



## Success Story

# Baylor College of Medicine: Taking Research and Discovery to the Cloud

Baylor  
College of  
Medicine



### KEY HIGHLIGHTS

#### Industry

Education/Research/Healthcare

#### The Challenge

Enhance medical research with on-demand self-service IT.

#### The Solution

Offer researchers easy-to-use infrastructure as a service by building a private cloud, “*Discovery Cloud*,” over the FlexPod® platform.

#### Benefits

- Contributes to better education and more timely discoveries as researchers move from idea to experiment in minutes
- Accelerates grant funding cycle with service catalogs for fast, accurate costing
- Positions college to attract and retain the best research faculty
- Allows researchers to focus on health sciences, not IT
- Saves \$1.5 million in hardware costs, supporting more funds for research with the migration of SAP® and EpicCare, offering even more savings soon

### A Medical Research Powerhouse

When you are ill, you want access to the latest medical treatments. Baylor College of Medicine (Baylor) is helping to solve the most critical health problems of our time. Located in Houston’s Texas Medical Center, the world’s largest medical complex, the researchers at Baylor tackle the complex questions of cancer, pediatric AIDS, aging, and much more. Baylor’s Human Genome Sequencing Center has sequenced more human genome data than any institution on the planet. Baylor routinely ranks as one of the top medical schools for research in *U.S. News & World Report*. Because of its vital role in the worldwide medical research community, Baylor receives substantial grant funding from the U.S. National Institutes of Health (NIH).

#### The Challenge

##### Embracing an innovative spirit

To conduct even more groundbreaking research and publish results faster, Baylor must enable its faculty and students to concentrate on their research without distractions. However, procuring IT infrastructure for research projects often took weeks to complete. Some researchers used “shadow IT” and set up server environments on their own.

Unfortunately, they often underestimated their needs, causing delays in research results and driving up long-term costs.

“There’s an entrepreneurial spirit at the Texas Medical Center, and it’s part of the culture here at Baylor,” says Alexander Izaguirre, CIO/CTO and vice president, Information Technology, Baylor College of Medicine. “We understand researchers wanting to take IT into their own hands. But we needed to provide them with a self-service mechanism that would be compliant, cost effective, and easy to use.”

#### The Solution

##### Building a private discovery cloud

Izaguirre knew that a private cloud could address both users’ desire for speed and IT’s need for control. His vision extended well beyond infrastructure as a service: He saw an opportunity to fundamentally change how services are delivered and enable content sharing through a private discovery cloud.

“In the short term, our goal is to accelerate delivering server and storage environments to our researchers,” he says. “Ultimately, we seek to facilitate the secure sharing of data between researchers and other academic partners.”

Baylor looked for technology partners that understood what it would take to realize that vision. “We chose to build our discovery cloud using VMware on a FlexPod solution from NetApp and Cisco, with service delivery led by Presidio,” says Izaguirre. “Because of those relationships, we received the cooperative support we needed to be successful.”

Presidio introduced Baylor to CliQr CloudCenter for application provisioning and management. “We can deploy applications in our cloud at any time, without time-intensive recoding or rearchitecting,” says Izaguirre.

### Business Benefits

#### Better education, faster discoveries

Estimating IT requirements for research grant applications and provisioning resources has gone from a high-touch, error-prone activity to an automated process. Users simply log into a service catalog and pick what they need. Cost is accurate and transparent, helping to accelerate the grant funding cycle and avoid surprises later on.

“Our Discovery Research Cloud built on FlexPod allows our researchers to focus on medical science, not IT,” says Izaguirre. “They can easily build accurate cost estimates into their grant applications and get what they need without ever talking to an IT person. They can begin their experiments sooner, get results faster, and learn more during their time at Baylor.”

#### More efficient use of funds

The private cloud is saving Baylor a bundle in IT staff time and budget previously allocated to business and healthcare applications.

“We plan to move our SAP and EpicCare environments onto FlexPod as well, which will give us more flexibility and scalability,” says Izaguirre. “Bringing SAP and EpicCare into our private cloud will save us \$1.5 million versus purchasing new dedicated hardware to upgrade those environments. We’ll also have better visibility into the actual costs of supporting those critical applications.”

#### Medical research moved forward

Although the Discovery Cloud is currently an internal resource, it may soon be extended to affiliate organizations. Connecting researchers across institutions will allow them to share virtual machines and algorithms, minimizing redundant research efforts and making the best use of NIH funding. This convenience and visibility will foster a sense of “coopetition” and help Baylor attract the best and brightest minds in medical science with its connected research platform.

“Our Discovery Research Cloud has the potential to bring the medical research community together,” says Izaguirre. “Users will be able to find other experts and share knowledge. When we help each other, we all win, because we can achieve groundbreaking discoveries and advance medical science.”

### SOLUTION COMPONENTS

#### FlexPod Components

NetApp® V6250A storage systems

Cisco Unified Computing System™ (UCS®) B-Series blade servers with Cisco UCS Director

Cisco Nexus® switches

#### Virtualization Components

VMware vSphere® 5.5

#### NetApp Software

NetApp clustered Data ONTAP® operating system

NetApp Virtual Storage Console for VMware vSphere

NetApp SnapMirror®

NetApp SnapManager® Suite

#### Third-Party Products

CliQr CloudCenter

Microsoft® Windows Server®

Red Hat Linux®

Ubuntu

#### Protocols

NFS

CIFS

#### Partner

Presidio

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