

University of Catania - Cisco IP Telephony **helps new ideas flow**

Case Study

Founded in 1434, the University of Catania is one of the oldest and most respected universities in Southern Italy. Situated at the foot of Mount Etna, Europe's most active volcano, it offers its 65,000 students and faculty members a breathtaking view of one of the continent's most impressive displays of the powerful forces that rule our planet.

Built on a vast and ancient lava deposit, the city of Catania is not an easy place in which to dig underground. Nevertheless, a few years ago the University was able to complete a metropolitan area network (MAN) that spans its campuses and extends close to the city's main public offices and institutions.

Professor Aurelio La Corte, the University's top consultant for voice services, initially stated: "As soon as we had the MAN working for data connectivity, we started thinking about how to deploy new services using this infrastructure and, of course, voice was our primary focus. We wanted to leverage voice and data integration in order to offer new services to our community and reduce operational costs."

Professor Lorenzo Vita, head of the Information and Communication Technologies (ICT) department, adds that the University is very keen to experiment with new technologies.

"We have been co-operating with Cisco for many years," he explains. "We consider Cisco to be a technology leader and, as a company, it has shown itself willing to work on advanced projects within an experimental environment such as ours."



Excellent return on investment

In early 2002 Cisco supplied the University of Catania with a pilot network made of 50 IP Phones, a Call Manager call processing unit and Unity, unified messaging application. Users reacted very well to this technology because it allowed them to configure their telephony services quickly and efficiently. Moreover, the system was easy to install and maintain, due to a graphical interface and centralised management tools that helped to reduce support costs.

Both of these factors helped to convince the University of Catania that IP telephony offered the best possible way forward.



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In the following months, the University issued a number of invitations to tender for the deployment of new IP solutions in new buildings. Cisco won every single bid, beating world-class competition both on technical merit and cost. Quite simply, Cisco’s solutions stood out as the most technologically advanced while offering the best return on investment (ROI).

The ROI of the Cisco solutions was calculated using a cost benefit analysis that pinpointed how cost effective these solutions are to maintain and to expand as required. On this basis, the University of Catania decided to adopt the Cisco solution. It has already installed 600 Cisco IP Phones which will reduce operational costs by €170,000 in just three years.

Mobility and flexibility

Direct cost savings are not even the most important aspect of this successful implementation, as Professor Vita points out. “We now have a much more flexible and scalable solution that allows us to deliver new services to our internal customers. For instance, mobility and efficient billing capabilities are of great benefit to everyone. The exact return on investment for such services is difficult to quantify, but they clearly add enormous value to the IP-based integrated solution.”

The University of Catania has many different locations, both in the city and scattered across the eastern part of Sicily. This means that faculty staff quite often commute from the main campus to peripheral offices and research centres.

The Cisco IP Phones allow users to change location without worrying about their personalised phone settings. As soon as they log on to any IP Phone on campus, or even to a PC-based soft phone if they are away from Catania, their user profile is instantly available on that device. This means they can be reached via their usual extension number and any calls they make are automatically billed to the appropriate cost centre within their department.

“Such a transparent form of mobility is of enormous value to our users,” confirms Aurelio La Corte. “Billing is also very important for us.”

A truly scalable solution

In the past, billing was a tedious manual process. Now, however, the University is using a billing solution called Orion, developed by Quasar Telecomunicazioni, a Cisco partner. Users at the University can access Orion on their Cisco IP Phones, which function as data terminals.

La Corte continues:

“Orion is a very efficient and highly configurable billing solution that allows us to keep costs under control without any hassle. We can use it to allocate costs to single users, departments and research groups. Thanks to its web-based reporting tools, we can also calculate savings instantaneously. The XML browsing capability integrated into the IP Phones allows users to check any incurred costs in real time, ensuring that we are all working with the most up-to-date information.”

Flexibility and scalability are two of the main factors that are helping the University of Catania to further leverage its investment in IP telephony. The cost of upgrading the new converged system is extremely low: adding new users is just a matter of buying an IP Phone and attaching it to the closest Ethernet port. Managing new users is also very simple and cost effective because no extra equipment is necessary, as it would be with a traditional PBX solution.

Lower management costs

Indeed, management costs were a key issue for the University. Most of its technical staff come from a data networking, rather than telephony, background. As a result, in the past, it spent a great deal of money on maintenance contracts and consultancy fees for its legacy PBX.

The University calculated that it would have incurred network management costs of around €9,000 per year on this project alone using a traditional telephony solution. However, because the Cisco solution is based on IP, the University’s own data networking engineers are able to manage it themselves. This will lead to cost savings of more than €25,000 over three years.



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For the same reason, training costs have been also dramatically reduced. The University’s engineers have found themselves to be familiar with the Cisco IP telephony solution, cutting training costs by two thirds. This saved €20,000 on the initial deployment, and further savings are expected over time.

Cabling and installation were also cheaper compared to a traditional solution. Voice and data networking share the same infrastructure which means the installation can be handled by a single support organisation, using the same tools and devices for both. This reduced the initial cabling and deployment costs by an estimated €48,000.

Investment returned in one year

Taken together, these factors mean that, although the initial capital investment for a Cisco IP Telephony solution was approximately €130,000 higher than for a traditional solution, the University of Catania was able to recover this extra cost in just one year. After breaking even in just twelve months, it now expects to save at least €60,000 a year on network operation, thanks to lower management, maintenance and traffic-related costs.

And this does not even include the indirect savings generated by the flexibility and mobility of the Cisco solution. Users are now more productive and more willing to move from one office to another because they can be reached as easily as if they were at their own desks. Moreover, new services are on the verge of being implemented, as Professor Vita explains: “University departments will be able to deploy call centre and Interactive Voice Response (IVR) services to meet their specific needs. Voice messaging and integrated messaging will also be available for all of our users.”

Hi-tech reference site

New ideas are able to flow easily in a research environment that will be at the heart of the so-called ‘Etna Valley’, the new hi-tech district chosen by the Italian Government to be at the forefront of advanced research in information technology.

The University of Catania will act as a reference site for all Government agencies and companies that are setting up new research centres in the Etna Valley. And its researchers will use their IP Telephony skills to facilitate a broader adoption of hi-tech projects in the region. The Comune di Catania (city council) and Provincia di Catania (county council) are now re-evaluating their communications infrastructure and are also considering a converged IP solution. The University of Catania’s experience of IP Telephony will help it support the councils, with a view to creating the most advanced and flexible solution for the region’s residents and businesses.

ROI Highlights

- Investment recovered in one year
- 600 IP Phones will save €170,000 on operational costs in the first three years
- More than €25,000 saved on network management in three years
- Savings of €20,000 on initial training costs thanks to a data-oriented architecture





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