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## **Communications Technology in Higher Education 2008**

Since mid 2006, we have followed the “Technology Team” at the University of South Florida (Tampa, FL). This group has not received the great headlines of their football team, but it should have gotten rave reviews for their accomplishments. The pace of change has been overwhelming for many universities. However, the IT/communications group at USF made huge strides to meet the pace of change and to build in more values for the Students, Faculty, and Administration through improved information systems.

We are working on another article about the accomplishments of the “Technology Team” at the University of South Florida (Tampa, FL). Working closely with the USF Health IT Department, they have developed systems that are a big step ahead for a “paperless communications and records systems” for The Center for Advanced Health Care – South Pavilion. Improved patient care, reduced expenses are just some of the benefits that these two groups have delivered

In the world of education, K through 12 is the foundation. The world of Higher Education is a special challenge for the sphere of Colleges and Universities. In the USA, the University system is at the heart of advanced education. Many experts regard the higher education programs as the cutting edge advancement of our society and our national strength. Just as elementary and high school education are essential for the development of quality university students, today’s universities are essential for developing qualified professional leaders for the public and private sector.

Technology is playing an ever more powerful role in the university system. Only a few decades ago, computers were confined in dedicated facilities and telecommunications systems were primarily focused on serving administrative needs of the university. That entire scenario has drastically changed as the computer has exploded into every area of the entire education system (students, faculty, and administration). Telecommunication systems are converging into active data systems and the Information Technology Departments of the University are tackling challenges that fell into the category of “Star Wars” stuff just a generation ago.

### **University of South Florida**

Situated in Tampa, Florida, one of the most dynamic and fastest-growing metropolitan areas in the country, the University Of South Florida (USF) is among the nation’s largest academic centers for applied technology. The Carnegie Foundation has rated USF (with an annual research budget of over

\$250 million) as a premier U.S. research University. Commercial technology represents a significant growth engine for Florida's economy.

With over 5,000 technology firms located along the western coast of the state, USF's regional campuses in Tampa, St. Petersburg, Lakeland, and Sarasota are centrally situated in this high-tech corridor. One doesn't have to look far to see the tight linkage between USF and the commercial sector. For more information, visit [www.usf.edu](http://www.usf.edu).

## **Challenges**

Today's students, faculty and staff have very high expectations regarding technology that touches their daily lives. USF has met those expectations head-on by embracing innovation and viewing its communications technology as a strategic investment that helps USF attract and retain the best faculty, students and staff.

With over 42,000 student, faculty and staff end-users, the University has experienced tremendous growth since its founding. Available real estate on the main campuses was at a premium. As a result, the University has been expanding the boundaries of the traditional campus – departments are setting up extended classrooms or administrative locations elsewhere within the community.

In establishing these new sites, the departments made it clear that they needed the same network performance and access to applications as the on campus locations. They also requested the same features, especially 5-digit dialing, multiple party conferencing and use of the University's standard external phone prefixes.

USF saw a converged architecture as the best forward-looking approach to satisfy the need for rapid scalability with uniform features and functionality across a highly distributed network. Convergence would also eliminate the need for separate data and telecom networks, which was inherently inefficient and costly. With IP Telephony, USF could run all of its voice and data packet traffic on a common facility that largely eliminates the second transport network.

After intensive research of all available solutions, the staff of the IT Department of USF identified one best solution to serve their needs. Avaya's ability to 'mix and match' technologies really sets them apart from other vendors. "We put our Avaya DEFINITY® G3r in service in 1991, and I can count on one hand the number of components that we haven't been able to re-use. Everything was compatible and migratable to the Avaya S8700 Media Server. That's not only great engineering, that's great investment preservation," said Kate Nidasio, Director of Telecommunications and Customer Services.

## Facility Management and Datacom Infrastructure Design

The University of South Florida has deep roots in the world of communications cabling. USF is one of the original sponsors of BICSI, a nonprofit association supporting the information transport systems (ITS) industry with information, education, and knowledge assessment for individuals and companies.

[www.bicsi.org](http://www.bicsi.org) Additionally, USF is involved with ACUTA, The Association for Communications Technology Professionals in Higher Education [www.acuta.org](http://www.acuta.org) Through their participation in these and other associations, the staff at USF keeps their eyes on the rapidly changing technology horizon.

Another tool in the arsenal of IT management at USF is the product evaluation program. The evaluation process brings together many products in a systems approach to insure interoperability for maximum performance. In many respects, the cabling infrastructure is the “Information Highway” for the entire University.

It is almost hard to comprehend the awesome size of the USF network, number of stations, and access to Internet, and educational opportunities by remote access, on-line courses, and security technology...etc that the IT Department at the University of South Florida must manage.

### **Voice Network –**

18,000 Station and Trunk Ports, 3 Map 100 Intuity Voicemail servers, Over 50 PRIs, VoIP Stations: 200

### **Data Network –**

1500 switches, 50,000 ports and around 18,000 active MAC's at any given moment. 100MB to the Desktop All locations

Data Network Information: <http://www.net.usf.edu/>

<http://www.net.usf.edu/infocenter/whatwedo.php>

Network Statistics: <http://box.net.usf.edu/cgi-bin/net.pl>

WLAN Information & Locations: <http://www.acomp.usf.edu/wireless.html>

USF Security: <https://security.usf.edu/>

Internet 2 Information: 155MB OC3 XO, <http://i2.net.usf.edu/index.html>

Internet: 1GB with Cogent

Distance Learning: <http://www.outreach.usf.edu/distancelearning.htm>

One of the most crucial points in this entire maze of facilities is the connectors and jacks. Connectors experience more physical wear and tear than almost any other component in the network. Patch panels and the jacks have to be “darn near bullet-proof” and have the widest range of interoperability. Over time, this may be the “Achilles’ Heel” of the maintenance program.

There are miles and miles of communications cables that support the University of South Florida. The “Technology Team” carefully evaluated the cables offered

by all of the major cable manufacturers. Testing and comparisons were made and the decision to use HCM Hitachi cables [www.hcm.hitachi.com](http://www.hcm.hitachi.com) was made. The product evaluation process is ongoing to insure quality.

With almost 140,000 connectors, choosing the most durable and functional jacks and patch panels is too important to treat lightly. USF conducted intensive comparisons, evaluations, and field-testing of the available cables and connectors. One of the connector technologies they have installed is made by SMP Data Communications (Superior Modular Products) [www.smpdata.com](http://www.smpdata.com). SMP Data Communications is a worldwide leader in the development and manufacture of connectors (copper and fiber) for data communications.

### **TOP HONORS to USF**

Over the years, hundreds of miles of cables have been installed (in a wide array of technical performance capabilities). Mixing and matching the tasks to the proper facility is a real challenge with major savings for USF. From our study, we feel that **USF continues to deserve the equivalent of a “Phi Beta Capa” for expertise, management, planning, and execution in Information Technology.**

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