



Downtime for international airline websites

April 2009

This is a survey of the availability (uptime) of the websites of 42 international airlines. The survey took place over a period of four months and includes the accumulated downtime of each website, a look at the longest outages, and uptime percentages for all included websites.

Contents

Introduction	3
Why high availability is important to airline websites	4
Key findings	5
Uptime distribution chart	6
Airline website downtime chart	7
The longest continuous outages	8
Conclusion	9
Methodology	10
Appendix: Summary table.....	12

Introduction

Airlines have an ever-growing presence on the Web. Many airlines today rely on websites for booking and selling flight tickets, providing customer information and other important updates about the company.

International airlines also have the added responsibility of making sure that their websites are useful and available around the clock since their customers are spread worldwide. Customers will be affected no matter what time of day any downtime occurs. Since these websites are highly important to both the airlines themselves as well as to their customers, it is vital that downtime is minimized.

This report looks at the site uptime (availability) of the websites of 42 international airlines during a four-month period.

Also examined are the lengths of individual outages as well as looking at the websites as a group, the latter giving us an indication of how airlines in general are handling their websites.

The airlines included in this report are (in alphabetical order): Aeroflot, Air India, Air New Zealand, Air Pacific, AirFrance, American Airlines, ANA Sky, Asiana Airlines, Atlasjet, Bahamas Air, British Airways, Cayman Airways, China Eastern, China Southern, ChinaAirlines, Corsairfly, EasyJet, Egyptair, Eva Air, Finnair, Frontier, German Wings, Japan Airlines, JetBlue, KLM, Korean Air, Lufthansa, NWA, Open Skies, RyanAir, SAS, Sky Europe, Skynet Asia, Skywest, South African Airways, Southwest, Spanair, SwissAir, Thai Air, United, US Airways, and Virgin Blue.

Details about exactly which URLs have been monitored for each company website is available in the appendix to this report.

Note that this is not a complete list of all airlines in the world (which would be a very large list), but what we feel is a representative and relevant subset to make observations from.

Why high availability is important to airline websites

High availability is important to all websites, and the airline websites are no exception. They are an important source of information for the airlines' customers as well as a source of income for the airlines themselves (via bookings, sales, etc).

Here are some of the reasons why website uptime really matters to airlines.

- **Global user base** – There simply is no “in the middle of the night” on the Web¹. Downtime at 4 a.m. on the US East Coast may not bother most American site visitors, but that is 10 a.m. in central Europe, and 8 p.m. in Sydney, Australia.
- **Time-critical service** – When a customer visits the website to check or make reservations, or check other information about his/her trip, it is very possible that this customer only has a limited time to do so. If the website is down, this becomes a real problem.
- **Reputation** – Visiting a website and finding it down is never a good experience, and often creates frustration. The more frequently this happens, the more this will affect the reputation of the airline.
- **Lost customers** – Nine out of ten website visitors would switch to a competitor's website if a company's website fails to load, according to a survey by 1&1². With this in mind, the effect of frequent outages can be very detrimental to a company.
- **Lost ticket sales** – A report by Akamai and Jupiter Research has shown that 28% of online shoppers will not wait longer than four seconds for a web page to load before leaving³. Looking at broadband Internet users alone, the number is even higher. A full one third of those abandon a web page if it takes longer than four seconds to load. Needless to say, if a site is down, 100% of the site visitors are turned away. It's the equivalent of locking the door to the store.
- **Investor relations** – Many of the companies in this survey include information for investors on their homepage, and this information should always be available. If it isn't, it could be a breach of local stock exchange regulations (depending on the rules where the company is listed).

¹ <http://royal.pingdom.com/2007/04/27/there-is-no-%E2%80%9Cin-the-middle-of-the-night%E2%80%9D-on-the-web/>

² <http://press.1and1.co.uk/index.php?&page=press&mode=displayDetail&id=424>

³ http://www.akamai.com/dl/reports/Site_Abandonment_Final_Report.pdf

Key findings

There are a lot of observations to be made when analyzing the data from the uptime monitoring we performed during the four months this survey took place (19 November 2008 – 19 March 2009, 121 days). Here below are some of the key findings regarding website availability for international airlines.

- The average uptime for the entire group of 42 websites was 99.49%, which over the monitored time period accounts for an accumulated 14 hours and 50 minutes of downtime per website. Over a year, a 99.49% uptime would result in more than 44 hours of downtime. It should be mentioned that this is worse than the average for websites on the Internet, which hovers around 99.6-99.7% uptime.
- Only 13 websites (31%) had a 99.9% uptime or better: KLM (99.99%), United (99.98%), Japan Airlines (99.98%), Frontier (99.98%), Virgin Blue (99.96%), Open Skies (99.95%), Skynet Asia (99.95%), British Airways (99.94%), ANA Sky (99.94%), Air France (99.93%), NWA (99.92%), Eva Air (99.92%), Southwest (99.91%). American Airlines was close to enter this list, with 99.89% uptime.
- 26 out of 42 (62%) had poorer than 99.8% uptime, which is what we consider the minimum acceptable limit for such important websites.
- 5 out of 42 (12%) had more than 24 hours of accumulated downtime during this four-month period.
- 14 out of 42 (33%) had had continuous website outages lasting more than one hour. Two of these websites had had continuous outages lasting more than 13 hours.
- Among the websites that ended up below a 99.8% uptime, frequent short outages were the most common problem.

We consider 99.8% to be the minimum required uptime for websites of this importance. Pingdom has extensive experience of website uptime monitoring (our service monitors in excess of 35,000 websites) and we know that this is achievable by professional websites run by companies with far less resources than airlines.

A 99.8% uptime means that a website can be unavailable for a total of 1 hour and 26 minutes per month (30 days), or put in another way, 17 hours and 31 minutes in a year. This should be enough time to cover any maintenance needs, and a quick reaction time when there is a problem with the website can minimize any other downtime to acceptable limits.

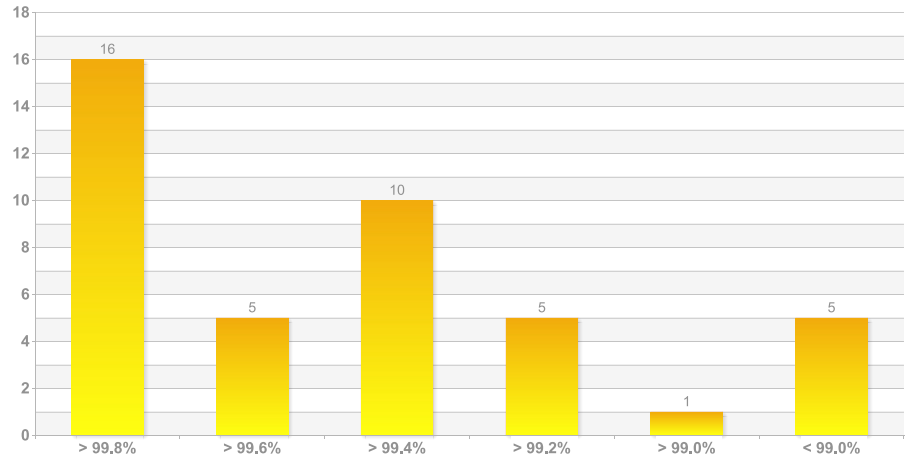
Ideally, the aim for websites this important should be to consistently stay above a 99.9% uptime (half the amount of downtime compared to 99.8%), which is something that organizations with good resources (like airlines) should be able to manage.

Uptime distribution chart

Here below is the distribution of the 42 websites in this survey sorted into “uptime brackets”, i.e. from 99.8-100%, 99.6-99.79%, etc. (For more information about how much downtime these percentages involve, you can use the Pingdom uptime/downtime conversion cheat sheet¹.)

¹ http://royal.pingdom.com/royalfiles/pingdom_uptime_cheat_sheet.pdf

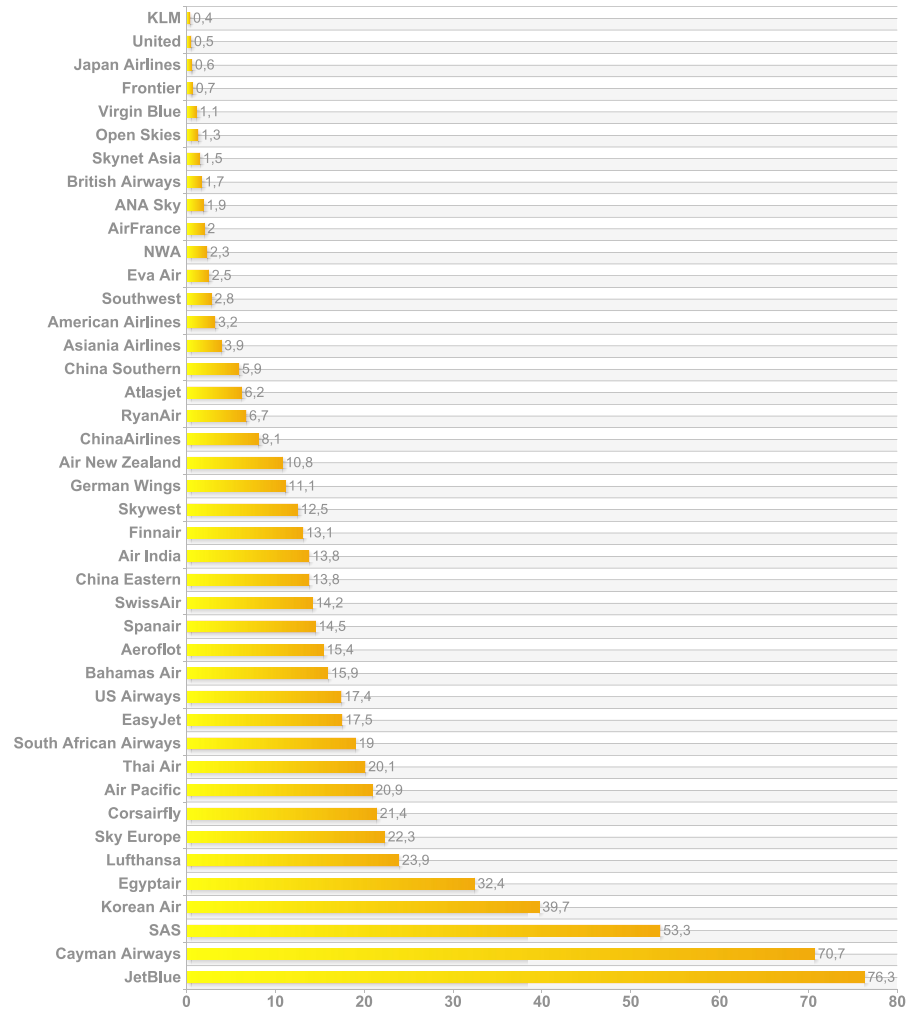
Website uptime distribution



Airline website downtime chart

Details on exactly which websites (URLs) were monitored is available in the summary table in the appendix of this report. Note that some airlines have more than one website, but this survey focused on (where possible) the international website.

This is the accumulated amount of downtime each website had during the period, 19 November 2008 – 19 March 2009 (121 days):

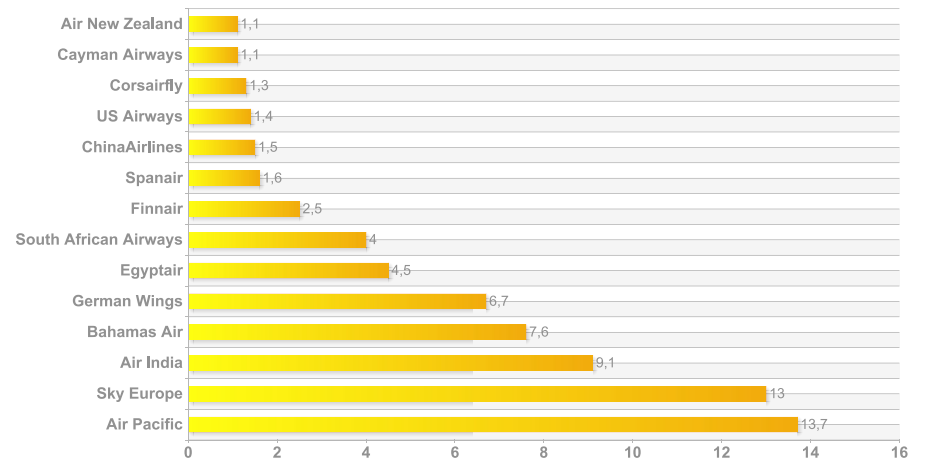


Hours of website downtime
19 November 2008 - 19 March 2009

The longest continuous outages

While many of the websites suffered from many short periods of downtime, 14 of the 42 websites also had outages lasting in excess of one hour. We have listed these below.

Longest continuous outage (hours)
19 November 2008 - 19 March 2009



Conclusion

While many of the websites included in this survey performed admirably (especially those with a 99.9% uptime or better), the average uptime across the 42 included airline websites was significantly below the overall average uptime of what websites on the Internet. This is surprising, considering that these are websites run by large corporations with plenty of resources.

If you also take into consideration how important these websites are both to the airlines themselves and to their customers, it becomes all the more surprising that they are not more reliable.

Methodology

¹ <http://www.pingdom.com/>

All the monitoring was done using the Pingdom uptime monitoring service¹, which tests sites from multiple locations in both Europe and North America.

All monitoring was done by loading the homepage for each website.

Tests were performed every minute, around the clock.

The criteria for counting a website as down were as follows:

- If the site was unreachable.
- If the web page could not load within 30 seconds (only the HTML part of the page).
- If the web page responded with an HTTP error, for example HTTP error 404 (page not found) or 500 (internal server error).
- Downtime had to be confirmed from two different locations for it to count.

A side effect of these criteria is that some downtime due to maintenance may have been missed, if the site put up a replacement page that could be loaded in combination with not reporting an HTTP error. This can normally be worked around by checking for specific strings on a page, but due to the more general monitoring done here this was outside the scope of this survey.

About this report

This report was created entirely by Pingdom. All monitoring was done using Pingdom's own monitoring network, using separately set up monitoring of the websites involved. No data from any customer accounts has been used.

This is an open report. We encourage you to share it, but if you quote its content, please credit Pingdom as the source, preferably with a link to www.pingdom.com. Thank you.

If you have any questions regarding this report, please don't hesitate to contact us at: info@pingdom.com

About Pingdom

Pingdom is an uptime monitoring service headquartered in Sweden. The service makes it possible for its customers to monitor the availability and response time of websites and servers on the Internet from multiple locations across the world.

The resulting monitoring data can be analyzed online with the help of various reports, and users can receive alerts via email and SMS as soon as errors are detected, for example when a website becomes unreachable.

Pingdom has customers in 131 countries, and is one of the fastest growing and most popular uptime monitoring services in the world.

Visit us at: www.pingdom.com

Disclaimer

This report comes with no warranty. The information in this report is delivered to you as is and Pingdom makes no warranty as to its accuracy or use. Inaccuracies as a result of typographical or other errors are possible.

Appendix

Company	Monitored website	Uptime %	Downtime	Longest continuous outage (mins)
Aeroflot	http://www.aeroflot.ru/	99.47%	15h 25m	18
Air India	http://www.airindia.in/	99.53%	13h 46m	543
Air New Zealand	http://www.airnewzealand.com/	99.63%	10h 49m	63
Air Pacific	http://www.airpacific.com/	99.28%	20h 52m	820
AirChina	Website monitoring was blocked.			
AirFrance	http://www.airfrance.fr/	99.93%	1h 59m	6
American Airlines	http://www.aa.com/	99.89%	3h 11m	9
ANA Sky	http://www.ana.co.jp/	99.94%	1h 53m	2
Asiana Airlines	http://flyasiana.com/	99.87%	3h 54m	17
Atlasjet	http://www.atlasjet.com/	99.79%	6h 11m	3
Bahamas Air	http://up.bahamasair.com/	99.45%	15h 54m	455
British Airways	http://www.britishairways.com	99.94%	1h 42m	3
Cayman Airways	http://www.caymanairways.com/	97.56%	2d 22h 43m	63
China Eastern	http://www.flychinaeastern.com/	99.52%	13h 48m	34
China Southern	http://www.flychinasouthern.com/	99.80%	5h 54m	3
ChinaAirlines	http://www.china-airlines.com/	99.72%	8h 8m	90
Corsairfly	http://www.corsairfly.com/	99.26%	21h 22m	79
Delta	Website monitoring was blocked.			
EasyJet	http://www.easyjet.com/	99.40%	17h 28m	2
Egyptair	http://www.egyptair.com/	98.88%	1d 8h 26m	272
Eva Air	http://www.evaair.com/	99.92%	2h 27m	24
Finnair	http://www.finnair.fi/	99.55%	13h 5m	151
Frontier	http://www.frontierairlines.com/	99.98%	43m	3
German Wings	http://www.germanwings.com/	99.62%	11h 7m	402
Japan Airlines	http://www.ar.jal.com/	99.98%	35m	1
JetBlue	http://www.jetblue.com/	97.37%	3d 4h 18m	11
KLM	http://www.klm.com/	99.99%	22m	1
Korean Air	http://www.koreanair.com/	98.63%	1d 15h 40m	30
Lufthansa	http://www.lufthansa.com/	99.18%	23h 54m	21
NWA	http://www.nwa.com/	99.92%	2h 18m	3
Open Skies	http://www.flyopenskies.com/	99.95%	1h 18m	10
RyanAir	http://www.ryanair.com/	99.77%	6h 40m	22
SAS	http://www.flysas.com/	98.16%	2d 5h 18m	10
Sky Europe	http://www.skyeurope.com/	99.23%	22h 19m	780
Skynet Asia	http://www.skynetasia.co.jp/	99.95%	1h 31m	2
Skywest	http://www.skywest.com.au/	99.57%	12h 28m	17
South African Airways	http://www.flysaa.com/	99.34%	19h 1m	241
Southwest	http://www.southwest.com/	99.91%	2h 45m	16
Spanair	http://www.spanair.com/	99.50%	14h 29m	97
SwissAir	http://www.swiss.com/	99.51%	14h 9m	14
Thai Air	http://www.thaiair.com/	99.31%	20h 5m	33
United	http://www.united.com/	99.98%	28m	2
US Airways	http://www.usairways.com/	99.40%	17h 24m	84
Virgin Blue	http://www.virginblue.com.au/	99.96%	1h 6m	2

Summary table