

# Morlanwelz local authority

## Modern information and communication tools for public services and schools

“IP TELEPHONY IS JUST ANOTHER APPLICATION. ONCE YOUR INSTALLATION IS UP AND RUNNING AND YOU KNOW THE PRINCIPLES, THE MAINTENANCE IS FAIRLY SELF-EVIDENT. THERE IS OF COURSE A LEARNING PERIOD BEFOREHAND, BUT THAT IS THE PRICE OF KEEPING THE INFRASTRUCTURE IN YOUR OWN HANDS. HAVING A SECURE AND FUTURE-ORIENTED INFORMATION AND COMMUNICATIONS NETWORK UNDER YOUR OWN MANAGEMENT IS TRULY A TREMENDOUS ADVANTAGE. ALL IN ALL, WE ESTIMATE SAVINGS OF ABOUT 50,000 EUROS IN FIXED COSTS EACH YEAR.

Jean-Pierre Ferrari, IT manager at the Morlanwelz local authority

The public services of the Morlanwelz local authority are spread out over 22 buildings. With the support of the Walloon government, an intranet was installed between the various locations. Now, through the joint, converged fibreglass network, all the staff can enjoy the same high-performance network applications including IP telephony. So the local authority is providing all its personnel with modern IT and communication tools, even in the smallest offices and schools.

Morlanwelz received subsidies from the Walloon Region for the project. It regards the installation as a test case. On the one hand, to check the feasibility and cost-effectiveness of such a joint advanced information and communications infrastructure. On the other hand, to acquire practical knowledge about the technology. If the project continues to be successful, more Walloon local authorities may be equipped with a similar network.

"Because of the increased use of IT, the proportion of communication costs in the local authority budget is constantly increasing. For instance, every service or school needs an Internet connection and all departments must also be able to work together smoothly. This does not just imply busy internal telephone traffic. People also have to share and exchange digital data. In order to connect different buildings with each other, you can of course install a network with leased lines from a service

### EXECUTIVE SUMMARY

- BACKGROUND**  
 The Morlanwelz local authority emerged out of the merger of Carnières, Mont-Sainte-Aldegonde and Morlanwelz-Mariemont. It is a good 20 km<sub>2</sub> in size and has more than 18,500 residents. The local authority services and schools are spread out over 22 buildings.
- CHALLENGE**  
 Because of increasing communications costs Morlanwelz wanted to create a joint network for connecting all public services and offering all staff the same network applications. To get the infrastructure to produce an additional return on investment straightaway, Morlanwelz also considered sending the telephony over the network.
- SOLUTION**  
 Morlanwelz installed a fibreglass network between the various locations. Cisco Catalyst 3550 PWR switches with inline power and Cisco Catalyst 3550 12G switches control the network traffic. The switches are connected to the CallManager, Cisco's IP telephone switchboard. This now serves some 120 Cisco IP Phones at 22 locations. Later this will become 200. The project was partly financed by the Walloon Region. It regards it as a test case for checking the feasibility and cost-effectiveness of a joint, advanced information and communications infrastructure. If the project continues to be successful, more local authorities may follow.
- RESULTS**  
 The Morlanwelz local authority is the owner of a secure and future-oriented network and, moreover, it has full control over it. So all staff, even those in small offices and schools, have up-to-date information and communication tools to carry out their job. Besides the extra features, the end-users mainly enjoy increased mobility. Because the network also supports telephony, the local authority estimates savings of about 50,000 euros in fixed costs for communications each year. In the near future, the local authority also wants to use the network for more efficient management of its buildings and for camera surveillance.

provider. But this is expensive and what is more you are dependent on third parties. We preferred to invest in our own network in the long term. Something like this also costs money, it's true, but if you chose quality infrastructure that will last long enough, writing off costs on a yearly basis

is cheaper than leasing lines. So the quality and life of Cisco equipment also played an important part in our decision. It is a technology that offers many prospects. We want to offer as many services as possible through our network. Because the more services you have, the better the



return on investment for your network. Ultimately, you also create advantages of scale in the way. When you add a new service to the network, it is available at all locations immediately, even in a small school that could not allow itself advanced working tools on its own initiative," explains Jean-Pierre Ferrari, IT manager at the Morlanwelz local authority.

At the beginning, the project involved pure IT. To enable the network to show a good return straightaway, the local authority also wanted to carry its telephone conversations over it. Besides data traffic, modern IP networks from Cisco now support speech and video. "With IP telephony we can serve all locations from one telephone switchboard and again save on costs," says Jean-Pierre Ferrari. "The extra support from the Walloon Region gave us the opportunity to realise this, once again with an eye on the learning process for possible future installations. Through our project they have an insight into the true efforts and costs that installing and maintaining such technology carry with it in practice. This knowledge is helping to outline the IT policy further."

In a first phase, in collaboration with integration partner INS, a fibreglass network was installed between the various locations such that 35 Cisco Catalyst 3550 PWR switches and four Cisco Catalyst 3550 12G switches control the network traffic. The necessary redundancy is provided at critical points. The switches are connected with the CallManager, Cisco's IP telephone switchboard, and all 22 locations can also meanwhile call over the network. The CallManager currently serves some 150 Cisco IP Phones at various locations. Later, when the IT equipment is modernised in the schools, this will be something like 200.

Thanks to inline power technology, the switches provide the Cisco IP telephone sets power through the computer network. "So you avoid having to install extra sockets and you also ensure that the telephones carry on working if the power is interrupted for a while. The switches then transfer over automatically to their battery," according to Jean-Pierre Ferrari.

Cisco's virtual LAN technology (VLAN) in the switches also allows you to keep the data traffic of all the services strictly separated. "With these switches you can create different virtual subnetworks in one physical network and improve the security. We have provided such a separate subnetwork for each building and for each department. In this way we guarantee the integrity of the data of the different services. Each building sends its information through its VLAN and for each user we have fixed which VLANs he or she has access to," explains Jean-Pierre Ferrari.

All the offices and schools also have well-protected Internet access through the network. "Because we make this connection with the Internet centrally for all locations, a great many schools now have a level of security that previously they could not afford themselves. Thanks to the VLANs, for example, we can guarantee that certain computers in schools only have Internet access and not to the data on the network," says Jean-Pierre Ferrari.

For many end-users the new network means a big step forward. "Of course, with changes you always come across resistance but the modification went fairly smoothly. Anyway many technological improvements are invisible to the staff and the basic functions of the Cisco telephones are self-evident. Many new possibilities have opened up especially for our people who work in small offices or departments. Before they had minimal infrastructure and sometimes they didn't even have a telephone exchange. With traditional telephony we could not offer things such as a digital diary, a joint address book with contact data or conference calls. Now everyone can enjoy these and they are used in abundance," says Jean-Pierre Ferrari.

Moreover, mobile staff can work at each location as if they were sitting at their own desk. "This is, for instance, very handy for those civil servants whose work involves rotating around different offices in the boroughs. When they connect their PC to the network, they get access to the right VLAN and they can use all the applications and data that they need for their job. And all staff have a user name and password for the telephones. When they log onto a set, the calls for their number are directed there automatically," according to Jean-Pierre Ferrari.

With the new infrastructure, Morlanwelz can save substantially on telephone and maintenance costs. Moreover, the local authority now has a much more flexible system that is, moreover, its own property. Jean-Pierre Ferrari: "In order to put in telephone connections at various locations you have to lease several telephone exchanges and lines – an expensive business.



Moreover, for every modification you have to call in a technician from the supplier. Be it for a new user, moving a set, changing a number or a defect. This also costs money and often a lot of time. Now we carry out interventions like these ourselves. You can move a set in a couple of minutes. Independence from the supplier was one of our objectives for the IT network. By choosing convergence we are also no longer bound to a telephony supplier. And that, in my view, is the biggest advantage – we have a secure and future-oriented information and communications network entirely under our own control. We think that, all in all, each year we will save about 50,000 euros in fixed costs, mainly thanks to getting rid of the lease and support of the telephone exchanges. Moreover, from now on conversations between all internal services travel over our own network and so they are free.”

Jean-Pierre Ferrari takes care of the support of the complete network – and so now the telephony as well – helped by his assistant Martine Brigoude. “The installation and configuration of the infrastructure requires a lot of effort. That’s why we also called in help from INS from Louvain-la-Neuve. We took care of the implementation of the network together and so I have learned a lot. The aim of this pilot project was also to gather knowledge. I have seen just about every possible problem and question turn up and now can carry out myself the necessary modifications and maintenance. Actually, for me IP telephony is no more than an additional application running on the server, like other software programs. Moreover – and this is very important – we thought about the network design thoroughly beforehand.

We wanted to keep things as well organised as possible and be able to carry out changes easily. The homogeneous infrastructure also contributes to this. All the Cisco sets work together without any problems. Once your installation is up and running and you know the principles, the maintenance is fairly self-evident. There is of course a learning period beforehand, but you always pay this price when you chose to support your infrastructure completely internally.”

In the near future, Morlanwelz is also going to use the new network to manage its buildings more efficiently. “So we want to be able to control and operate the electricity and heating remotely. By taking up the signals of these systems into the network, maintenance people can if necessary keep an eye on operations at each location and adjust them if required. Moreover, we are planning camera surveillance in various public buildings. Because the network supports video, it is also possible to have central control and remote follow-up. With extra services like these we are making optimal use of our investment,” concludes Jean-Pierre Ferrari.

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