Free essay on wireless application protocol

Sociology, Communication

Research paper

Wireless Application Protocol

WAP (Wireless Application Protocol) - protocol for wireless data transmission, widely used for the development of Web pages, specifically designed for display of cellular communication systems on mobile subscriber units. At first we should consider the background that led to the creation of WAP. Many users of the World Wide Web around the world use the Internet to communicate with their friends and colleagues, to send and receive emails, watch world news, weather, etc. Therefore, with the emergence of the data transmission capabilities in cellular systems immediately appeared a desire to provide access to the Internet to subscribers, so they can stay on-line wherever they are. But here there are two main difficulties that make it hard for web-surfing via mobile phone. First, the mobile phones of the early 90-ies had a screen with lower resolution and were mostly monochrome, making it problematic to display regular Web pages written in HTML (HyperText Markup Language). Second, pages that are designed for PCs were often quite significant in size (sometimes more than 100 kilobytes depending on content), which led to a prolonged load at a low speed of data transmission channels of cellular communication systems. Thus, it was necessary to optimize the web-page to solve the above problems. Answer provided protocol WAP.

Elaboration of a protocol WAP began in 1997, specially created by Organization for Standardization of WAP-Forum. It included the major telecommunications equipment manufacturers. They were engaged in standardization of all aspects of the new technology: developing a

specification of data protection and storage, billing systems, authorization, etc. The main purpose of WAP-Forum was to collect the scattered wireless data transmission protocols into a single protocol. The first results of the work was as issued in 1998, the first release of the standard WAP. The next two years were developed two standards of WAP v1. 1, 1. 2. In summer 2002, WAP-Forum entered into alliance OMA (Open Mobile Alliance), which united the various operators and organizations in the field of mobile technology. In the same year was published a new release of WAP v2. 0, providing significant enhancements in this protocol.

Protocol WAP - this is not one but a stack of protocols and technologies for the creation and delivery of web-pages on the phones of subscribers. The protocol stack corresponds to OSI level from 2 to 6:

- Wireless Application Environment (WAE) - executive level
- Wireless Session Protocol (WSP) - the session level
- Wireless Transaction Protocol (WTP) - transport level
- Wireless Transport Layer Security (WTLS) - network level
- Wireless Datagram Protocol (UDP) - link level

Level WAE defines the language of hypertext markup text - one of the main features of WAP. In releases of WAP v1 used WML (Wireless Markup Language) and WAP v2 already XHTML (eXtensible HyperText Markup Language). It allows to create web-pages that with the same success can be opened and on mobile devices and PC without any loss in functionality and content of the page.

In order to this technology (WAP) to gain access to the Internet, it needs a data channel. Channel data like GSM and GPRS. The difference in these

channels is in the data rate, tariff and some characteristics. The theoretical maximum speed of GPRS-channel is 171. 2 kb / s, and GSM-channel 9. 6 kb /s. The difference is significant; therefore, WAP through GPRS channel will operate faster. Moreover, tariffication of data through these channels is fundamentally different. When you receive data through GSM-channel the price per minute is paid, during which the communication was, and through GPRS-channel is paid only traffic (quantity of injected and the downloaded information).

An important feature of WAP technology - its independence from the transport protocol used in the mobile communication network. This is particularly important in the calculation of the perspective, in anticipation of new high-performance transport protocols. It is also important that WAP-technology will be compatible with the new standard of Bluetooth for mobile devices of personal and professional use, which will allow conveniently organize the interaction of office or home computer with a mobile phone and a variety of other devices. For most Internet users the greatest interest is only text information, and therefore it is very important to choose the information of all that abundance, that comes from the Internet to the desktop screen. This problem can be solved by WAP-technology.

The WAP protocol has not found such a wide application as anticipated at the beginning of its development. This is primarily due to the fact that cell phones have developed quite rapidly along with the technologies of data transmission. This led to that the modern smart phones became capable of handling the usual web-pages designed for PCs with the same ease as the PC themselves. However it is impossible to say that WAP turned out irrelevant.

Until now, many Website designers consider it their duty to create separate versions of sites for WAP, relying on mobile subscribers with older phones. In addition, WAP v2. 0 gave a new push to the development of wireless data transfer protocol; however, web-designers don’t yet actively create pages on XHTML.

Works cited

Dave Singel´ee, Bart Preneel. (2003). The Wireless Application Protocol (WAP). COSIC Internal Report.

The International Engineering Consortium. Wireless Application Protocol (WAP) www. uky. edu/~jclark/mas355/WAP. PDF

WAP Forum. (2002). Wireless Application Protocol WAP 2. 0 Technical White Paper. www. wapforum. org

Savino, S. P. ; Telecom Media & Networks. Management of Engineering and Technology, 2001. PICMET '01. Portland International Conference on (Volume: 1)

WAP. http://www. webopedia. com/TERM/W/WAP. html