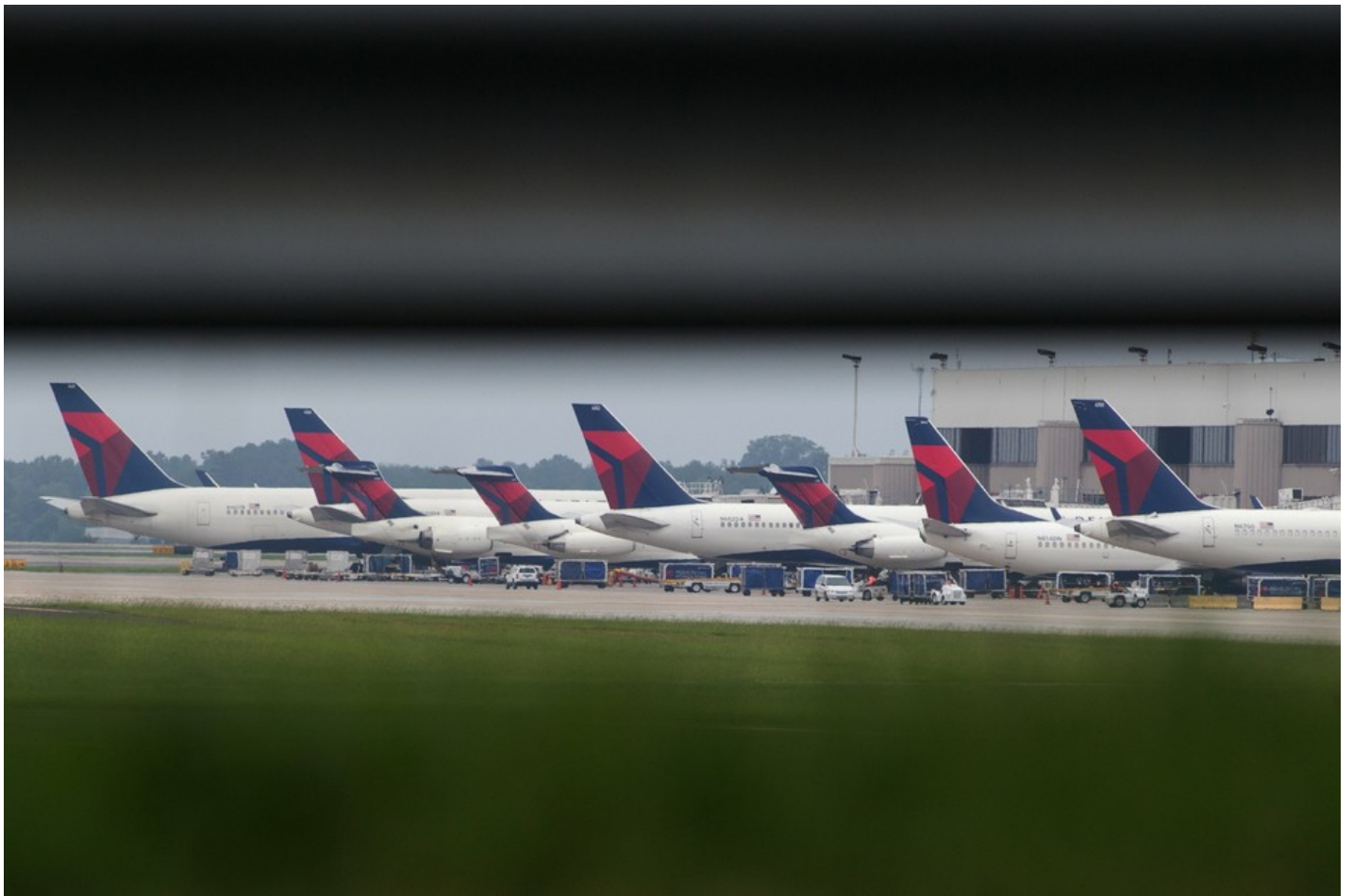


Delta Meltdown Reflects Problems With Aging Technology

U.S. carrier says power outage in Atlanta disrupted its systems world-wide







Time	Status
9:07A	Now At 9:37 AM
9:19A	Now At 9:06 AM
10:48A	Now At 10:37 AM
10:02A	Cancelled
6:58A	Now At 9:03 AM
8:13A	Now At 9:50 AM
9:16A	Now At 10:47 AM
9:20A	Now At 9:25 AM
10:22A	Now At 10:26 AM
10:23A	Now At 12:50 PM
10:23A	Now At 10:22 AM



fullscreen

Passengers in the Delta Airlines boarding area at McCarran International Airport in Las Vegas wait after Delta Airlines flights were delayed by a computer-systems failure. *Bree Fowler/Associated Press*

By

Susan Carey

Updated Aug. 8, 2016 8:25 p.m. ET

A power outage at [Delta Air Lines](#) Inc. [grounded thousands of passengers](#) world-wide during the height of the summer travel season, wreaking havoc on the carrier's reservations system and drawing attention to antiquated technology that has plagued many airlines.

The Monday morning outage [canceled hundreds of flights](#) and snarled Delta's efforts to alert passengers to the problems via its apps and on airline flight-information displays.

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A Delta employee hands out snacks to passengers waiting to check in Monday at Newark airport in New Jersey.

Photo: Reuters

Delta Outage

An electric problem at its Atlanta headquarters occurred at 2:30 a.m. ET and the airline was forced to hold hundreds of departing planes on the ground starting at 5 a.m., according to [Ed Bastian](#), the chief executive, who apologized to customers on a video.

The technical problems likely will cost Delta millions of dollars in lost revenue and damage its hard-won reputation as the most reliable of the major U.S.-based international carriers, having canceled just a handful of flights in the most recent quarter.

The meltdown highlights the vulnerability in Delta's computer system, and raises questions about whether a recent wave of four U.S. airline mergers that created four large carriers controlling 85% of domestic capacity has built companies too large and too reliant on IT systems that date from the 1990s. Delta merged with Northwest Airlines eight years ago.

These systems—which run everything from flight dispatching to crew scheduling, passenger check-in, airport-departure information displays, ticket sales and frequent-flier programs—gradually have been updated but are still vulnerable, IT experts said.

“It could have been a huge domino as a result of the power outage or bringing the system back up,” said Bill Curtis, chief scientist of CAST Research Labs, a French company that analyzes complex IT systems and hasn't done any work for Delta.

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Delta Air Lines has resumed service but struggles to restore its flight schedule after a Monday morning power outage triggered a computer glitch, grounding thousands of flights. WSJ Middle Seat columnist Scott McCartney has the latest on Lunch Break with Tanya Rivero. Photo: Getty

A spokesman for Georgia Power, the Southern Co.-owned electric utility that serves nearly the entire state, said that its technicians responded to Delta's problems early Monday and concluded the issue was a failed "switchgear." That is like a fuse box at home that routes the power in and distributes it throughout the house.

In a statement, Delta said it canceled more than 650 flights, or about 10% of its daily total on Monday. As of 3:40 p.m. ET, it said it operated 2,340 flights of about 6,000 scheduled to fly.

Following the loss of power early Monday, "some critical systems and network equipment didn't switch over to Delta's backup systems," the company said. It is investigating the cause.

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The airline didn't address the broader questions about its technology.

Grounded

Notable recent airline delays

- **August 2012:** United Continental had a two-hour outage that affected 10% of daily flights.
- **April 2013:** American Airlines had a national computer outage that forced it to delay or cancel a third of its daily flights.
- **July 2016:** Southwest Airlines had an outage that forced it to cancel 2,300 flights over four days.

When flights resumed taking off at about 9 a.m. ET, Delta was warning that "large-scale" cancellations were expected to follow during the busy Monday morning rush hour in the U.S. and when passengers had limited options with rival airlines at or near full capacity.

Delta aimed to limit customer backlash, in part by allowing customers [to change their booking](#) at no cost even if their flight wasn't canceled. Still, customers unleashed their frustration, including on social media. On a typical day, there are about 3,600 social conversations involving Delta on Twitter, according to social media analytics firm Networked Insights. On Monday morning, there were 43,000.

Mahesh Ariga, a 45-year-old employee of French consulting company Capgemini, didn't think twice when Delta's website wouldn't let him check in for his 9 a.m. flight from Atlanta to Newark. Only after a kiosk at Atlanta's Hartsfield-Jackson International Airport failed to call up his flight details did he realize he was in for a long day. His flight was delayed four more times.

"Losing a couple hours on a Monday is a big deal, and I'm just hoping these delays don't cascade into the night," said Mr. Ariga.

Neha Singh, a 26-year-old consultant for EMC Corp., arrived just in time for her 9 a.m. flight to Los Angeles from Delta's Minneapolis-St. Paul hub, which Delta's mobile phone app showed was scheduled to depart on time. At the gate, the agent said the flight had been delayed indefinitely.

Judy Olsen, 59 years old, who tried in vain to pull up her flight reservation at a Delta kiosk in the Atlanta airport, said: "My boarding pass was on my phone, and then it wasn't."



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Nonworking Delta kiosks are empty as passengers wait in line to check in at the airport in Atlanta. Photo: Reuters

Delta's problems come on the heels of a computer glitch at [Southwest Airlines Co.](#), the No. 4 U.S. carrier by traffic, which [suffered a computer meltdown](#) on July 20 and ultimately canceled about 2,300 flights during four days.

The problem, caused by a single computer router that malfunctioned at its data center in Dallas, forced the airline to shut the entire system and reboot it, a 12-hour process. The cost was \$5 million to \$10 million, Southwest said.

When Delta moved its 2008 merger partner Northwest Airlines to its system, the transition was smooth. Airlines continually upgrade their technology infrastructure to make it more durable, adding redundant power supplies to their computing centers and other facilities, increasing the number of backup telecom providers, and hiring outside companies that specialize in technology to handle such critical systems as reservations.

But whether it is caused by a power failure or a possum that chews through a power cable, which occurred once in the early 1980s at an American data center in Tulsa, airline computer outages usually cause more problems faster than similar breakdowns in other consumer businesses.

When departing flights can't take off, tie-ups at hub airports follow because gates aren't available for arriving flights. Further delays arise because planes and crews are out of position to follow the published schedule. It can take days for a carrier to recover and get all of its passengers to their destinations.

Gary Leff, a specialist on airline-loyalty programs, said it is a miracle that the systems work so well most times, given that they are legacy systems grafted onto other legacy systems, meaning airlines can't possibly be fully prepared for every circumstance that could cause a problem.

—Robert Wall, Imani Moise, Patrick McGroarty and Suzanne Vranica contributed to this article.

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