CASE STUDY: UNIVERSITY OF FLORIDA

Department of Electrical & Computer Engineering Centralized Storage for
Research Data

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"What really did it for us was the TrueNAS Web Interface, in terms of its flexibility."

- Michael Mitchell
 PhD, Receiver Network Project Lead

THE STORAGE CHALLENGE

The Department of Electrical & Computer Engineering at University of Florida has several research projects that collect tens of TeraBytes of data every year from multiple data stations. They traditionally used Direct Attached Storage to house this data, which spread it out across multiple machines. This made it difficult to analyze large time periods' worth of information, so they needed the ability to store it all in a centralized location. With new graduate students often overseeing projects, they were looking for a solution that was easy to understand and easy to manage without having to train them in the command line.

iXsystems™

"Our storage situation was chaos. Having data divided between systems just wasn't working. I have to look at a month's data at a time, so having it all in one place has made things so much simpler."

- Michael Mitchell

"I did a lot of work trying to find a vendor to talk about what I needed and the nitty gritty of it. I tried getting that with Dell & HP, but it's not really clear what you're getting with those vendors. When I found iXsystems I just told them what I was doing and they put together a solution that would do exactly what I needed."

- Michael Mitchell

"When we get new drives in, it's very easy to add new volumes. The user interface makes things very simple."

- Michael Mitchell

CHOOSING TRUENAS

When the research team searched for a centralized storage solution that would meet their data storage requirements within their research budget, they needed to have someone to interface with who understood their use case and could provide guidance on what would work best for them. The knowledgeable sales staff at iXsystems worked with them to understand their situation and put together a solution that met their specific needs. The TrueNAS sales staff demonstrated the ease of administration the TrueNAS interface provides, as well as its ability to easily add additional storage, which meant they would be able to grow their storage to any future requirements with minimal hassle.

On the software side, TrueNAS also offered a full feature set of storage and network capabilities. This means that if University of Florida needs to utilize other features they will see no additional licensing costs in the future. All major administrative tasks are available from the Web Interface, but a command line is also offered for more advanced configuration and troubleshooting.

CENTRALIZED STORAGE FOR A RESEARCH ENVIRONMENT

The Department of Electrical & Computer Engineering at University of Florida acquired three TrueNAS systems. One system has about 75TB of Data and the other two have about 40TB each. Each site adds about 12TB of data per year, with three sites in a remote location. Due to bandwidth limitations, the drives are physically shipped to their research facility and added to the TrueNAS storage system directly.

The University of Florida uses iXsystems servers to analyze their spectrographic and other research data on their TrueNAS arrays for specific types of data events. The University accesses the data over the TrueNAS 1GigE interface. When new data arrives, it is shared over CIFS/SMB and is ready for access by members of the research team. TrueNAS is ideal for the University because they can easily manage TrueNAS from across the room or across the world. After the data falls out of use, it is then archived to blu-ray discs.

"We mainly access via SSH or an SMB share. We're primarily a Windows group here. The SMB share is nice because you can just slap in the hard drive and set up a share with no real hassle."

- Michael Mitchell

QUALITY ASSISTANCE AT EVERY STAGE

From initial inquiry, the iXsystems staff provided the University of Florida researchers with their expertise when they designed a storage solution for the research environment. The TrueNAS support team also discussed the University's ideal implementation and learned about any special considerations that needed to be addressed. iXsystems also helped during the deployment and testing processes. After their TrueNAS storage array and iXsystems servers were deployed, the support team provided expert assistance to resolve any issues that arose.

CONCLUSION

When the researchers at University of Florida's Department of Electrical & Computer Engineering needed a storage solution for their research, iXsystems provided the assistance for their storage and server hardware. TrueNAS provided a full range of features for current and future projects as well as the scalability they require in the future. TrueNAS also provided the ease of management they needed for graduate researchers to maintain and manage their storage without training or other assistance. If they have problems, the TrueNAS white glove support team brings the expertise needed to handle any issue that they cannot resolve on their own.

ABOUT THE UNIVERSITY OF FLORIDA DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

Research in the Department of Electrical and Computer Engineering serves two main purposes. The generation of new fundamental knowledge is a primary function along with the education of graduate students who participate in research and contribute to the advancement of knowledge through their thesis research. The department researches a number of divisions, with Michael Mitchell heading up research in the Electromagnetics & Energy Systems division. This division spans a wide area of research of electromagnetic fields and their applications.

"It's been a great experience working with iXsystems. Our sales rep helped us spec out what would work initially and was very knowledgable. We were also very happy with the way the support team handled things. If we ever had a problem, they would work closely with us on a timely solution."

- Michael Mitchell

It includes power generation, distribution, and utilization of electrical energy. It also includes interactive waveguides, optical fiber, and photonic devices.

ABOUT IXSYSTEMS

By leveraging decades of expertise in hardware design, its contributions to many Open Source software communities, and corporate stewardship of leading Open Source projects (FreeNAS and TrueOS), iXsystems has become an industry leader in building innovative storage solutions and superior enterprise servers for a global marketplace that relies on open technology.

Thousands of companies, universities, and government organizations have come to rely on iXsystems' storage, servers, and consultative approach to doing business. Headquartered in the heart of Silicon Valley since its founding in 1996, the dedication to white-glove customer service, industry-leading support, and transparent technological contributions has never wavered and continues to help lay the foundation for a new era powered by open technology.