Bachelor thesis is focused on the evolution of computer networks during past 10 years. Part of it shortly describes development of individual technologies. It deals with problems caused by enormous interest of using Internet and other communication services. In the main, there is shortage of IP addresses and the changes awakened by customer's demand for new services. Specifically, we can mention interest in multimedia, higher bandwidth, comfort of using mobile devices and global roaming. Big section is devoted to the transport media and used technologies. I evaluate their advantages and disadvantages. There are also some specific projects and factors in the end, which had impact on general evolution of communication.