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All aspects of the business have become extremely reliant on virtualization software. Cubist has been using virtual servers for about five years (three years solely in a testing environment and the last two years in production) and it has become a key component of the firm's disaster recovery plan.

"CDW is bending over backwards for me, and that's important," says McBride, "I like the attention to detail, the attention to service."

Relying solely on physical hardware means that when a server dies, work gets put on hold until the hardware is repaired or replaced. In a virtual environment, if a server goes down, its contents immediately shift over to another server without missing a beat, McBride says.

An added benefit is that instead of having eight physical server boxes, McBride can put eight virtual servers on one box and save on hardware

costs, maintenance and rack space. "You can also fully utilize every ounce of the server," he adds. All of the technology used by the development side of the company must go through a detailed validation process to ensure that the data produced by those systems is accurate. If Cubist were to bring a drug to trial and the FDA found even one hole in Cubist's validation process, the drug would not receive approval, McBride explains. So once a new technology is validated, IT tries not to touch it unless necessary.

"The systems cannot fail," McBride says. "Every time you perform a process, it has to do the same thing. It's a very lengthy process."

Case Study: Creating the ultimate Office The R in R&D

When it comes to finding, testing and researching compounds, a heavy-duty technology environment is necessary, McBride says. At the core of the research team's systems is ChemOffice, a chemistry research suite that walks researchers through different stages of the compound discovery and testing process.

Another core system is the Electronic Lab Notebook environment, McBride says. Scientists have traditionally used paper notebooks to record data about testing. Now they use electronic notebooks in the lab, which can incorporate spreadsheets, graphics, presentations or other types of data, all of which is searchable.

"That's probably one of the best investments we've made," McBride says.

Cubist is searching for additional ways to eliminate paper from the office. "Paper is the bottleneck," McBride says. The less paper, the more efficient the research department can become since they're not taking notes in the lab then transcribing them back at their desks, he says.

The ultimate goal is to create an overall Laboratory Information Management System that all the applications used by the research team will feed into. Such systems are extremely complex and can take as long as five years to implement. "We're very close," he says, adding that they have another two or three years to go. "We're pushing very hard to get there."

Cubist's IT team is also embarking on some large long-term projects, such as its Cubist University corporate learning system. It will consist of at least one application that will track all training, tests, learning materials and online learning opportunities such as Podcasts for every employee in the company, McBride explains. "That's a significant undertaking," he says, explaining that they're still in the research stage.

Providing Cubist employees with the "ultimate office" is important, McBride explains. He makes sure Cubist's senior analysts have access to all the latest tools because he wants them to be so far ahead that they can anticipate all of their end-users' needs. "I want them to be challenging me," he says. "Not the other way around." ■



Nathan McBride
Director, Scientific & Business Applications
Cubist Pharmaceuticals

The Ultimate Office

Cubist Pharmaceuticals employs the latest technologies in the race to find a new life-saving drug



Current initiatives at Cubist Pharmaceuticals

- Replacing desktops and tablets with notebooks and choosing one model upon which to standardize
- Testing new PDAs to replace existing Treos
- Signed a Microsoft enterprise licensing agreement with CDW
- Moving to a paperless environment
- Building a Library Information Management System
- Researching a new corporate learning system and a software as a service (SaaS) model.
- Testing Microsoft Vista for Migration

At A Glance

Cubist Pharmaceuticals: The Search for the Next Miracle Drug

Since it's launch in 1992, Cubist Pharmaceuticals has had great success with its sole product, Cubicin, a bactericidal drug used to kill infections. The 450-employee biotech based in Lexington, Mass., has \$300 million in the bank and has had committed investors since it went public in 1996, says Nathan McBride, director of scientific and business applications.

Despite Cubicin's success, Cubist is on an eternal quest to add a new drug to its offerings.

"It's never good to be a one-trick pony, especially in biotech," McBride says. "We can spend a lot of time hoping to find a compound [to produce a new drug] - we could literally discover one tomorrow — or we could go out and buy one." But at a quarter- to a half-million dollars a pop for an acquisition of that nature, Cubist is determined to find a compound on its own, McBride explains.

The ability to automate trials and sift through scores of data is essential to reaching that goal. As such, Cubist's Clinical Development group rely on the company's Clinical Trial Management System, which manages all aspects of trials — from enrolling patients to sorting data to billing.

Related applications, such as Cubist's Drug Information System, biostatistical analysis tools and Adverse Event Reporting System, which tracks reactions to drugs, are also critical, McBride explains.

The Challenge

Cubist Pharmaceuticals is in a do-or-die race to fail. With just 450 employees, one-third of whom are out in the field selling the Lexington, Mass.-based biotech firm's sole drug, Cubicin, Cubist is going head to head with corporate giants like Pfizer as its researchers sift through dirt samples from around the world looking for the next best drug since Penicillin.

"We're all trying to find the best dirt," explains Nathan McBride, director of scientific and business applications for Cubist. It takes time and money for Cubist's researchers to analyze the dirt samples, so the faster they can eliminate them, the sooner they can home in on samples that show potential and, hopefully, progress through the various phases of Food and Drug Administration (FDA) trials to a new drug.

"The quicker you can fail, or eliminate a sample, the better chance you have of finding one that will succeed," McBride explains. "So one of my primary goals is to support research to make sure these guys can fail faster."

That means that McBride and his team are on a mission to create and sustain the ultimate office with state-of-the art technology. Their job is to support the entire staff, but their emphasis is on providing cutting-edge tools for the researchers and developers searching for the next life-saving drug as well as the sales force that generates Cubist's revenues from sales of Cubicin.

The Solutions

Migrating from desktops to notebooks across the enterprise, employing server virtualization, cutting-edge disaster recovery and security strategies as well as tapping CDW to handle all the logistics of its Microsoft volume licensing agreement are just a few of the steps that Cubist is taking to make that ultimate office a reality.

A Microsoft Enterprise Agreement makes sense for companies like Cubist because it streamlines the licensing process, explains Tom Forster, senior enterprise account manager at CDW. "You get significant savings by going with an Enterprise

Agreement as opposed to buying software in bits and pieces," Forster explains. "On top of the savings, customers have an easier way of managing their Microsoft licenses."

Partnering with a single vendor has also simplified the IT department's job, McBride says. The Microsoft volume license agreement he signed with CDW covers the operating system, the Microsoft Office suite and critical servers and provides Cubist with discounts on Microsoft products. And McBride knows that there are no kinks or legal loopholes in his software licenses because he has a company he trusts handling all the details.

"Given our history, we'd rather go with CDW than other vendors. We have found just overall better service from CDW. I like the personalized attention I get from them."

— Nathan McBride, director of scientific and business applications for Cubist Pharmaceuticals

Working with CDW also provides Cubist with a steady stream of unbiased product reviews, technology-specific experts and peace of mind, Forster adds. For instance, with the enterprise agreement, CDW makes sure that Cubist is taking advantage of the added benefits, such as training vouchers and discounts on home rights usage.

McBride says Cubist is the most tech-savvy biotech firm he's been involved with, which makes his job that much harder. "I don't sleep very much," he says. Having CDW on his side handling the complex and often time-consuming licensing details and helping him research new technologies is invaluable, he says. "CDW is bending over backwards for me, and that's important," McBride adds. "I like the attention to detail, the attention to service."

The Results: Zero Down Time

Cubist, which was founded 15 years ago and went public in 1996, has done extremely well selling Cubicin, a drug that dominates the market on fighting methicillin-resistant Staphylococcus aureus infections (In laymen's terms, it kills the most common type of bacterial infection found in hospitals). In fact, the FDA just approved a higher dosage in February. So arming Cubist's sales force with the right tools to sell Cubicin is critical to the company's financial success. Cubist has a powerful Web-based homegrown customer relationship management (CRM)/sales force automation system that the sales team can access from their mobile phones and notebooks while on the road.

IT's goal is to provide the sales team with access to the CRM system and Cubist's Drug Information System anytime, anyplace. "We have some pretty significant stuff going on on our back end," McBride says. "But it's the front end that's important. If their Treos crash or their tablets are going slow, it defeats the purpose of having these systems."

Based on feedback from employee surveys about their cell phones, Cubist is looking to replace its Palm Treos with either BlackBerry devices or Windows Mobile 6 phones, both of which they're testing now, McBride says.

The tablets used by Cubist's sales people have also been a maintenance headache, he adds. Their lack of speed, durability problems and frequent crashes prompted IT to switch the sales force back to notebooks earlier this year.

But it's not just the sales team that will be getting new notebooks. The entire company is making the switch as Cubist replaces all of its desktops with notebooks. It's now looking for a single laptop model to standardize on throughout the company.

From a disaster recovery standpoint, notebooks make sense because in case of emergency, workers don't need to get into the office. They have all the data they need with them at all times, McBride explains.

Switching entirely to notebooks may make sense for some companies, but it's not an advisable move for most, warns Leslie Fiering, research vice president at Gartner Inc. "You need to look at all at all the variables on this," she says. "It shouldn't just be a knee-jerk reaction."

Notebooks generally come with larger price tags, higher levels of repair and shorter life spans. The failure rate for laptops in their third year is 22-28 percent, and the total cost of ownership tends to be higher than with desktops, Fiering explains. "You really have to weigh the potential benefit against the overall costs," Fiering adds.

For Cubist, the mobility and disaster recovery advantages that notebooks provide are well worth the cost, McBride says. But on average, about 30 percent of business computers are notebooks — 60 percent for organizations with a high number of knowledge workers, she adds.

"What happens if one of these notebooks gets lost?" Fiering poses. "It's suicide if you're not absolutely rock solid in terms of security."

Cubist uses secure key fobs to protect its notebooks, as well as a Web-based Virtual Private Network (VPN) so that users don't have to dial into a client. IT is also investigating a virtual desktop infrastructure (VDI) strategy in which user environments are saved on secure desktop hosted at the company and can be accessed from anywhere. That way, if a notebook is lost, the data is still available, McBride explains.

When it comes to maintenance, IT has set lofty goals for itself. Its "zero time" promise is that if a computer needs to be replaced, IT will have a brand new computer on the employee's desk before the next workday begins.

Standardizing on one type of notebook, buying them in bulk and burning the same image on them will help Cubist go a long way toward reaching that goal. "The fewer models we have in-house, the fewer models we have to manage in-house," says McBride.

"We have just found overall better service from CDW than from other vendors," he says. "I like

Lessons Learned

• Pay attention to all aspects of your infrastructure. Cubist Pharmaceuticals has strong systems on its back end, but it has had consistent problems with the personal digital assistants that its sales team uses to access that back-end data. Make sure your front-end devices and the software that's loaded onto them is adequate to take full advantage of your back-end assets.

• Standardize on equipment. With an array of desktops, tablets and notebooks, Cubist's IT team had an army of hardware to manage. By migrating the entire company to notebooks and standardizing on one model, IT can spend less time managing the equipment and more time implementing new technologies to keep pace with changing business needs.

• Partner with a single technology vendor you can trust. Based on its history with various technology vendors, Cubist's IT department decided to do the bulk of its business with CDW. There are hidden costs when you work with an unknown vendor and factors you need to consider: Do they understand your business needs? Are they giving you unbiased information about products? Will they be there when you have a problem? Do they have an easy return policy?

"We have just found overall better service from CDW than from other vendors. I like the fact that when I pick up the phone and call my rep, she's there giving me straight answers. I don't get that from other vendors. I get an invoice."

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