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# Across the great divide

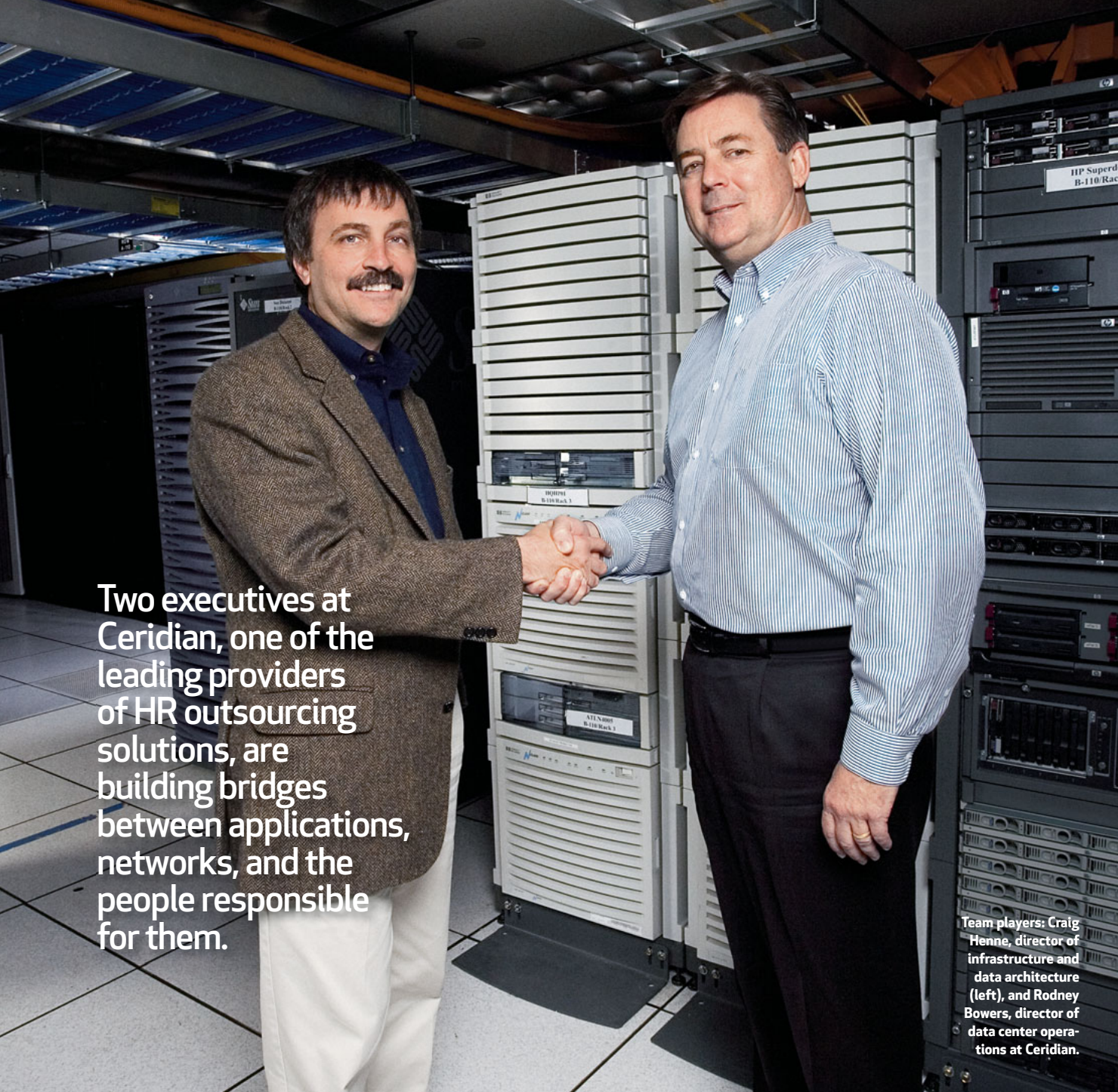
**B**y any measure, Ceridian Corp. is a global leader in hosted business services. The Minneapolis, Minn.-based company provides payroll, human resource, benefits administration, and employee assistance and work-life solutions to more than 110,000 customers and their 25 million employees worldwide, including over 50% of the *Financial Times* Global 500.

BY RICH FREEMAN

*Photograph by Christopher T. Martin*

Such success, however, appeared anything but inevitable back in 1999 when Ceridian first began turning its shrink-wrapped products into hosted offerings. For its bold bet on hosted services to pay off, Ceridian had to master two historically challenging disciplines: creating application-ready networks and network-ready applications.

That the company so triumphantly managed that feat is largely due to a unique partnership between the director of Ceridian's data center operations, Rodney Bowers, and the director of infrastructure and data architecture, Craig Henne. With the help of F5 Networks' BIG-IP Local Traffic Manager, two executives from opposite ends of the IT world found a way to build bridges not just between technologies, but across organizational boundaries as well—proving along the way that spanning the gap between applications and networks is as much about people as technology.



Two executives at Ceridian, one of the leading providers of HR outsourcing solutions, are building bridges between applications, networks, and the people responsible for them.

Team players: Craig Henne, director of infrastructure and data architecture (left), and Rodney Bowers, director of data center operations at Ceridian.

### Paying dividends

For everyone in Ceridian's IT organization, the first few years of the company's push toward hosted applications were a wild ride. Not only was Ceridian moving to an entirely new de-

#### KEEP IT SIMPLE

Retooling Ceridian's network to support hosted delivery would have been trying under the best of circumstances. But Rodney Bowers and Craig Henne also had to cope with rapid growth, a string of corporate acquisitions, and a diverse customer and partner base with widely varying needs. Their advice to other companies dealing with similar conditions: Build an infrastructure that's simple and standards-based. Expansion brings the unexpected. "You've got to be flexible enough to take it," Bowers says.

livery model, but it was also doing it amid explosive growth. "There was a period of time when we were doubling every nine months," says Henne. "All of us were kind of scrambling on all fronts."

It was during those turbulent days that Henne and Bowers first met. As the executive in charge of storage, networks, and data centers for Ceridian, Bowers was on point for building the company's new hosting infrastructure. From the start, he knew he'd never complete that mission successfully unless he thoroughly understood the applications that the infrastructure would be supporting. Henne, who was responsible for converting Ceridian's products into online offerings, proved an ideal tutor. "I needed some understanding from the application side and also the business side. I went looking for information, and where I found it was Craig [Henne]," Bowers says.

In return, Bowers helped Henne acquaint Ceridian's developers

with the unfamiliar demands of coding hosted applications. Back when Ceridian sold packaged software, performance and availability were issues for its customers to handle. “Now those things belong to us,” says Henne. Together, Henne and Bowers made sure network personnel attended development team planning meetings, so they could point out design flaws before they tripped up Ceridian’s production environment. “That has really been paying dividends,” says Bowers.

For example, few of Ceridian’s programmers appreciated at first how easily large data transfers that posed no problem for a LAN-based application could slow a Web-based system to a crawl. “You can quickly run into issues around persistence if the developers aren’t thinking about that when they’re coding,” notes Henne. Bowers’ team introduced Ceridian’s programmers to the importance of consuming bandwidth sparingly in hosted applications, which helped them write speedier, more reliable software.

### Load balancing standard

Promoting teamwork between developers and network managers was only one way Bowers and Henne smoothed Ceridian’s transition to a hosted delivery model. Deploying BIG-IP was another. “[BIG-IP] blurs the line between what’s the application and what’s the network,” says Henne, helping each work dynamically with the other to keep systems running smoothly.

Ceridian’s first experiment with BIG-IP came in 2002, during the online rollout of a payroll application. Henne and Bowers

## The infrastructure and application sides have come together to ensure delivery of services.

wanted to use a technology called “cookie-based persistence” to ease the enormous burden the application would place on Ceridian’s servers. The load balancing product they had been using didn’t offer that functionality, but BIG-IP supported cookie-based persistence right out of the box. “At the time there weren’t that many [companies] that had it and could make it work,” notes Henne.

Not long after that first successful deployment, Ceridian made BIG-IP its enterprise-wide standard for load balancing. Today, six pairs of 3400 series BIG-IP appliances support more than 1,900 servers. According to Henne, standardizing on BIG-IP has simplified development for the company’s application teams by removing a key design issue from an overcrowded plate. “Now if there’s an element that needs to be load balanced, it’s not a question of having to do your own scheme,” he says.

In addition to load balancing, BIG-IP has freed Ceridian’s programmers from having to address SSL authentication on their own. In the past, ensuring that incoming data streams were encrypted was the development team’s responsibility. Now with BIG-IP managing SSL, Ceridian’s coders can spend their time creating powerful features instead. “Just make sure it works with HTTP,” Henne tells developers. “We’ll deal with the SSL.”

Meanwhile, offloading SSL chores onto BIG-IP devices has cut processing overhead on Ceridian’s Web servers by more than 15%. “If we’re able to take 15% to 20% off a Web server,

### SMASH THOSE SILOS!

Ceridian’s Rodney Bowers is a big believer in breaking down organizational barriers within business units as well as between them. His own operations team, for example, contains separate network, storage, and data center groups that operated in total isolation until Bowers ordered them to begin attending each other’s meetings. That simple policy shift helped produce answers to once intractable infrastructure problems.

“When you’ve got three different groups looking at them, all of a sudden solutions start popping out,” observes Bowers, who encourages other managers to promote intra-organizational dialogue as aggressively as he did.

that may mean another six to eight months of growth without having to go back and ask for more [server] money,” says Henne.

For his part, Bowers has been impressed by how well BIG-IP scales to keep pace with Ceridian’s ever-expanding customer needs. “We’re really not taxing the performance of those boxes,” he observes. “We’ve been able to ride that initial investment for quite a while. I mean years. That’s pretty phenomenal.”

### Showing the way

E.J. Easton, a district sales manager at F5, sees Ceridian as a model for other businesses struggling to bring their applications and networks into harmony. “Ceridian is showing the way,” he says. “You’ve got the infrastructure side and the application side both coming together to ensure delivery of services.”

It’s an accomplishment made possible by two executives’ refusal to let organizational borders keep architects and engineers from collaborating, Bowers notes. “We had a network silo, we had a storage silo, we had a hosted services silo, and we had an engineering and architecture silo,” he recalls. “It all started to work when we forgot the organization, and two guys with similar ideas and philosophies sat in a room and said, ‘How do we fix this problem?’”

In the months ahead, Bowers and Henne look forward to fixing additional problems with the help of BIG-IP features they haven’t exploited yet. Bowers plans to use the BIG-IP Global Traffic Manager to give Ceridian’s massive data centers two-way failover capability. Henne is interested in utilizing BIG-IP’s compression and caching functionality to trim another 15% to 20% from the processing labor Ceridian’s Web servers perform. “We’re looking to continue offloading the Web server of work that it’s not particularly good at,” he says.

Henne’s experiences with BIG-IP have reinforced his belief in letting each network resource focus on the task it executes best. “Let the switches switch, the routers route, and the servers serve,” he says.

“And the load balancer load balance,” adds Bowers. ☀

### Additional resources

**F5 white paper on remote authentication for servers** ([www.f5.com/solutions/technology/clientauthentication\\_wp.html](http://www.f5.com/solutions/technology/clientauthentication_wp.html))

**F5 white paper on application optimization over the WAN** ([www.f5.com/solutions/technology/app\\_optimization\\_wp.html](http://www.f5.com/solutions/technology/app_optimization_wp.html))

**Ceridian home page** ([www.ceridian.com](http://www.ceridian.com))