Louisiana EPSCoR
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Louisiana? Think Silicon Bayou

A company that is revolutionizing the way live TV is broadcast over the Internet began with an idea by a Louisiana Tech University computer scientist and a $2,500 Small Business Innovation Research (SBIR) grant that grew. Its prevailing goal: a Louisiana Silicon Bayou.

As with most research, the idea began with a question: *What would it take for the average person with an average computer, webcam and microphone to reach an unlimited number of people via broadband, which brings high-speed Internet connectivity to homes and small businesses?*

"In research, there is a moment in time when something strikes a note. For me, it was when that question was raised while I was walking back from a lunch in California," says Dr. Mike O'Neal. "Marcus Morton and I were just winding down our first Internet venture, which we sold to Earth Link."

O'Neal, a former chair of Louisiana Tech's computer science program who was in the process of returning to LA Tech, decided to work on the concept on the side.

"I kept playing with the problems and came up with a unique way to make it happen," says O'Neal. "The general idea: computers logged in to watch broadband are used to forward what they are watching to other people.

"This peer-to-peer technology reduces bandwidth needs by more than 50 percent, one of the biggest costs for companies that want to broadcast over the Internet and the primary hurdle preventing broadcasters from streaming live 24 hours a day. It's kind of like a potluck lunch. If everyone kicks in you have a feast and nobody has to do all of the work; everyone wins."

In 2001, O'Neal, the researcher, and Morton, the business and entertainment entrepreneur with a proven track record as an active force in music, film and multi-media, founded Network Foundation Technologies, LLC (NFT). Both are Louisiana natives and LA Tech alumni.

One of their first steps was to apply for a $2,500 Louisiana SBIR Phase 0 grant to help defray costs in preparing a proposal for a National Science Foundation (NSF) SBIR Phase I grant. They were subsequently awarded a total of $650,000 in three NSF SBIR grants of $100,000, $50,000, and $500,000 each.

"With its ability to reach geographically diverse and unlimited audiences at a fraction of the bandwidth cost of other online broadcasting technologies, NFT's platform is a viable solution for many content providers who want to deliver high quality live television-style programs free of charge to viewers," says O'Neal.

Explaining, he points out that because TV broadcasters spend all of their money up-front for towers, equipment, etc., their advertising charges are based on their up-front costs plus an estimated profit. The more people who watch the better.

"That's not the way the Internet works," he continues. "Every person who wants to use the Internet has to make a direct connection with a signal. If 10,000 people watch, there are 10,000 connections and 10,000 copies. As the numbers go up, so does the cost.

"The beauty of NFT technology is computers connected to a server by a small number of individuals are 'told' to connect with someone else who wants a copy, which in turn connects with yet another com-

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To help stimulate interest and increase participation in the federally-funded SBIR and STTR programs, LA EPSCoR has, since 2001, contributed to the Louisiana SBIR/STTR Phase Zero Program. Information about the program, which is administered by the Louisiana Business & Technology Center, is available at http://www.bus.lsu.edu/lbtc.

At the NSF SBIR $500,000 check presentation to National Foundation Technologies are, left to right, Dr. Mike O'Neal, Shreveport Mayor Cedric Glover, Ruston Mayor Dan Hollingsworth, and Marcus Morton.

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puter, and so on down the line, spreading rapidly from one to another."

"Actually, that's the easy part," adds O'Neal. "The hard part, the real kicker, is when someone goes away or signs off. You have to make the system capable of 'healing' itself without interruption, to continue without missing a beat. That's where NFT's patents come into play."

NFT's unique video broadcasting solution incorporates a customizable, downloadable player— NiFTy—that streams content directly to a viewer's computer desktop. Once downloaded, an icon, which can be personalized with your favorite team or league logo, is placed on your computer to turn on the service.

Markets

With NFT, any content provider can have his or her own "channel" via live streaming. The platform creates an infinite number of channels as opposed to today's channel options restricted to those offered by network TV, cable, and satellite. The company's motto is *Free for View*; its slogan, *Never miss another away game*.

Because sporting matches are best watched live, Morton refers to sports leagues as their "low-hanging fruit." Clients include the Central Hockey Leagues, arenafootball2, International Baseball Federation, USA Weightlifting, and USA Judo, and sports events broadcast from Asia and Europe, including France, Germany and Spain. Some Olympic qualifiers, such as weight lifting, will also be broadcast from the 2008 Summer Olympics in Beijing.

A partnership with Friday Morning Quarterback for the promotion of music industry professionals, recording artists and radio broadcasters was formed in 2007.

Silicon Bayou

The idea of building a successful tech company in Louisiana was the prevailing goal that led to NFT's location in Louisiana Tech's Enterprise Center. The company, which currently has 30 employees, continues to grow.

"We have purposely staked a claim in North Louisiana," says Morton, adding that some people have questioned why NFT is headquartered in Louisiana. "They think of Louisiana in terms of an oil and gas, medical technology and agricultural economy, not a hotbed of software and high-tech industries. We think the best way to change that perception is for us to be successful.

"We firmly believe that the quality of engineering graduates from Louisiana's universities make the state a perfect environment for advancing a high tech infrastructure equivalent to Silicon Valley—a Silicon Bayou.

"We can also attract top-notch people living elsewhere who are willing to take less because they want to live here. We recently had an engineer return from Dallas to be near his family."

"I'm another example," adds O'Neal. "I lived in California for two years and took a substantial cut to return to Louisiana, which I consider home."

The State agrees and in 2005 NFT was among the first of eight companies qualified to participate in the Louisiana Angel Investor Tax Credit Program that provides up to a 50 percent tax credit for angel investors who help fund qualified Louisiana-based technology startups before the end of the year.

In 2007, the Louisiana Business Incubation Association named Morton, whose Hollywood and entertainment industry connections are critical to NFT's future, the Entrepreneur of the Year.

A Near Future Happening

On NFT's horizon is PeopleCast, which will allow people to broadcast video from their own home page. Described as a blogger's dream, it will be supported by ad content and free to the user.

"This concept goes back to the original idea of connecting people," says O'Neal. "It will do for the Internet what web pages did for the printed word. Groups or individuals who want to broadcast information or ideas are potential customers. People will be able to run their own home talk shows.

"During the presidential race, each candidate, for example, could have his/her own site where you could hear their entire speeches as opposed to snippets.

"Think about the power of television and you will begin to realize the possibilities of PeopleCast's ramifications."

And it all began with an idea and a $2,500 SBIR Phase 0 grant.

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