Online Access through the Power Line, but Slowly

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For PLC technology to become a reality in Spain, there are still some obstacles to overcome, such as line saturation, security and quality.

The appearance of PLC technology (Power Line Communication), that enables access to the Internet through the conventional power lines, could become a serious alternative to the current broadband technologies.

In the United States, where this technology is known as BPL (Broadband Over Power Line), the Federal Communications Commission (FCC) has just approved the standards the electricity companies must fulfil if they want to start deployment.

The so-called electric Internet is also taking off in some cities in Spain. In Zaragoza, for example, Endesa began selling PLC last October and got 1,125 customers in its first month.

At present, they are introducing it in certain districts in Barcelona, like Gràcia and Sarriá-Sant Gervasi, where more than 5,000 homes will be able to avail of this service. The electricity company described its first experience as successful. But the question now is whether PLC is in fact accomplishing the optimistic expectations of the electricity companies that only a few years ago defined the service as Internet at the speed of light.

The pilot tests and sales campaigns undertaken so far, both in Spain by Endesa, Iberdrola and Unión FENOSA, and in Europe have revealed everything there is to know about this technology.

On the one hand, the installation of PLC technology is faster and more economical than cable as it uses an already existing structure which is the conventional electrical power lines and a simple plug. Furthermore, the wide-ranging deployment of the electric power system enables PLC to easily reach outlying rural areas. Thirdly, it offers a speed of transmission comparable to ADSL. Lastly, it allows the simultaneous transmission of voice and data, which means that one can make telephone calls while using the Internet.

Advantages

Autel, the Spanish Association of Telecommunications Users, carried out a study on the deployment of PLC in Zaragoza, the results of which ratified those advantages. The time spent on deployment of this technology was five months whereas fibre optic cable would have required one year. The cost per home was three times less than cable. Moreover, PLC was able to reach 95% of homes, while the rate for ADSL was 86% with cable lagging far behind. Finally, the number of satisfied users topped 86% for PLC as against 73% for ADSL.

However, PLC also has a series of inconveniences. Firstly, there is the lack of support from telephone operators, who lobby governments to restrict PLC implementation by,
for example, setting up strict radiation levels that make the plans for the introduction of the electric Internet unfeasible. Secondly, users have complained about the poor quality of telephone calls made through PLC and the inferences detected while connected to the Internet.

At the end of last year, the CMT (The Telecommunications Commission) asked the electricity operators to guarantee the proper supply of energy to homes and companies, warning them of future fines if blackouts were caused by the use of their telecommunications infrastructure. A third criticism was directed at the lack of security. In the United Kingdom, for instance, several tests showed that data sent by PLC could easily be discovered by third parties.

The great challenge facing PLC is undoubtedly the appraisal the users make of this service and, above all, the maturity this technology reaches over the next few years. With this in mind, it should be pointed out that the European Community has recently set up Project OPERA (Open PLC European Alliance), which is made up of 36 European partners coordinated by Iberdrola, with the aim of improving the state of this technology and achieving a standard that can be used by all the electricity companies for sale on a large–scale. However, it is still too early to tell if this technology will overcome all the hurdles it faces and become an alternative to broadband.

What is required to make the electric Internet an alternative to broadband?

A profitable business model
Josep Valor, IESE professor
A sine qua non for PLC to become an alternative to broadband is simply that the technology works. Although it seems that the Internet over the electric power lines is now reliable, there are still quite a few people who complain about interference.

On the other hand, the suppliers of these services must be convinced that a profitable business model exists. One of the most important assets the electricity companies have is the infrastructure they have deployed, which drastically reduces the investment to be made. However, the electricity companies will have to make sure that they do not have to renew installations worn down with the passing of the years. Lastly, unless an unlikely increase in broadband services shoots up demand, the local transmission of information will not only have to split itself among more players, but also have to face a reduction in prices due to greater competition. Therefore, in the areas that have three alternative accesses to the Internet (cable, PLC and telephone line), operators can face a financially disastrous situation.

The need to complement each other
Juan Miguel López, Director of PwC
The tests undertaken so far with PLC technology, which enables Internet connection through the electricity supply, have demonstrated its technical feasibility and, short of watching how it behaves with large masses of users, it can be taken that we are looking at a serious alternative offering broadband Internet in competition with other existing networks on the market such as ADSL. The key to this technology becoming a real option is in the definition of sustainable business models in which the operators, who can offer Internet technology and communications, and the content and services suppliers profitably complement each other in a regulated environment where natural competitive barriers can be overcome. One possible successful approach could be to
offer this broadband service to people in certain geographic areas or segments where the deployment of other technologies like cable is not profitable.