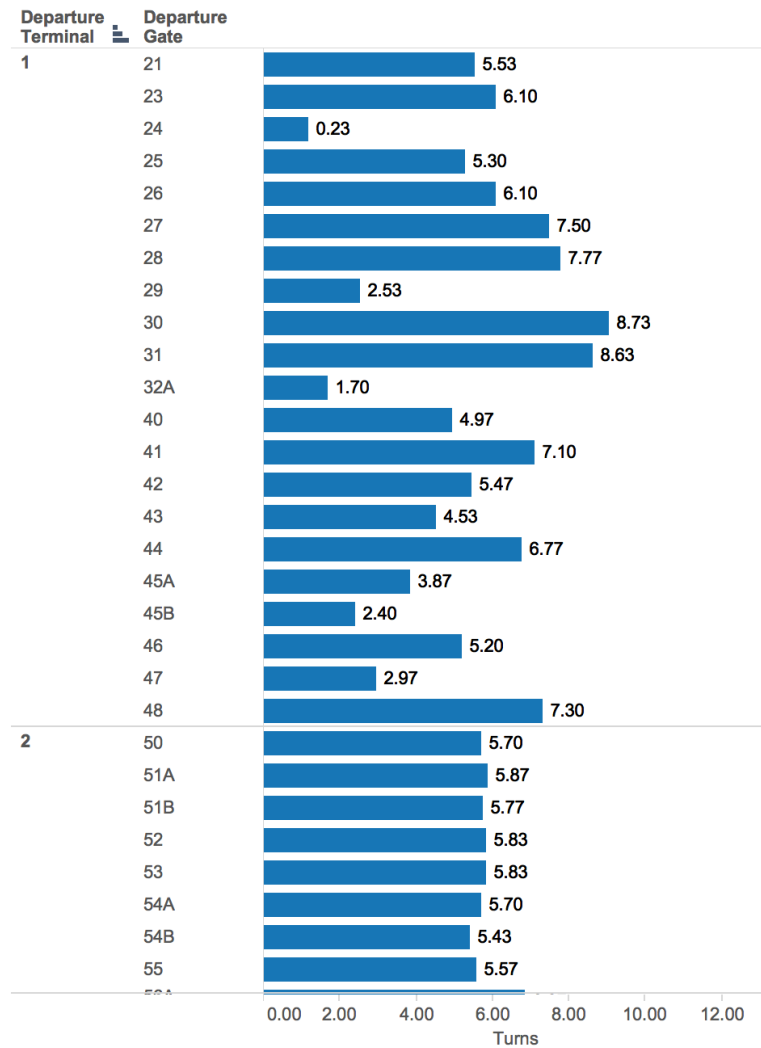
Airport Code

SFO

Departure Date

Last 30 days

### Utilization by Terminal & Gate



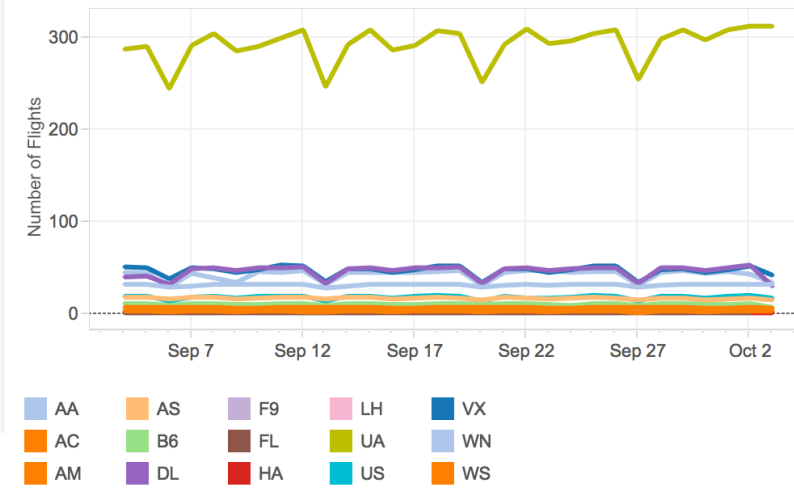
© 2014 FlightStats, Inc.



### Airline Turn Summary (Click to filter by airline)

Marketing Airline	Carrier Short Name	Flights	Avg Daily Turns
UA	United Airlines	8,804	293.47
VX	Virgin America	1,413	47.10
DL	Delta Air Lines	1,381	46.03
WN	Southwest Airlines	1,236	41.20
AA	American Airlines	940	31.33
US	US Airways	539	17.97
AS	Alaska Airlines	507	16.90
B6	JetBlue Airways	310	10.33
AC	Air Canada	201	6.70
F9	Frontier Airlines	136	4.53
AM	Aeromexico	80	2.67
WS	WestJet	60	2.00
HA	Hawaiian Airlines	30	1.00
FL	AirTran	29	0.97

### Daily Flights At Selected Terminal & Gates



<http://www.flightstats.com>

# Questions & Discussion

Jim Hetzel  
**Thank you**

Vice President

FlightStats, Inc.  
jhetzel@flightstats.com