

# Continental Airlines



Strategies for  
IT Business Leaders

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# CIO INSIGHT

Ron Anderson-Lehman,  
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# Staying Airborne

At a time when most U.S.-based airlines are courting bankruptcy, Continental is turning to IT to improve customer service and beat the competition. **By Debra D'Agostino**



**W**HEN IT COMES TO AIRLINE TRAVEL IN A POST-SEPT. 11 WORLD, you probably know what to expect: long lines to check luggage, pass through security and change seats; snarky airline employees who may or may not have just lost their pensions; a middle seat; and eight salty peanuts and a stale deli sandwich. And that's on a good day.

Yes, the days of stretching out across three empty seats are over. And so are the eye-popping profits enjoyed by virtually all carriers during the late 1990s, when travel was up and fuel costs were down. Today, soaring oil prices, an antiquated air-traffic-control system and the success of low-cost carriers have conspired to change forever the airline game. In 2005, not one of the big six airlines—American, United, Delta, US Airways, Northwest and Continental—posted a profit. Delta Air Lines Inc. and Northwest Airlines Corp. are bankrupt; United's parent, UAL Corp., and US Airways Group Inc. recently emerged from bankruptcy; and American Airlines's parent, AMR Corp., has just barely dodged it, for now. And while most of the older airlines continue to confuse and annoy customers with restrictions, delays and withering customer service, passengers are increasingly opting to fly with regional, no-frills carriers that have straightforward policies and still-affordable rates.

But not all of the majors have stripped service to the bone. Houston-based Continental Airlines Inc., the fourth-largest airline in the U.S., has actually invested in customer-service improvements, increased its routes, and kept prices steady, all while managing to lose the least money last year. Continental posted a mere \$68 million net loss in calendar year 2005, a lot less than Northwest and Delta, which lost \$2.5 billion and \$3.8 billion, respectively. In fact, many analysts expect Continental to return to

down, feast or famine.” Not surprisingly, Anderson-Lehman says the most recent famine began after Sept. 11, when air travel nearly ground to a halt. Continental trimmed flights by 20 percent and furloughed 12,000 workers, almost one-fifth of its entire workforce (they were eventually rehired). Then came the outbreak of SARS in the spring of 2003, which decimated every airline’s Asia-Pacific business, and “masked the effect that low-cost carriers were having on the industry,” says Anderson-Lehman.

““ We associated a name with a seat on the plane, but that was about the extent of the information we kept.”

—Ron Anderson-Lehman, Vice President and CIO, Continental Airlines Inc.

profitability this year. “Operationally, Continental is doing a terrific job,” says Helene Becker, a transportation analyst at the Benchmark Co. LLC, a New York City brokerage firm.

The company’s strategy is simple: identify and increase the loyalty of Continental’s most valuable customers while luring new, more profitable customers—many of whom do not live in the U.S.—into the fold with top-notch customer service. Straightforward as that might sound, it’s a goal that continues to elude other legacy carriers. To get there, Continental is going beyond the typical airline technology plays such as online check-in and electronic ticketing. It’s relying on a nimble IT department that is creating automated tools, boosting efficiency and sharpening business intelligence to help return the carrier to profitability and make it a favorite among the flying public.

### Worst to First

Continental may be faring better than its competitors, but it certainly hasn’t been immune to the pressures of the day. “The airline business is a roller-coaster ride,” says Continental Vice President and CIO Ron Anderson-Lehman. “It goes up and

To boost revenues and keep the public flying, virtually all carriers (except Continental) cut fares dramatically. The average domestic fare in 2005 was 16 percent less than in 2000. It was a short-term solution that backfired. Though ticket sales did increase—airlines saw record-breaking carrier loads in 2005—so, too, did oil prices.

“The average price of jet fuel rose 137 percent,” between 2000 and 2006, says John Heimlich, chief economist of the Air Transport Association. Fuel that cost 82 cents per gallon in 2000 now goes for \$1.95; and fuel now accounts for as much as 30 percent of an airline’s operating costs (up from 15 percent just two years ago.) As a result, nearly all U.S.-based international carriers have reduced flights, abandoned routes and canceled orders for new planes. Some have even resorted to removing pillows from flights and stripping paint off their planes to reduce weight and conserve fuel.

Continental has yet to resort to such drastic measures—it still serves meals on every flight, and its planes still sport the company logo. In fact, Continental actually expanded its routes last year, by 34 percent, and now serves 288 destinations from its hubs in Newark, N.J., Houston, Cleveland

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| <b>COMPANY PROFILE</b>        |
| Continental Airlines Inc.     |
| <b>Corporate Headquarters</b> |
| Houston, Texas                |
| <b>CIO</b>                    |
| Ron Anderson-Lehman           |
| <b>Revenues</b>               |
| \$11.6 billion (ttm)          |
| <b>Stock Price</b>            |
| \$30.32 (July 6, 2006)        |
| <b>52 week high-low</b>       |
| \$31.03–\$9.03                |

and Guam—more than any other airline in the world. Its commitment to customer service has helped earn the carrier numerous awards, most recently from *Fortune* magazine, which for the third consecutive year named Continental the No. 1 most admired global airline. So how is Continental managing to expand and succeed at the same time its competitors are struggling to keep the lights on?

Finding the answer means looking to the past, when Continental wasn't so highly regarded. In the early 1990s, it ranked at the very bottom of the list of airlines assessed by the U.S. Department of Transportation, and routinely received low marks for customer service. And Continental's IT operations were a mess: Systems were so siloed that it was impossible to track a customer whose itinerary included more than one stop. Some customers took advantage of the disjointed systems by calling different departments with the same complaint—the company had 45 different CRM systems—and requesting compensation from each one. Such fraudulent claims cost the airline roughly \$5 million each year. Worst of all, the carrier had no way to determine who its most important customers were. “We associated a name with a seat on the plane, but that was about the extent of the information we kept,” says Anderson-Lehman.

Company executives knew that the fickle, low-cost consumer would never be their bread and butter—they tend to jump from carrier to carrier to find the cheapest fare, and Continental wasn't about to cut prices. Instead, the company decided to concentrate on attracting a loyal group of frequent fliers who would be willing to pay more for superior customer service. Under the leadership of then CEO Gordon Bethune (he retired in 2004), Continental slowly reinvented itself under a strategy dubbed “Worst to First.” Bethune upgraded the company's fleet of aircraft and reorganized its management structure. (For example, annual bonuses for upper management are now determined by their underlings' assess-

## High-Flying Tech

**New wireless services can improve the customer experience and save the airlines money.**

**B**RYSON MONTELEONE IS FED UP WITH THE POOR CUSTOMER service that has become the norm on U.S. airlines, not just on the ground, but in the air as well. “The service you get on any Asian carrier, in any class, is amazing,” says the managing director at Morten, Beyer & Agnew, a consulting company for the airline industry. “Why do U.S. passengers suffer so much?” The reason, Monteleone says, is because U.S. airlines are focused on the wrong things, like removing pillows to reduce onboard weight.

But there is a way to improve customer satisfaction on the plane and solve the weight issue, says Mike Natale, CTO at Continental Airlines Inc. The key? Wireless. “By removing wires from the cabin monitors and seats, you can actually lighten the weight of the airplane significantly,” Natale says. In fact, of the 34 new planes Continental plans to take possession of in the next two years, ten 787s will be equipped with wireless entertainment systems from Panasonic.

What does that mean for passengers? Well, where there's wireless, there's Internet access. And where there's Internet access, there's a host of possibilities. “My ideal flying experience isn't just to have Internet access on every flight,” says Natale. “I'd like entertainment to be something you can purchase and take with you, like music or a movie you could download to your laptop.” Natale won't disclose specifics, but he says Continental is in talks to offer such services in the near future.

Of course, Continental isn't the only carrier getting in on the wireless game—nor is it the first. In fact, many overseas carriers—including Deutsche Lufthansa AG, Singapore Airlines and Japan Airlines—already offer in-flight Web access. But in the U.S., the Federal Aviation Administration is still studying the effect portable devices have on an airplane's navigation system (a report from RCTA Inc., a nonprofit aviation consortium, is due by the end of the year), and it requires a host of special permits to allow wireless devices onboard commercial aircraft. Then there's the heated debate about exactly what kinds of services will be allowed onboard. Internet access is one thing, but nobody wants to spend five hours sitting next to a chatty teenager gabbing on her cell phone.

Still, Natale is optimistic that wireless services will start rolling out in about 18 months. “This is a very expensive initiative to pull off, and money isn't exactly plentiful in the airline industry right now,” he says. “But this is definitely the vision we have.” —D.D.

ment of their performance—a practice that corporate executives claim greatly eases labor relations.) Bethune launched new service routes, and the ad campaign that has become the company’s mantra: “Work Hard, Fly Right.”

### First to Favorite

By the end of the decade, Continental had significantly improved its reputation, though the carrier still hadn’t addressed the technology issues that limited its ability to learn more about its customers. A big part of the problem was the company’s clunky old IBM mainframe system, called TPF (Transaction Processing Facility). “TPF is an old 1960s system that all the airlines are married to,” says Mike Natale, Continental’s staff vice president and CTO. “It’s a very inflexible system, and it wasn’t designed for customer service.” Under the second phase of Bethune’s strategy, “First to Favorite,” launched in 2002, the IT team set about sidelining the old mainframe. It began by consolidating the airline’s disparate CRM systems into one, saving roughly \$6 million annually in operating costs and eradicating the cost of those fraudulent claims. Then it partnered with data-management vendor Teradata (a division of NCR Corp.) to create a cross-enterprise data warehouse that is fed by more than 25 enterprise systems; it includes schedules, reservations, customer profiles and demographics, airline maintenance, employee and crew payroll, and customer care.

The consolidated warehouse provides a single, 360-degree view of each customer, including the 31 million customers who

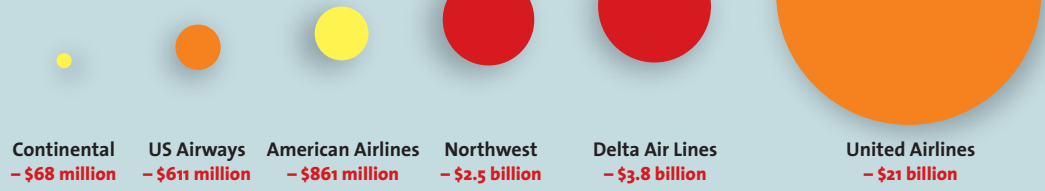
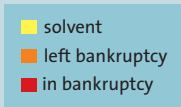
are members of Continental’s OnePass or Elite frequent-flier programs. The database has allowed company executives to establish what they call the CVM (customer value metric). “The CVM takes into account the amount of money a customer spends with us, how much it costs us to fly that passenger, and all the things we can get out of the data warehouse to associate with the customer,” says Anderson-Lehman. “From that, we determine each customer’s value to our business.” The CVM is calculated each month on a scale of 1 to 100, effectively stratifying frequent fliers into tiers of profitability.

But the CVM means nothing if it isn’t put to good use. “When you can feed that into your day-to-day systems, you can accommodate high-value customers appropriately,” says Anderson-Lehman. “It’s about building that relationship with the customers so they’ll fly Continental every time.”

How does it work? “One example is that if an airplane is more than 90 minutes late, we’ll send an automated e-mail to our top customers on that flight apologizing for the delay,” says Mike Gorman, senior director of customer relations. “Our best customers get rewards, like frequent-flier miles, for that inconvenience.” Turns out that the people who get those e-mails increase their business with Continental by 8 percent, a significant figure when you consider that those customers pay top dollar for their fares—fares that are currently going up. Customers with high CVMs are also granted special privileges to ensure they’ll keep flying Continental, including access

## The Biggest Loser

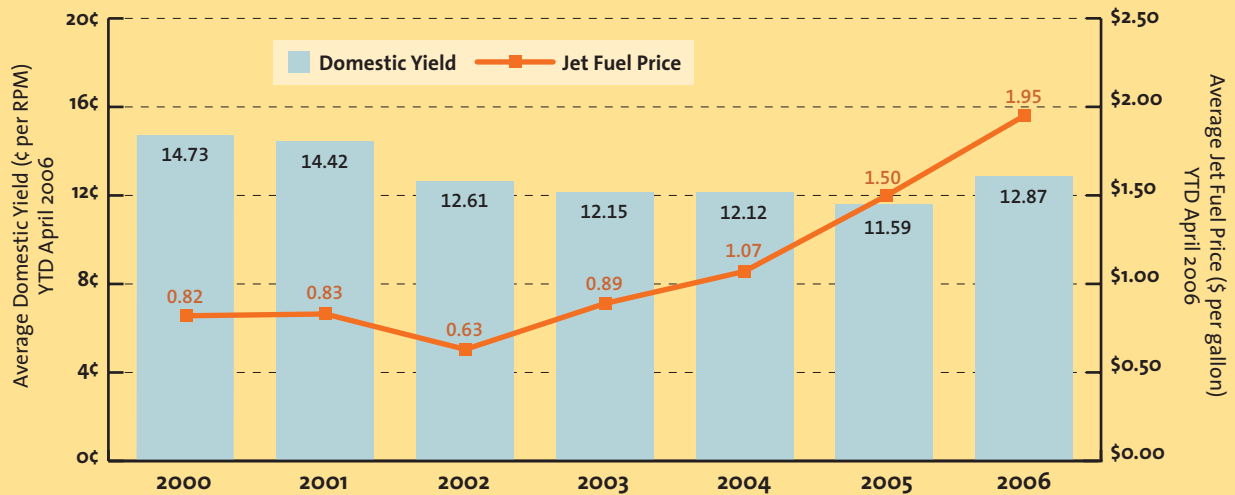
In 2005, losses abounded in the airline industry, where the name of the game was losing as little money as possible. Yet Continental is expected to turn a profit by the end of 2006.



SOURCE: YAHOO! FINANCE

## Ups and Downs

As airlines cut away at airfares to attract more fliers, rising fuel costs have eroded margins.



SOURCE: ATA RESEARCH AND U.S. ENERGY INFORMATION ADMINISTRATION

to private lounges, head-of-line boarding, first-off-the-carousel baggage handling, and attempts to honor seat preferences. “Loyalty is obviously very important to us,” Gorman says. It’s also important to Continental’s Elite members, whose defection rates are as low as 2 percent, he says.

The attention devoted to high-value customers has paid off. “Frequent fliers will tell you it’s a day-and-night difference between Continental and the other airlines,” says Tom Parsons, founder of BestFares.com, an online travel booking site. “Continental makes sure their frequent fliers walk away feeling very good.” And it keeps the planes full. In a recent filing with the SEC, Continental reported that its passenger loads are on the rise. “They’re smart,” says Parsons. “When other airlines do airfare sale blowouts, Continental waits it out. Then they’re the only ones left with capacity, and they still end up selling out.”

### Luring New Customers

To gain new business, Continental has a simple plan: woo travelers into its frequent-flier programs with numerous tech-based perks, then make them loyal to the Continental brand. For example, travelers who enroll in the OnePass program can take advantage of a new service called Trip Alert, which sends SMS notifications about upcoming

flights. In the near future, Gorman says, the system will also assist passengers who have missed a connection. “So as soon as you land and turn on your phone, you’ll get a message from Trip Alert with your new flight itinerary. Then you can go to a nearby kiosk and print out a new boarding pass,” he says.

But just as important is knowing which routes will yield the most loyal and profitable customers. Using business intelligence tools and call-center monitoring software from Atlanta-based Witness Systems Inc.—which tracks customer calls to help gain insight into which new routes the airline should start up—has resulted in Continental’s burgeoning destination list.

Much of Continental’s technology success, Natale says, can be attributed to the carrier’s aversion to outsourcing. With the exception of a few legacy systems still managed by EDS (which once managed virtually all of Continental’s IT), Continental’s tech staff of 350, including 150 software developers, handles just about everything. “That makes us far more nimble,” Natale says. And it doesn’t hurt that Anderson-Lehman reports directly to Continental President Jeff Smisek. “Our executive team values technology and sees it as a strategic investment, as opposed to something you cut costs with,” Anderson-Lehman says. “I think that’s the primary reason why we can make a difference.”

Of course, there are times when the carrier's systems don't perform as effectively as executives might hope. On May 11, for example, an angry crowd of Continental passengers amassed at Gate E12 in Houston's George Bush Intercontinental Airport. The 1:16 p.m. flight to New York had been delayed first by a few minutes, then a few hours, and then was canceled altogether. At first, counter attendants blamed an air-traffic-control problem. Then they

Continental Chairman and Chief Executive Larry Kellner ordered 34 new Boeing Co. airliners in June, at a cost of \$3 billion, in a move to upgrade the fleet and launch even more new long-haul routes. And taking a page from Southwest Airlines Co.'s book, Continental will buy an increasing percentage of its fuel on the futures market in a hedge against rising oil prices.

But Continental's technology push may soon be matched by competitors, which

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—Tom Parsons, founder, BestFares.com

announced that a severe weather condition across Virginia was causing the delay. As the line of passengers formed to reschedule connections, however, attendants found that the system had automatically rerouted passengers to other flights, and agents couldn't easily locate the new flight information.

Gorman admits there are still some wrinkles that need ironing out—namely, the critical transfer of knowledge from the data warehouse to Continental's crew members, both on the ground and in the air. In-flight attendants still aren't privy to information on rerouted connecting flights, for example. “But we're looking at ways to wirelessly transmit that information to the airplane, not just to the attendant but to the passenger,” he says.

### Final Destination

Despite the kinks, executives are confident that Continental is on the right path. In the first quarter of 2006, it narrowed its losses to \$66 million, compared with \$186 million a year earlier. And profitability is in sight.

have recently made staffing changes that indicate a new focus on IT across the industry. In March, United expanded CIO Gary Kelly's role to include strategic sourcing, industrial and process engineering, and operations research. Delta named its former COO, Shirley Bridges, as president and CEO of the airline's IT subsidiary, Delta Technology, and named her the company's CIO. “Technology is fungible,” says Ray Neidl, an analyst at Calyon Securities Inc. “When someone does it, it's easy to copy.”

For the moment, at least, Continental is best positioned to take the lead when the famine era is over—whenever that may be. “Every airline out there is walking on eggshells, but Continental has more breathing room than the other airlines because their operations are very efficient,” says Tom Parsons of BestFares.com. “If fuel prices ever drop, they'll be sitting pretty.” +

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*Please send questions and comments on this article to [editors@cioinsight-ziffdavis.com](mailto:editors@cioinsight-ziffdavis.com).*

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### RESOURCES

#### Web Sites

[www.airlines.org](http://www.airlines.org)

Air Transport Association of America Inc.

[www.iata.org](http://www.iata.org)

International Air Transport Association

#### Books

**From Worst to First: Behind the Scenes of Continental's Remarkable Comeback**

By Gordon Bethune with Scott Huler  
John Wiley & Sons, 1999

**The Evolution of the US Airline Industry: Theory, Strategy and Policy**

By Eldad Ben-Yosef  
Springer, 2005