

KEYCOM DEPLOYS VoIP TO HELP UNIVERSITY STUDENTS CONTROL COSTS

Service Provider Deploys VoIP to 28 British Universities Serving 50,000 Students

The Challenge

British university students on a tight budget can find it difficult to manage their communications costs when they don't know how much telephone service or internet time they need to spend for their academic and social lifestyles. Keycom is a service provider of pre-paid and un-metered telephone and data communications for more than 50,000 students. It recently deployed a voice-over-IP (VoIP) service for 28 British universities, saving itself money on leased lines and making a pre-paid service available to more students.

When investors phone up to ask when they can raise even more money for the next voice-over-IP (VoIP) deployment project, you know that VoIP has finally been accepted as a trusted service delivery technology. That's exactly what investors in Keycom did after the company deployed VoIP services at 28 academic locations in just six weeks in a £600,000 project (the pilot was meant to be just six sites originally).

The Customer

Keycom, based in Stafford in the Midlands, UK, is a fully licensed telco (telephone company) with direct interconnect to all major UK and global voice carriers, and is also an Internet service provider (ISP). It designs, develops, installs and delivers communications solutions and services for the UK's tertiary education market. It has developed a number of proprietary systems and applications to offer a menu of products and services designed to improve communications and facilitate access to information for institutions, students and businesses in further and higher education. Keycom is the market leader in the delivery of value added communication services to more than 50,000 UK students in more than 160 separate geographic locations.

Keycom sells its services largely to facilities management companies that provide student accommodation, as well as directly to a significant number of university campuses. Keycom relied upon high-cost ISDN lines for telephony and dial-up access for internet connections between student accommodation locations and Keycom's central office in Manchester.

Keycom was paying for line installation, line rental and call costs of between 1.1 and 4 pence/minute. Running costs were about £200,000 per year to provide telephony services to 14 sites for University College London alone, yet there was an increasing demand from students for unmetered Internet access. Flexibility on call capacity also became a problem and any new service had to leverage the existing mix of legacy PBXs. PSTN fail-over would also be critical to maintaining a high quality of service (QoS), while DASS-II interoperability was crucial to maintain existing connectivity.

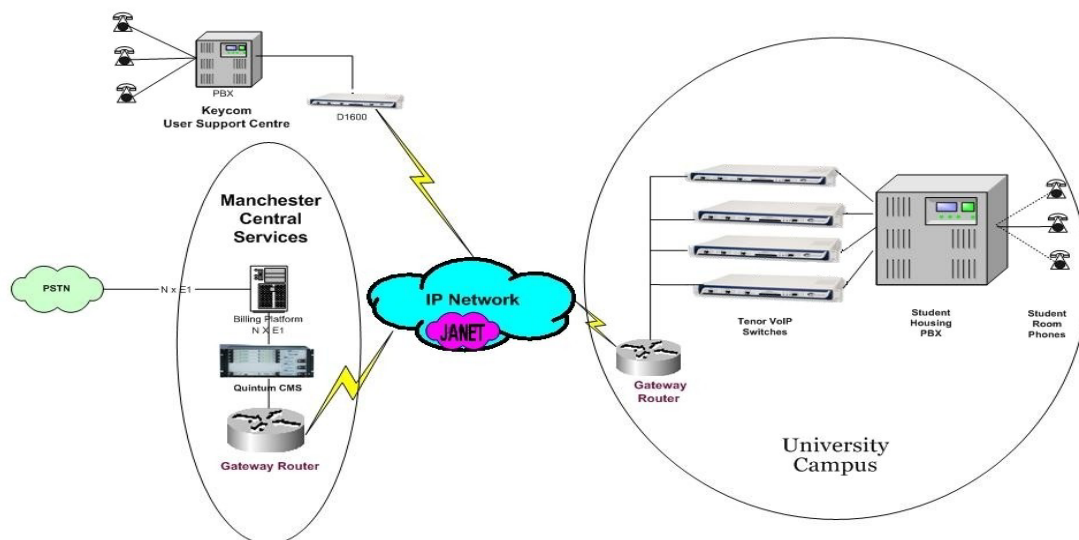
The challenge was to reduce operational costs, increase margin and offer new services while providing affordable telephony and more metered Internet access for students. This also opened the opportunity for a pre-paid un-metered Internet service which could include VoIP telephony.

The VoIP Solution

Jon Richardson, Operations Manager, Keycom, said, "We investigated VoIP suppliers such as Storm, Quintum, Pace and Cisco. To offer a more attractive service, we had to cut our costs by two-thirds and rollout an un-metered product. We needed a carrier-class service which would be transparent to our end-users. Some of the solutions we looked at could not give us the cost savings we needed, and even the better known could not provide the technical capability or features offered by Quintum Technologies' 'Tenor' VoIP switches.

Ashley Atkinson, Managing Director, Keycom, added, "We went to our shareholders to ask for £600,000 initially for a six-site VoIP pilot project, when VoIP had a lousy reputation. We had very thoroughly investigated the various possible solutions and budgeted the project against cost savings and projected increased business. We knew we had a strong business case for VoIP deployment."

Richardson added, "Key VoIP switch criteria for us were channel by channel aggregation, DASS-II, ISDN fall-back and affordability. In practice this meant carrier-class, legacy PBX interoperability, modular switches, a wide variety of codecs, plus equipment we could learn and install ourselves after a minimum of training. Because we are the only commercial organization that can connect directly to JANET, the academic data network, we also needed efficient packet handling to keep our bandwidth demands to a minimum."



Keycom began to rollout Tenor VoIP switches to the six sites chosen for the pilot. However, during the six-week deployment, the return on investment (ROI) became apparent so quickly, that the pilot was extended – first to 23 sites and again later to include a total of 28. In total Keycom installed 59 Quintum Digital switches to service student accommodation plus a fully-populated Quintum Tenor CMS (Carrier MultiPath Switch) at its CO. This handles 32 x E1s for a maximum of 960 simultaneous voice channels.

The Bottom Line

"ROI from the Quintum Tenor VoIP switches on a site-by-site basis averaged about four to five months," Mrs. Atkinson explained. "Our investors were very pleased and some have already asked when they can raise more funds for the next VoIP service extension to more university accommodation.

"At UCL alone, we built a voice and data network from scratch for just £50,000 with running costs of just £20,000 per year, compared to £200,000 per year by the previous service provider," she added. Richardson added, "On eight sites we have no PSTN lines at all, apart from one purely for a 999 service. We put our VoIP calls onto fiber into POPs from EasyNet, Kingston and FibreNet on bandwidth varying from 10-60 Mbps.

"Our Quintum Tenors came from the sole UK distributor, the Techland Group of Loudwater, Bucks, who gave us outstanding advice and service configuring the first few switches, plus on-site training for eight of our own engineers."

Within a couple weeks, Keycom was confidently installing the Tenors themselves. Now it can ship a pre-configured Tenor to a site and ask an engineer to 'just plug it in'.

"We liked the modularity of the Tenors so now we can just add more channels if demand increases on a given site," Richardson said. "We were also pleasantly surprised at the wide variety of codecs available in the Tenors. Even the larger vendors could not supply us with a DASS-II compatible switch, nor mid-call PSTN fail-over.

"We also bought the Quintum PacketSaver™ option to economize on voice packet size when we use the JANET network," Richardson added. "PacketSaver halves our VoIP bandwidth requirement; we know this because we switched it off completely to test it. We even discovered that the Tenors are one of the most accurate clocking sources available, useful for our metered service. And we believe that we are now the second biggest Tenor network in the world. The Quintum Tenor VoIP switch is as close to plug-and-play VoIP as you can get."

Student calls used to go from their residence over a PSTN ISDN30 line to Keycom's CSP in Manchester and then on to another PSTN E1 to the called party. Now the calls often don't even 'touch' the PSTN. Keycom saves on line installation, line rental and call costs. Students get a choice of a reliable, affordable, pre-paid or un-metered voice and data services called KeyTalk and KeySurf.

"VoIP has helped us to cut our operating costs by £70,000 per month," Atkinson said. "We also now run a more efficient yet high quality service, while offering more new customer services such as un-metered Internet access. From the autumn we plan to also offer un-metered broadband. We believe our VoIP network is the largest for students anywhere in the UK - possibly in Europe. We believe that VoIP is certainly a proven, stable and highly desirable commercial reality."