

### ■ Goals

In the past, networks were developed with the assumption that a computer has, at any time, a fixed location and reliable access to the network. However, mobility has been gaining importance. Nowadays, notebooks have small size and weight, but also high CPU power and large memory size. At the

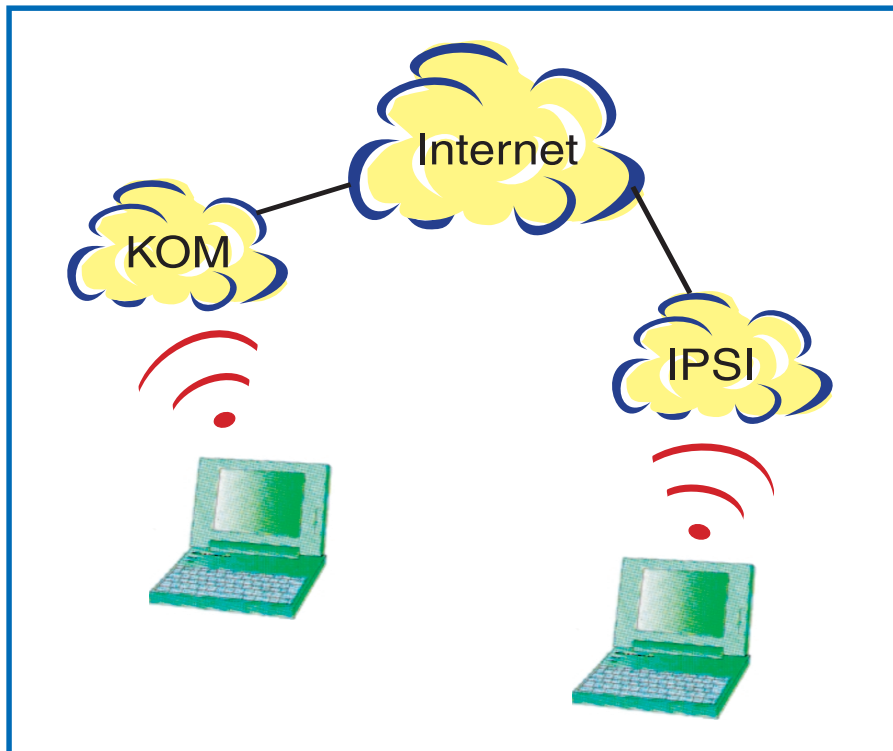
currently very limited (20 - 25 kbit/s), and satellite communication is quite expensive. On the other hand, the limited range of wireless LANs severely restricts the mobility of the computer. Moreover, rapid and unpredictable changes of the radio coverage may make a reliable transmission impossible. An approach to support mobility between

### ■ Scenario

Within a fixed scenario containing both wired and wireless networks, the MIRIAM project installs and adapts Mobile IP and, thus, acquires know-how in Mobile IP installation, operation, and maintenance. Moreover, MIRIAM investigates alternative implementation techniques as well as special environments for the mobile scientist which make use of Mobile IP. In connection with Mobile IP, MIRIAM investigates problems in the areas of service identification (Service Location Protocol, SLP) and data security.

### ■ Project

MIRIAM is a field trial within the DFN development program. Its purpose is to make Mobile IP, as one of the most important strategic communication protocols, ready for use and deployment. The project is carried out by GMD-IPSI in cooperation with the chair „Industrial Process and System Communications“ (KOM) in the Department of Electrical Engineering & Information Technology at Darmstadt University of Technology. The project started on 1 March, 1999 and will be running for two years.



same time, continuous access to internet services is of highest significance. This leads to the demand for mobility support allowing mobile computers to seamlessly access the internet.

### ■ Solution

Within a network, mobility is achieved by using wireless communication techniques. Examples are the second generation wireless WANs like GSM and satellite communications networks as well as various wireless LANs. The capacity of wireless WANs is

various wired and wireless networks, i.e. within the internet, makes sense. It will allow the user to choose the communication link which is optimal for his needs, even when he is travelling. The most prominent technique supporting internet mobility is Mobile IP as an extension of IPv4, the current internet protocol.

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