

Super-fast Internet connections with existing cable-TV networks

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Demand for high-speed Internet access is forecast to grow sharply with the increasing availability of video on demand, teleworking and easier access to government services. However existing bandwidths will soon be inadequate as just one TV programme converted to the digital domain requires about 5 megabit/second (MB/s). The EUREKA (Belgium) project has resulted in super-fast Internet connections over existing cable TV networks with no need for a consumer modem.

Current broadband services over cable TV are based on the Data Over Cable Service Interface Specification (DOCSIS). This requires an upgraded cable network to support two-way interactive data handling together with an active cable modem at the consumer end, which can, at most, only provide asymmetric connectivity.

Project coordinator @Home, former Essent Kabelcom, the cable TV supplier for much of The Netherlands, worked closely with two of its suppliers to develop the technology required. "We have a long relationship with both Teleste in Finland and Tratec Telecom in the Netherlands and so we brainstormed the idea to them," explains Jelle Cnossen of @Home.

Higher speeds can be provided over phone lines using 56 MB/s VDSL technology- but this is limited to short distances from exchanges. The VIRTUAL FIBRE project set out to boost Internet speeds over the existing copper-based coaxial TV cable connections into the house. The resulting technology offers speeds up to 10 times that possible with existing cable TV Internet connection. Moreover, it provides Ethernet local area network (LAN) connectivity with no need for a consumer-side modem; users simply plug their personal computers (PC's) into a standard connector on the wall. And, there is no active component; the Ethernet connection is free from interruptions.

A pilot trial in the Dutch town of Boxmeer

demonstrated the success of the Ethernet-to-the-home (EttH) approach. Now, all 28,000 local residents have symmetrical access to the Internet at 10 MB/s, with local businesses able to obtain 50 MB/s symmetrical data connectivity. The technology has subsequently been developed to provide 100 MB/s connectivity and has already been sold to South Korea, demonstrating the global market for such an approach.

"This was the first time that we had been involved in a EUREKA project," explains Esko Myllyla of Teleste, the Finnish project partner responsible for much of the technical work. "EUREKA labelling was not absolutely necessary for us but was important in the eyes of our local public funding authorities. Moreover, the EUREKA label helped pull the three parties in this project together more strongly – that was the key benefit. We all realised that we were not developing things each on our own behalf but rather we were developing something together."

Source: EUREKA

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