Never stop thinking

A government-funded project creates the foundations for a faster and more reliable Internet

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Neubiberg, Germany – December 6, 2007 – The Internet, in its current form, is unable to reliably sustain advanced services like telephony (VoIP) or video on demand. NGN-PlaNetS, a recently completed project headed by Infineon Technologies AG and aided with EUR3.9 million in funding from Germany's Federal Ministry of Education and Research, set out to find ways to change that. In collaboration with project partners Alcatel-Lucent, Deutsche Telekom AG, Stollmann, the Fraunhofer Institute for Communication Systems (ESK), and the University of Paderborn, Infineon has developed solutions designed to assign and reserve high-quality transmission capacity for time-critical applications like telephony, video conferencing and interactive games.

The NGN-PlaNetS project has designed an approach that can define a path through the Internet along which the requisite network capacity is reserved for time-critical services for as long as they are needed by users. The project partners refined and enhanced a number of network components – from the subscriber access to the core network's gateway – and set these components up in a joint lab facility (the PlaNetS Demonstrator). Key aspects of the new approach were tested successfully in the lab environment.

"The ideas that have emerged out of the NGN-PlaNetS project will gradually be incorporated into internet products and will help to substantially improve worldwide network performance," says Prof. Hermann Eul, the Management Board member responsible for communication solutions at Infineon, stressing the project's importance. "Thanks to the funding provided by Germany's education and research ministry, users, researchers and highly specialized engineers were able to work together for three years to achieve this breakthrough."

Infineon's role in the project was to improve the network processors that control many of the nodes on the Internet. The advances achieved will be implemented in the firmware (control software) in future Infineon network processor families.

Alcatel-Lucent's key contribution to the overall success of the project was the development of a border gateway capable of providing connectivity with a defined transmission quality across the Internet between subscriber connections and servers around the world. The border gateway is tailored to address special issues associated with access networks (e.g., decentralized implementation and high cost pressure). A prototype of this border gateway is a key component in the PlaNetS Demonstrator.

Deutsche Telekom AG made its test lab available for the project, complete with a team of research and development engineers and experts in network innovation and network operation. The project's findings will help Telekom to develop more advanced communication platforms and products in the future.

For the PlaNetS project, Hamburg-based equipment maker Stollmann developed a prototype for a new generation of its Home Gateway platform, the customer premises equipment that connects home networks to wide area networks. The gateway has a number of innovative features, including IPv6 compatibility as well as support for QoS based on principles defined in MUSE, a major research initiative being conducted as part of the European Union's Sixth Framework Programme (www.ist-muse.eu).

The role of the Fraunhofer Institute for Communication Systems (ESK) in the project was to design ways to ensure quality of service and resilience in Ethernet and IP (v6) networks. ESK created Click modular routers for DSLAMs and Ethernet switches and developed a system for resource monitoring (RACS), including IMS connectivity, to verify its designs.

The University of Paderborn contributed to the NGN-PlaNetS project by engaging in research into new network processor architectures based on multiprocessors. The findings have paved the way for the creation of a network processor competency center that will benefit the industry by pooling and building on current and future ideas and expertise.

The project was conducted as part of the joint European project A121 PlaNetS, initiated through the Medea+ program (www.medeaplus.org). Around 50 researchers and engineers worked together for three years to find ways to set up reliable and resilient data streams on demand over the Internet.

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About Infineon

Infineon Technologies AG, Neubiberg, Germany, offers semiconductor and system solutions addressing three central challenges to modern society: energy efficiency, communications, and security. In the 2007 fiscal year (ending September), the company reported sales of Euro 7.7 billion (including Qimonda sales of Euro 3.6 billion) with approximately 43,000 employees worldwide (including approximately 13,500 Qimonda employees). With a global presence, Infineon operates through its subsidiaries in the U.S. from Milpitas, CA, in the Asia-Pacific region from Singapore, and in Japan from Tokyo. Infineon is listed on the Frankfurt Stock Exchange and on the New York Stock Exchange (ticker symbol: IFX).

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