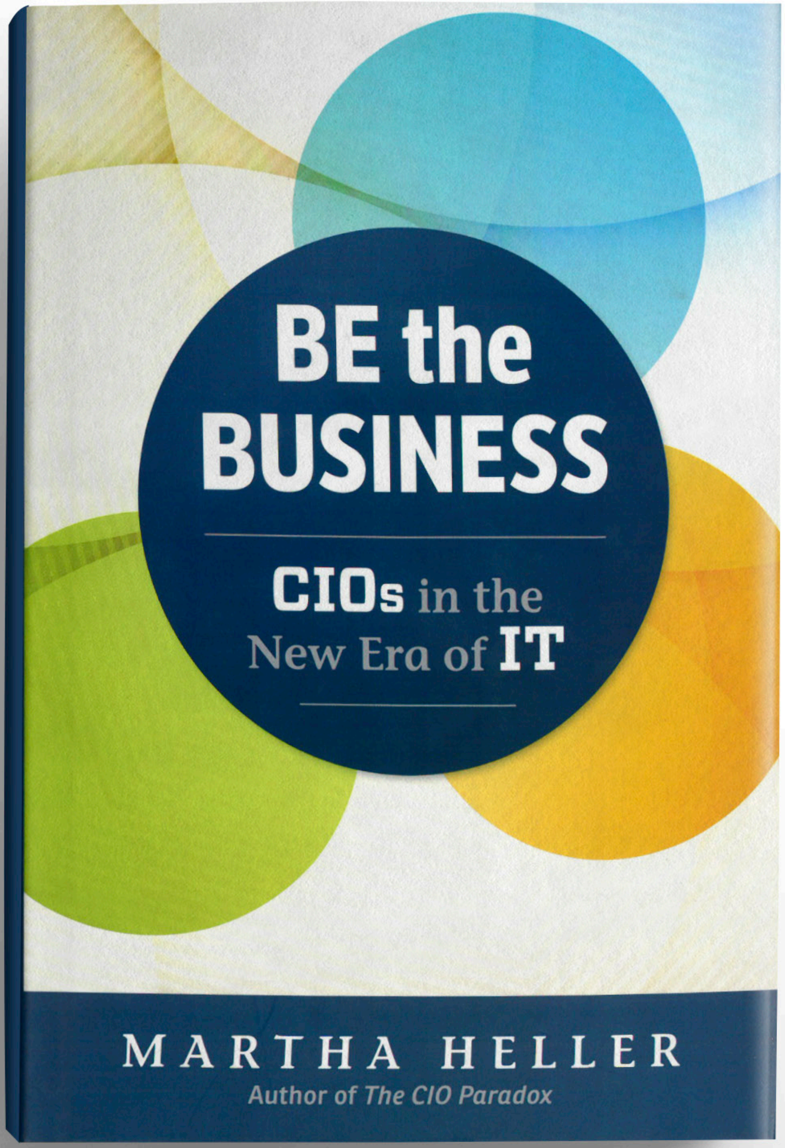

Ambit Energy CIO John Burke is a recognized thought leader in the IT field. Here are some of his thoughts on breaking down big applications, excerpted from *Be the Business CIOs in the New Era of IT* by Martha Heller.

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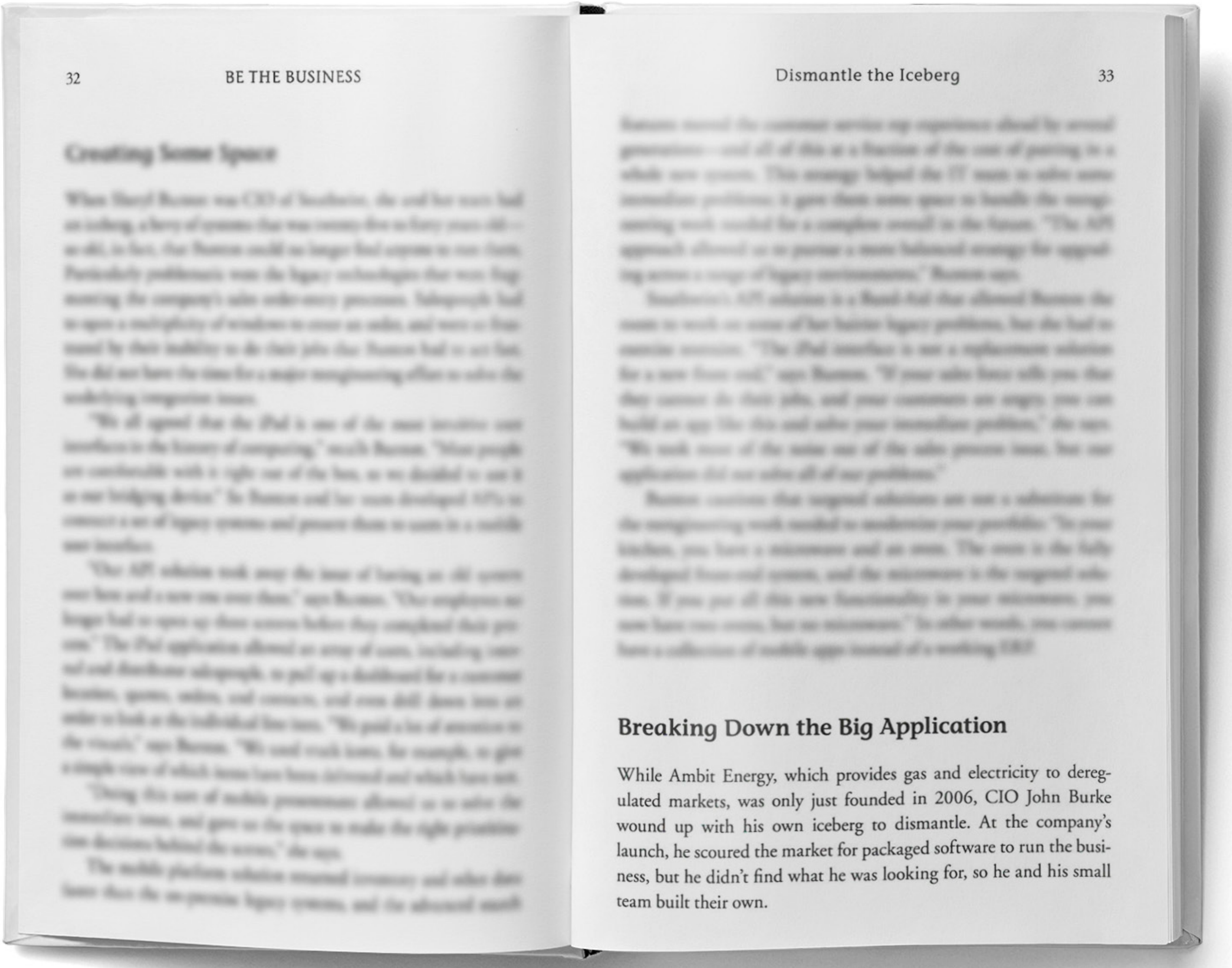

Creating Some Space

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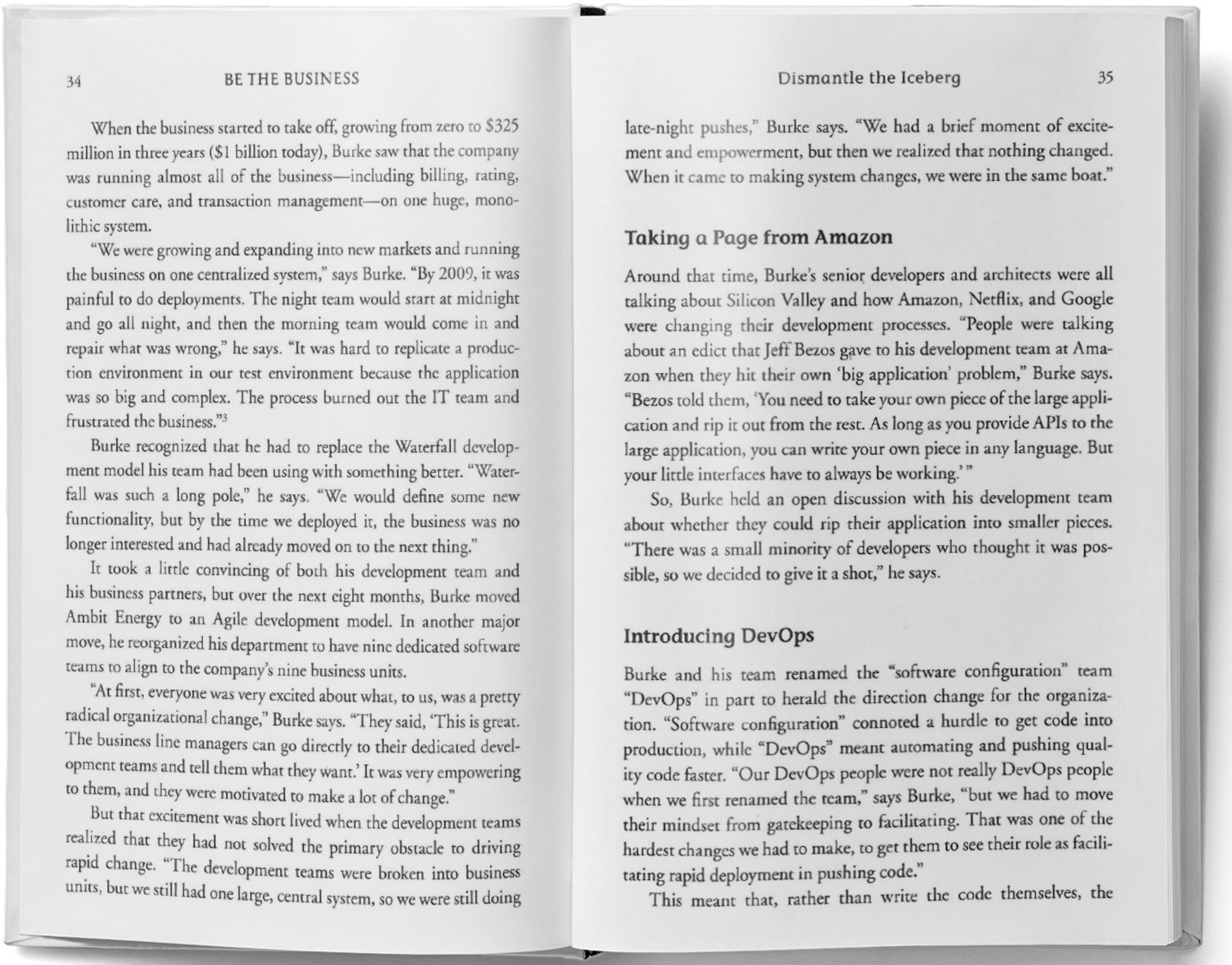
Breaking Down the Big Application

While Ambit Energy, which provides gas and electricity to deregulated markets, was only just founded in 2006, CIO John Burke wound up with his own iceberg to dismantle. At the company's launch, he scoured the market for packaged software to run the business, but he didn't find what he was looking for, so he and his small team built their own.



When the business started to take off, growing from zero to $325 million in three years ($1 billion today), Burke saw that the company was running almost all of the business—including billing, rating, customer care, and transaction management—on one huge, monolithic system.

"We were growing and expanding into new markets and running the business on one centralized system," says Burke. "By 2009, it was painful to do deployments. The night team would start at midnight and go all night, and then the morning team would come in and repair what was wrong," he says. "It was hard to replicate a production environment in our test environment because the application was so big and complex. The process burned out the IT team and frustrated the business."[3]

Burke recognized that he had to replace the Waterfall development model his team had been using with something better. "Waterfall was such a long pole," he says. "We would define some new functionality, but by the time we deployed it, the business was no longer interested and had already moved on to the next thing."

It took a little convincing of both his development team and his business partners, but over the next eight months, Burke moved Ambit Energy to an Agile development model. In another major move, he reorganized his department to have nine dedicated software teams to align to the company's nine business units.

"At first, everyone was very excited about what, to us, was a pretty radical organizational change," Burke says. "They said, 'This is great. The business line managers can go directly to their dedicated development teams and tell them what they want.' It was very empowering to them, and they were motivated to make a lot of change."

But that excitement was short lived when the development teams realized that they had not solved the primary obstacle to driving rapid change. "The development teams were broken into business units, but we still had one large, central system, so we were still doing

late-night pushes," Burke says. "We had a brief moment of excitement and empowerment, but then we realized that nothing changed. When it came to making system changes, we were in the same boat."

Taking a Page from Amazon

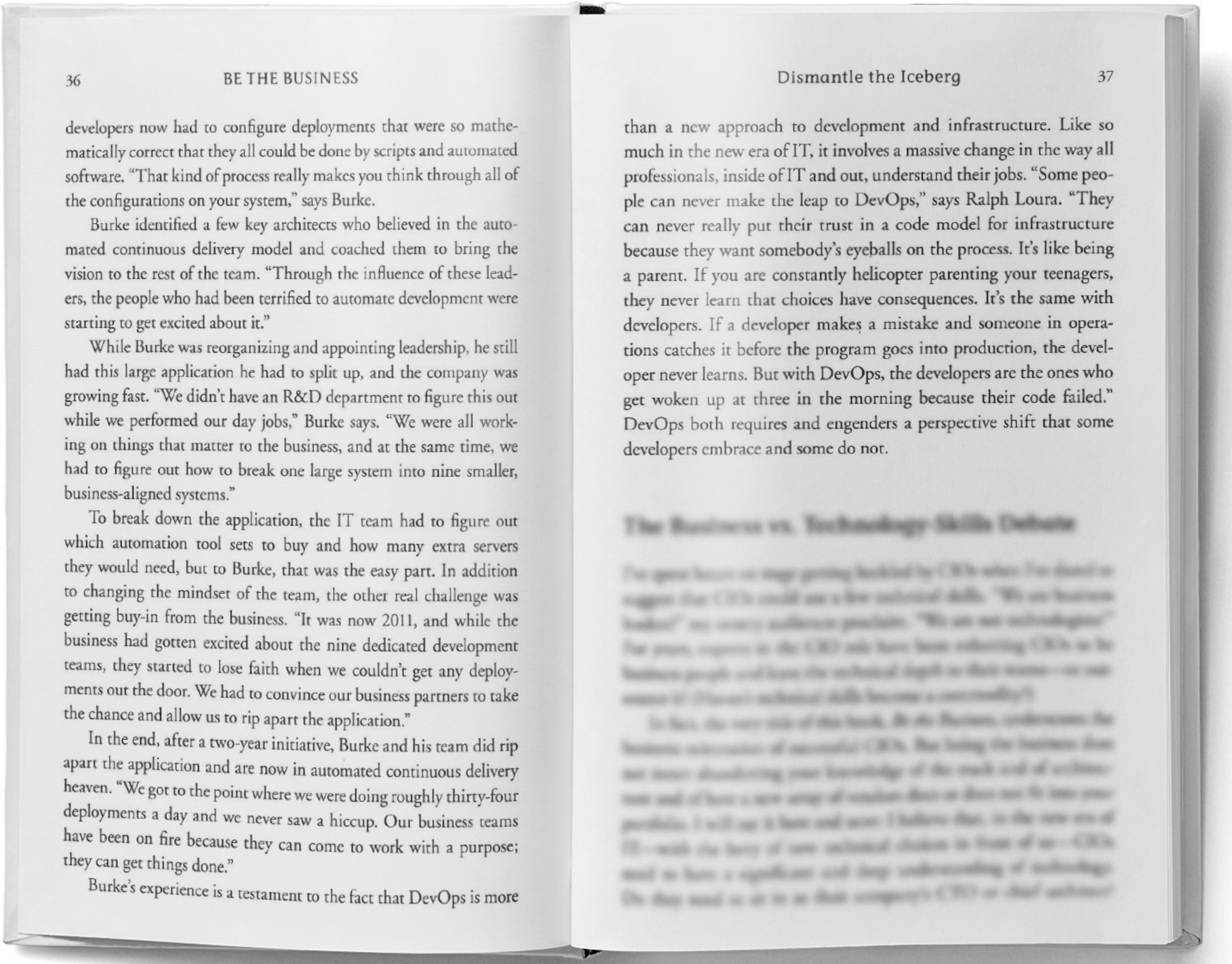
Around that time, Burke's senior developers and architects were all talking about Silicon Valley and how Amazon, Netflix, and Google were changing their development processes. "People were talking about an edict that Jeff Bezos gave to his development team at Amazon when they hit their own 'big application' problem," Burke says. "Bezos told them, 'You need to take your own piece of the large application and rip it out from the rest. As long as you provide APIs to the large application, you can write your own piece in any language. But your little interfaces have to always be working.' "

So, Burke held an open discussion with his development team about whether they could rip their application into smaller pieces. "There was a small minority of developers who thought it was possible, so we decided to give it a shot," he says.

Introducing DevOps

Burke and his team renamed the "software configuration" team "DevOps" in part to herald the direction change for the organization. "Software configuration" connoted a hurdle to get code into production, while "DevOps" meant automating and pushing quality code faster. "Our DevOps people were not really DevOps people when we first renamed the team," says Burke, "but we had to move their mindset from gatekeeping to facilitating. That was one of the hardest changes we had to make, to get them to see their role as facilitating rapid deployment in pushing code."

This meant that, rather than write the code themselves, the



developers now had to configure deployments that were so mathematically correct that they all could be done by scripts and automated software. "That kind of process really makes you think through all of the configurations on your system," says Burke.

Burke identified a few key architects who believed in the automated continuous delivery model and coached them to bring the vision to the rest of the team. "Through the influence of these leaders, the people who had been terrified to automate development were starting to get excited about it."

While Burke was reorganizing and appointing leadership, he still had this large application he had to split up, and the company was growing fast. "We didn't have an R&D department to figure this out while we performed our day jobs," Burke says. "We were all working on things that matter to the business, and at the same time, we had to figure out how to break one large system into nine smaller, business-aligned systems."

To break down the application, the IT team had to figure out which automation tool sets to buy and how many extra servers they would need, but to Burke, that was the easy part. In addition to changing the mindset of the team, the other real challenge was getting buy-in from the business. "It was now 2011, and while the business had gotten excited about the nine dedicated development teams, they started to lose faith when we couldn't get any deployments out the door. We had to convince our business partners to take the chance and allow us to rip apart the application."

In the end, after a two-year initiative, Burke and his team did rip apart the application and are now in automated continuous delivery heaven. "We got to the point where we were doing roughly thirty-four deployments a day and we never saw a hiccup. Our business teams have been on fire because they can come to work with a purpose; they can get things done."

Burke's experience is a testament to the fact that DevOps is more

than a new approach to development and infrastructure. Like so much in the new era of IT, it involves a massive change in the way all professionals, inside of IT and out, understand their jobs. "Some people can never make the leap to DevOps," says Ralph Loura. "They can never really put their trust in a code model for infrastructure because they want somebody's eyeballs on the process. It's like being a parent. If you are constantly helicopter parenting your teenagers, they never learn that choices have consequences. It's the same with developers. If a developer makes a mistake and someone in operations catches it before the program goes into production, the developer never learns. But with DevOps, the developers are the ones who get woken up at three in the morning because their code failed." DevOps both requires and engenders a perspective shift that some developers embrace and some do not.

The Business vs. Technology Skills Debate

I've spent hours on stage getting heckled by CIOs when I've dared to suggest that CIOs could use a few technical skills. "We are business leaders!" my ornery audiences proclaim. "We are not technologists!" For years, experts in the CIO role have been exhorting CIOs to be business people and leave the technical depth to their teams—or outsource it! (Haven't technical skills become a commodity?)

In fact, the very title of this book, *Be the Business*, underscores the business orientation of successful CIOs. But being the business does not mean abandoning your knowledge of the stack and of architecture and of how a new array of vendors does or does not fit into your portfolio. I will say it here and now: I believe that, in the new era of IT—with the bevy of new technical choices in front of us—CIOs need to have a significant and deep understanding of technology. Do they need to sit in as their company's CTO or chief architect?

Heller, Martha. 2016. Breaking Down the Big Application. *Be the Business CIOs in the New Era of IT.* Brookline, MA: Bibliomotion, Inc.

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