МЕЖДУНАРОДНЫЙ ЦЕНТР НАУЧНОГО СОТРУДНИЧЕСТВА
«НАУКА И ПРОСВЕЩЕНИЕ»

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THE ROLE OF WIRELESS NETWORKING TECHNOLOGY TODAY

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Аннотация: В настоящее время, с быстрым развитием информационных технологий, коммуникации и обмен информацией быстро развиваются. Коммуникационные инструменты также играют важную роль в повышении комфорта общения, поскольку качество связи зависит от средств связи.
Ключевые слова: связь, Wi-Fi, Wi-MAX, Wi-Bro, беспроводной, сетевой, оптические кабели, оптоволокно.

РОЛЬ БЕСПРОВОДНЫХ СЕТЕВЫХ ТЕХНОЛОГИЙ СЕГОДНЯ

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Abstract: At present, with the rapid development of information technologies, communication and information sharing are developing rapidly. Communication tools also play an important role in improving the comfort of communication, because the quality of communication depends on the means of communication.
Key words: communication, Wi-Fi, Wi - MAX, Wi - Bro, wireless, network, optic cables, fiber.

Initially communications were only made through wiring. These wires connect users through the call centers, thus connecting cities and countries. Modern wire products are used today. An example is fiber optic cables. It has several benefits. But even such fiber connections do not meet modern requirements. Because there are several disadvantages associated with the wire itself. Examples include pulling these wires to some contact centers, inconvenience of wiring, and so on.

In addition, there is a financial disadvantage, such as the cost of raw materials for wire making. New modern wireless wireless communications have been developed to avoid such inconveniences and financial losses. As an example of this, first of all, mobile communication and wireless communication is one of the most convenient. Wireless connectivity includes Wi-Fi, Wi-MAX, Wi-Bro and many other similar technologies.

The history of wireless wireless technologies began with the first radio signal transmission in the late 19th century, and the emergence of amplitude modulated radio receivers in the 1920s had a great impact on the development of these technologies. By the 1970s, the first wireless radio phones that transmitted sound through radio waves were created. While initially working on analog networks, the GSM standard was developed in the early 1980s to provide digital bandwidth, better signal quality and better security. In the 90s of the XX century there was a process of strengthening the state of wireless networks, which led to the rapid development of technologies. Today wireless technologies are embedded in our everyday lives, while providing high speed, they are also providing new devices and services. New CDMA (Code Division Multiple Access technology) wireless technologies), 3G and 4G (third and fourth generation technologies), GPRS (General Packet

Radio Service), Bluetooth (Medium and Short-range Network), EDGE (Enhanced). The diversity of Data Rates for GSM Evolution, the enhanced GSM network) and similar technologies means that the industry has begun to revolution. The development of wireless local area networks (WLANs) and of medium and short distances (Bluetooth) is very promising. Wireless local networks are widely used in airports, universities and institutes, hotels, restaurants, businesses and organizations. Development of standards for wireless networks began in 1990 with the establishment of the 802.11 Committee of the World IEEE (Institute of Electrical and Electronics Engineers). World Wide Web and wireless devices in this network.[1][322.p]

At present, with the rapid development of information technologies, communication and information sharing are developing rapidly. Communication tools also play an important role in improving the comfort of communication. Because the quality of communication depends on the means of communication. The idea of using this technology is an important impetus for wireless technology development. By the end of the 1990s WAP-service was provided to users. It should be noted that at first the service was not of much interest.

WAP-services provided the main information services - news, weather, daily and other services. Also, Bluetooth and WLAN use very little because of the high cost of these devices. However, the drop in prices has led to an increase in demand and interest in these tools. By the middle of the first decade of the 21st century, the number of wireless Internet users has reached tens of millions. With the advent of wireless Internet, the issue of security of the Internet has come first. The main problems that arise when using wireless networks are the following: special services, interception of transfers to commercial organizations and private entrepreneurs, retention of credit card numbers, and contact fees. interference with the work of communication centers. These problems are being addressed by improving communication standards. An important aspect of wireless technology development is that these technologies are easily accessible to home users. With the increase in the number of home network devices, many wires connecting these devices are becoming the main problem of the network. This in turn leads to the switch to wireless technology. The fastest growing segment of wireless technologies is its corporate users. Wireless data transfer is an important strategic tool that ensures enterprise productivity (permanent and immediate access to corporate information, they are always aware of the news), improving customer service (simultaneously). their grievances and wishes can be perceived and perceived simultaneously), creating superiority over competitors (increased information sharing and decision-making). In a word, wireless technologies are the technologies of the future. [2][116-123.p]

Wi-Fi technology is now one of the most promising computer networks in the computer world. Wi-Fi (Wireless Fidelity) is an English-language word meaning "wireless connection." Wi-Fi technology is one of the ways to transmit digital data over radio channels. The development of this technology was predicted to take the place of the cable network, which is intended primarily for corporate users. As we know, the creation of a computer network with a cable network requires several thousand cable networks to be manually set up and a special network topology installed. Wi-Fi standardized wireless data transfer technology that operates at reduced frequency of radio frequencies. Typically, a Wi-Fi network creates WLANs (Wireless Local Area Network - Wireless LAN). The network is able to view and communicate with high radio waves. This system is used as an extension of the cable network or as an alternative to one office, whole building or one area. Wi-Fi technology saves thousands of dollars for costly processes, such as lowering the cable network, but the simplicity of installation makes the network more time-consuming than complex networking processes. Because wireless networks use radio frequencies, radio waves can cross walls or similar walls in buildings or offices, and nothing can affect them. Wireless networks are generally more reliable than cable networks. The range or coverage area for most WLANs is about 160 meters, depending on the extent and extent of the traffic jams. The speed of this network can be compared to the cable network and may be several times higher. It also depends on which standard to use. As with ordinary networks, the bandwidth of a WLAN depends on the topology, the load, the distance to the access point, and so on. One of the best features of this network is its easy installation, and the second is that it has no problems with Wi-Fi networking, or in other words, it is the easiest network to expand. it is necessary. In order to expand this WLAN, it is enough to create new access points in a practical way. A user buying a Wi-Fi device or a jack can easily consider themselves:

* A dedicated device that works with optional devices, including multi-function multiservice wireless.
* High speed allows you to exchange data over long distances

* There is almost no need to do anything to expand the network: a new user needs to know the network connection password to connect to the network.

* This user uses the latest advances in internet technology and telecommunications.

Scientists have already begun to develop a completely new technology for data transfer. This is a wireless interface that allows you to transfer data easily and quickly without breaking the radiation rhythm by using simple lighting devices. For this purpose, the technology uses the ability to quickly and precisely adjust the intensity of light-emitting diodes, which have very little effect on the human eye. This analogue of Wi-Fi technology is Li-Fi(Light, Light). The idea of using light to transmit data has not emerged recently, and the idea was a century ago. The first person to make a wireless phone call was Alexander Bell, in 1880. Bell did this with his invention called Photophone. [3][511.p]Scientific and commercial interest in illumination data transfer has increased in recent years. It must be admitted that today Wi-Fi technology is so popular that it can be used even in airplanes, buses, refrigerators and refrigerators, and almost all kinds of electronics. However, this technology may interfere with the operation of access points (access point) and wireless devices connected to it. This reduces the wireless network bandwidth, resulting in the need for people to develop alternative data transfer options. Harald Haas - Professor of the University of Edinburgh presented the first Li-Fi image. In his experiment, the data transfer speed was up to 10 Mbps. However, Professor Haas plans to increase the interface speed to 100 Mbps. There is a great deal of interest in light transmission technology because it can transmit wireless data over the wireless network without any radio waves. In addition, the use of radio waves on oil platforms, submarines, and navigators can often have a negative impact on performance.

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