Great Ape Trust of Iowa puts their trust in technology partners

Leviton, Superior Essex®, and T3 Technologies Provide the Network Backbone for Advanced Research.

It’s just a few days before the first Bonobos, small Apes similar to Chimpanzees, are scheduled to arrive at Great Ape Trust of Iowa. Steve Boers, President of T3 Technologies Inc., a Leviton Certified Installer, is giving a tour of the facility, explaining the network that will support the research here. There is a sense of excitement, anticipation, and accomplishment, plus the adrenalin rush of finishing last minute requirements.

Almost everything is in place - multiple keyboards, controlled access doors and hidden cameras in every room. A 40 inch touch screen for lessons is up and running. The Leviton and Superior Essex (NextLAN®) network that ties it all together is completely installed and ready to go.

When complete, this will be the largest research facility of its kind in all of North America, and one of the first to be home to all four types of Great Apes. Right now the facility houses two Orangutans and eight Bonobos. In the near future it will be home to Gorillas and Chimpanzees as well. Here researchers will study cognitive and behavioral development in Apes, including language abilities, forgiveness, social interaction and process of culture.

Supporting a New Kind of Research

As with any research project, it’s important to track every bit of data, but at Great Ape Trust of Iowa, not all of the data will be generated by the researchers themselves. In this brand new facility, located on 230 acres bordering the Des Moines River, the Bonobos, Orangutans, Gorillas, and Chimpanzees who live here will make many of their own decisions and record much of the data themselves.

The Apes will control who enters their home, and choose their own activities from singing or playing a keyboard in the music room to enjoying time in the greenhouse, lounging in the waterfall shower, or helping with the cooking.

One of the Bonobos who lives here is world-famous Kanzi, known as the Bonobo with the most advanced language skills in the world and also known for jamming with English rockers Peter Gabriel and Paul McCartney. PanBanisha, the matriarch of this Bonobo family is known for her cooking skills. In fact, the kitchen is set up to allow her to assist lead scientist Dr. Sue Savage-Rumbaugh with food preparation. The Bonobos saw videos of the facility in construction before arriving at their new home and were especially excited about the possibility of controlling their own doors. They also constantly vocalize as though they are conversing. Although their voices sound quite different from humans, Bonobo voice patterns have been digitally analyzed and found to be nearly indecipherable from ours. This type of information is vital to the researchers, as is the ability to communicate with the Apes.

One of the most important methods through which researchers will communicate with the Bonobos is through the use of lexigrams available on 40 inch touch screen monitors. Each lexigram or symbol represents a word or concept, but is not necessarily characteristic of the word it represents.

Eventually the touch screen will be controllable from outside the facility so schools and researchers can also be involved. For now, the Bonobos can use the touch screens for language class, movies, drawing, keeping time or simply choosing foods from the attached vending machine. They can also draw on slate “chalkboard” panels in the floor. All the keystrokes, images and techniques will be captured and recorded.

That’s why the network is so important. It controls access to spaces, supports lexigram screens, records every keystroke on every keyboard (60 of them in this 13,000 square foot facility) and runs cameras, as well as providing streaming data to outside researchers. Every bit of data runs over the NextLAN network and not one piece can be lost.
CASE STUDY  |  Research Facility Application

Developing Critical Partnerships

According to Executive Director Kirk Brocker, the Bonobos Kanzi and Panbanisha are quite possibly the two most important animals in the world and may be mankind’s closest relatives. “That’s a huge responsibility. That’s why developing partnerships was so critical.”

Great Ape Trust was looking for a contractor who was going to be there for the long term. They knew they would always have new technology needs. Because of that, Great Ape Trust put their trust in T3 Technologies, Inc. Per Brocker “The guys from T3 told us what we needed to do. There were a lot of things we just couldn’t anticipate, but Steve and his crew came through for us in every way. In fact they insisted on fiber optics even before we needed it. It’s already paid off a number of times. That’s why T3 was the obvious partner.”

Steve Boers, owner of T3 Technologies thinks about partnership in a similar way. After 25 years in the business, he thinks of himself as a technology coach. But, he says, “I work with a team. I can only be a good coach if I have good players, good partners.” Steve worked with the research team to understand their vision and make it a reality, even going to Atlanta to meet the Apes before they moved to Des Moines. Because he believes first and foremost in partnership, he went looking for the ideal product partner. That was Leviton.

Other competitors may not have understood the magnitude, the incredible impact, of this project but Mitch Nibberich, Leviton District Sales Manager, understood immediately. Steve explains, “Mitch and Leviton became our partners and helped us develop an end to end solution. Leviton was absolutely a huge help. For example, a couple deadlines came sooner than expected and we couldn’t wait. The folks at Leviton helped us get what we needed. Fast. It was a total collaboration in design and engineering. I took the vision, came up with a plan and Mitch helped me finalize in ways I might not have thought of.”

T3 wired the building with Leviton eXtreme® 6+ connectivity and Fast-Cure Fiber Optic Connectors with Superior Essex Cabling for security, fire, onsite paging, data connectivity and infrastructure. The system had to be absolutely reliable. As Steve said “Everything the Apes do is another data point. Every bit of data is logged for future study.”

The network is the backbone of the research. Eventually students from outside of the facility will be able to observe and communicate with Apes directly from their classrooms anywhere in the world.

Moving Into the Future

There’s still much to do. New houses will be built for the Orangutans, Gorillas, and Chimpanzees. Remote lexigram screens will be developed for schools to allow students to communicate with Apes and study their behavior directly from their classrooms anywhere in the world. Connections with other research facilities in Spain and Japan will be developed so Great Ape residents in those locations will be able to communicate with the Ape residents at Great Ape Trust. Plus, all that data is going to need to be stored, so a Data Center is planned.

“We hope we live up to the honor of calling it a trust,” says Executive Director Brocker. The Great Ape Trust of Iowa is well on the way to meeting that hope. With all it encompasses, and all it promises, Leviton, Superior Essex and T3 are happy to be their technology partners.