



21. November 2001

Vortragsankündigung

Am **Freitag, dem 7. Dezember**, 14⁰⁰ Uhr, findet in **Raum 429**, (4. Stock, Fernsehturm), folgender Vortrag statt.

Powerline Communications for Broadband Access

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Abstract:

Broadband PowerLine Communication (PLC) offers new opportunities in the deregulated markets of telecommunications and power distribution. The 'Last Mile' access from the premises of residential customers is a key issue. With the exception of the telephone lines of established Telecoms only the low voltage distribution networks of energy suppliers offer full coverage to every household. PLC technology thereby provides an attractive alternative for the First Mile access, as it uses an already existing infrastructure. This positively affects the economy of such a system, which is one of the key factors for the introduction of PLC, compared to other broadband access technologies, e.g. radio or cable-TV systems.

The swiss telecommunication company Ascom now commercially provides PLC systems for broadband access. The systems use the low voltage power distribution network as well as the house-internal power-cabling to support services from the transformer to each socket in the customers premise. At the low voltage transformer side there will be an interface to the public data networks. The Ascom System provides a data rate of up to 4.5 Mbit/s and covers distances of more than 300 m with very low transmission power. The system is designed to support existing communication standards. It provides a transparent socket service to the TCP/IP protocol suite, supporting 'plug and play' home use for Internet access to surf on the web or use 'Voice over IP' communication facilities.

The presentation starts with an overview on the PLC system architecture and its interfaces. The behaviour of the powerline channel is characterised, as the low voltage supply network can have various topologies and different kind of cable types. Fundamental understanding of these characteristics is essential to adopt the PLC modem design in the most suited way. Further addressed are the challenges of PLC, the regulatory issues, range, costs, with the chances of PLC-access network with high availability, combined outdoor/indoor networks, service aspects, and finally present an outlook on the future of PLC for Internet and voice applications.

Die Dauer des Vortrags beträgt ca. 60 Minuten. Die Vortragssprache ist Deutsch. Der Vortrag ist öffentlich und alle Interessenten sind dazu herzlich eingeladen.

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