



Avaya IP Office Solution Provides Columbia University Medical Center with Valuable Lesson

As one of the top research facilities internationally, Columbia University needs secure, reliable communications to link leading researchers to both colleagues and critical data. Downtime, especially if significant, can mean millions of dollars worth of research and years of research work wasted from ruined experiments. Reliability is key, and the Columbia University Medical Center satellite offices rely on the Avaya IP Office solution to deliver the always-on communications it demands to remain at the top of its class. The Avaya solution has also yielded cost and productivity savings of \$82,000 for the Medical Center after the first year of operations, as well as the ability to offer new services such as streamlined administration and remote office capabilities for its top researchers.

Goal:

To provide top global research organization with new communications solution that is highly reliable, redundant and secure, providing new communications services for employees while controlling costs.

Avaya IP Office Solution:

IP 412 and IP 403, Voice Mail Pro, Built-In Conferencing

Results:

A five-year projected net benefit of \$69,858 based on savings in conferencing costs, increased staff productivity and reduced administration costs or \$1,435 in 5-year savings per employee. The payback period of 22 months with an annual ROI of 37 percent and Net Present Value of \$173,354 after five years.

OBJECTIVES	BENEFITS ACHIEVED
Reduce communications costs.	Saving up to \$15,000 per year by using IP Office conferencing feature. Reduced cost of new installations by 50% saving \$150,000 in year one and two.
Prepare for the future in areas of disaster readiness and use of innovative IP technology.	Gained redundancy in case of disaster. Two satellite locations are now ready for Voice Over IP future implementation.
Connect multiple locations and network to CUMC campus with interoperable product.	Connected 125th Street, 142nd Street and third location in Q2 '04. Multiple locations are now networked to the CUMC campus non-Avaya system.
Increase productivity of network administration.	Reduced Moves, Adds, Changes (MAC) requests from average of 60 minutes to 10 minutes per request, saving \$1,290 per year. Eliminated need for on-site staff technician for MAC.
Provide highly reliable and flexible communications system.	Improved productivity for top global researchers with reliable solution offering desired flexibility. Use of IP Office Hot Desking feature allows global researchers to work remotely with access to IP Office solution and features from any Internet connection.



About Columbia University Medical Center

Comprising roughly half of Columbia's annual budget, Columbia University Medical Center provides world-class leadership in scientific research, health and medical education, and patient care.

Faculty of the Center's four schools carry out the school's core mission of educating and training future generations of health care professionals. Conducting research – with the ultimate goal of translating discoveries into new techniques for fighting disease and improving health – Columbia University Medical Center has been responsible for a number of significant clinical breakthroughs – among them, the first blood test for cancer, the first medical use of the laser, and the first successful transfer of genes from one cell to another.

The Challenge: High Reliability and Security within a Budget

With two new buildings housing some of the world's most renowned researchers, choosing a new communications system would be important even without recent blackouts and terrorist acts threatening critical research. Columbia University Medical Center Assistant Telecommunications Manager, Rick Tunon knew the Medical Center

would be best served by a system that supported the very latest technology – Internet Protocol, or IP – as it provided a high measure of security as well as reliable service. Tunon also sought a system with built-in redundancy to ensure adequate disaster recovery capabilities to suit the Center's zero-tolerance for downtime.

In addition, any potential system had to meet several other requirements. First, Tunon did not want the satellite offices to feel isolated in any way, so the new system needed at least the same level of functionality as offered by the main Columbia University Medical Center campus communications system. Compatibility with the University's Nortel system was also required in order to network the sites. The new system needed to provide feature functionality for productivity improvements such as on demand conferencing capabilities, intuitive administration and management tools. Finally, with an eye on the future, Tunon required an easy migration path to future IP applications, while still capable of operating on a public switched telephone network, or PSTN.

Columbia University Medical Center Chooses Avaya

Tunon researched a couple of different vendors through Avaya BusinessPartner, Enhanced Communications, whose communications consultants showed him different options to support the more than 180 faculty members residing at the Center's satellite offices on 125th and 142nd Streets in Harlem, New York City. Other vendors' systems could not match Avaya's experience and level of reliability in communications. Ultimately, Tunon chose Avaya because of the company's proven track record in providing superior communications solutions supporting voice, data and IP.

"Avaya was the clear choice of vendors to support the Columbia University Medical Center," said Tunon. "They have a great deal of telephony

About Enhanced Communications Inc.

Founded in 1993 and based in New York City, Enhanced Communications is an Avaya BusinessPartner offering telephone systems, telecommunications services, data networking and communications infrastructure. In a 2002 customer satisfaction survey commissioned by Avaya, Enhanced Communications achieved an overall satisfaction result of 100 percent. The company serves some of New York's most prominent businesses and organizations — from Columbia University to the Securities and Exchange Commission. For more information, visit the company's Web site at www.enhancedcommunications.com or call 800-964-7477.



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Rick Tunon, Columbia University Assistant Telecommunications Director

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Tunon also puts his trust in Enhanced Communications, who provides him with quick service response times and a significant level of communications expertise and consultation.

"Enhanced is always there quickly if I call with a problem, though issues with our system are rare," said Tunon. "When we do have an issue, it's always resolved in a timely fashion."

A Closer Look at the Avaya IP Office Solution and Its Benefits

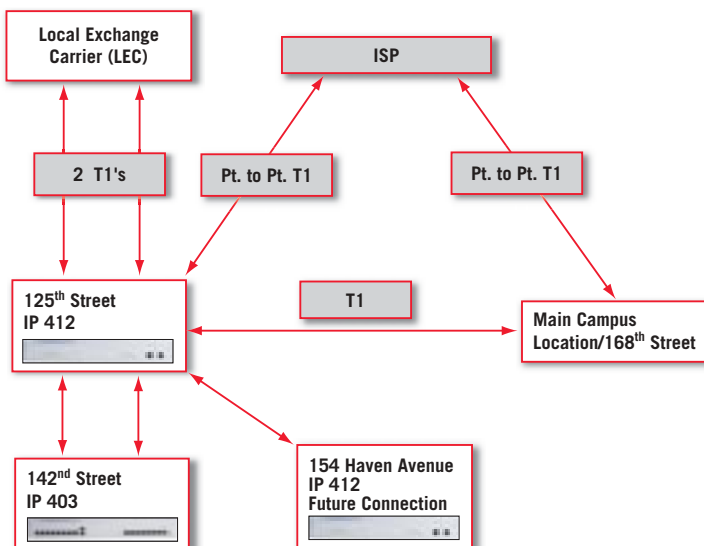
Columbia University Medical Center implemented an Avaya IP Office system that currently supports 180 users in university offices at 142nd and 125th Streets in Harlem. The two locations house the offices of a few Mailman School of Public Health programs, including the School's National Center for Children in Poverty, Center for Global Health and Economic Development, Harlem Health Promotion Center and Head Start program.

Columbia's 142nd Street location deployed an Avaya IP 403 system and an Avaya IP 412 system is located at the 125th Street location. Both facilities use VoiceMail Pro and Avaya digital telephones. The IP Office system at each of the two sites are linked to the Columbia University Medical Center's campus by point-to-point (T1) circuits functioning as part of a university-wide network.

Tunon found the implementation process relatively smooth, and Enhanced Communications' technicians easily resolved small glitches.

Before even getting to the system's features and capabilities, Tunon liked that the system allowed for a single network CAT-5 cable to be run throughout the new building to handle both the voice and data networks per IP address. Many other systems required separate cabling to be laid for each network. Also, the small footprint of the unit was appealing, as it would take little space to house the unit within the IT Department onsite at their 125th Street offices. It also allowed for easy expansion, for when the Center adds users or other locations to its network. The Center plans to implement and network one additional location in 2004 at Haven Avenue in Washington Heights, New York City.

IP Office System Network

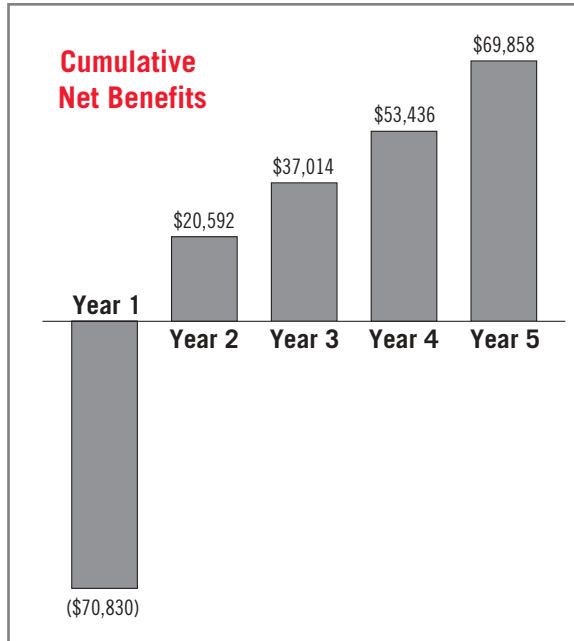


In addition, the Avaya IP Office solution is networked to the Medical Center's main telephone switch, or can operate independently in the case of a disaster, should connection to the main network be lost.

The feature-rich nature of the IP Office system also made it an attractive solution for Columbia University Medical Center. First, the built-in conferencing capabilities were appealing, as researchers at the Center average between two and four conference calls per week to meet with colleagues regarding current research. Prior to implementing the IP Office systems, the Center



spent over \$340 per week on third-party conferencing services. Since implementing the IP Office solution with its on demand conferencing capability, the Medical Center will save up to \$15,000 annually in conference calling costs alone.



The “hot desking” ability of the IP Office system was also appealing, as it allows for easy re-location of faculty from one location to another. Working remotely is also easily accomplished using the hot desking feature coupled with high-speed Internet access: any faculty member can use the public Internet to connect an Avaya IP tele-

phone in their home to the system located in either location. Those working remotely can use three-digit dialing to reach colleagues, and callers are transferred to virtual offices of anyone connected to the system, regardless where he or she is work-

ing that day. This feature is especially important to professors and researchers, many of whom travel extensively to conduct research or to be at the University for classes or lectures.

Tunon regards the IP readiness and the ease with which IP can be deployed as a major strength of the IP Office system.

“I know I can easily migrate to voice over IP and receive the same high-quality voice calls as I do using [time-division multiplexing],” said Tunon. “And in the meantime, I can use the system to reach the public switched telephone network to route calls in the same manner I always have.”

Finally, Tunon and his on-site system administrators have found the IP Office system very easy to manage. Moves, adds and changes can be done without additional wiring, and the system actually requires fewer employees to manage than the previous system. Network Administrator, Juan Carlos Abreu, estimates that management requests that previously took an hour or more now take about ten minutes to complete. With an average of three requests per month, system administrators like Abreu are saving about two and a half hours per month or 30 hours each year that can now be used to accomplish other important tasks for the department. Abreu agrees.

BUSINESS IMPACT OF THE IP OFFICE SOLUTION						
	START UP	Year 1	Year 2	Year 3	Year 4	Year 5
PROJECT COSTS	\$(152,500)	\$0	\$(9,000)	\$(9,000)	\$(9,000)	\$(9,000)
PROJECT BENEFITS*		\$81,670	\$100,422	\$25,422	\$25,422	\$25,422
FINANCIAL ANALYSIS						
Net Value	\$(152,500)	\$81,670	\$91,422	\$16,422	\$16,422	\$16,422
Cumulative Value	\$(152,500)	\$(70,830)	\$20,592	\$37,014	\$53,436	\$69,858
Net Present Value (NPV)	\$173,354					
Annual ROI	37%					
Internal Rate of Return (IRR)	21%					
Payback Period	22 months					
5-Year Savings/Employee	\$1,435					

* Benefits include: Avoidance of Conferencing Costs, Staff Productivity Gains and Reduced Administration Costs
Results shown are not a guarantee of equivalent performance.

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Rick Tunon, Columbia University Assistant Telecommunications Director

“The system programming is very easy to learn and use, and the system is highly functional,” said Abreu. “We have no problems on system management and the solution meets our needs.”

The Future

The IP Office solution provided by Avaya through Enhanced Communications completely met the current needs and future desires of the Columbia University Medical Center staff, delivering the reliability and high quality of service necessary to satisfy the world-class faculty that the Center employs. In fact, the University is so pleased with the IP Office solution’s performance and capabilities that it recently chose to deploy a third IP Office system at a new University facility at Haven Avenue, also in New York City. The third site will be networked, along with the other two, via IP, in order to realize cost savings for telephone calls made between locations.

Savings for the Medical Center associated with the installation of the new system will also be significant. Tunon estimates a 50 percent savings in cost associated with this new installation that will be realized in Year 1 and Year 2 of the financial analysis.

“Enhanced Communications has been a trusted partner of ours for years,” said Tunon. “They have a significant level of expertise and are always responsive. And, our faculty, researchers and administrators alike, all who were trained by Enhanced Communications professionals, are very happy with the system as well.”

“The capabilities of the system are excellent,” Abreu said. “The added functionality and easy system management have saved our department money and time while providing our faculty with a feature-rich, reliable solution.”

“I had great confidence in Avaya,” said Tunon. “I knew they would stand firmly behind any product they marketed, and with the IP Office, they have certainly lived up to their high reputation.”

Learn More

To find out how Avaya IP Office can enhance your communications solutions, please contact Enhanced Communications. You can visit our company Web site at www.enhancedcommunications.com, or call 800-964-7477.

For more about Avaya and our other award-winning solutions, visit www.avaya.com.

This case study was developed and written by The Bailiwick Company for Avaya. The Bailiwick Company provides public relations, marketing and sales support to corporate clients.

<p>About Avaya</p> <p>Avaya enables businesses to achieve superior results by designing, building and managing their communications networks. Over one million businesses worldwide, including more than 90 percent of the FORTUNE 500®, rely on Avaya solutions and services to enhance value, improve productivity and gain competitive advantage.</p>	<p>Focused on enterprises large to small, Avaya is a world leader in secure and reliable IP telephony systems, communications software applications and full life-cycle services. Driving the convergence of voice and data communications with business applications – and distinguished by comprehensive worldwide services – Avaya helps customers leverage existing and new networks to unlock value and enhance business performance.</p>		
<p>IP Telephony</p>	<p>Contact Centers</p>		<p>Unified Communication</p>

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