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ANALYSIS OF THE FLOW OF INFORMATION OF THE PHYSICAL LEVEL OF INTERNET SERVICES IN MULTISERVICE NETWORKS OF TELECOMMUNICATIONS

Abstract: Article is known under multiservice networks means a single telecommunications structure capable of transmitting heterogeneous information (voice, video, data) at a speed exceeding 10-100 times the existing data transmission rates. And Internet services and the flow of information packets and the protocol package codes.

Keywords: *data transmission; Internet; protocol; autentification; flow; information.*

АНАЛИЗ ПОТОКА ИНФОРМАЦИИ ФИЗИЧЕСКОГО УРОВНЯ ИНТЕРНЕТ-УСЛУГ В МНОГОСЕРВИСНЫЕ СЕТИ ТЕЛЕКОММУНИКАЦИЙ

Аннотация: Статья информирует и известит о том, как в мультисервисные сети формирует единую телекоммуникационную структуру, способную передавать комплексный поток информацию (голос, видео, данные) со скоростью, превышающей 10-100 раз, существующие скорости передачи данных. И интернет-услуги, и поток информационных пакетов и коды пакетов протокола.

Ключевые слова: *передача данных; интернет; протоколы; аутентификация; поток; информация.*

It is known under multiservice networks means a single telecommunications structure capable of transmitting heterogeneous information (voice, video, data) at a speed exceeding 10-100 times the existing data transmission rates. And Internet services and the flow of information packets and the protocol package codes of their requests, server response, and the client of the network stations are organized at the OSI (Open System Interchange) physical level in the form of voltage pulses and currents.

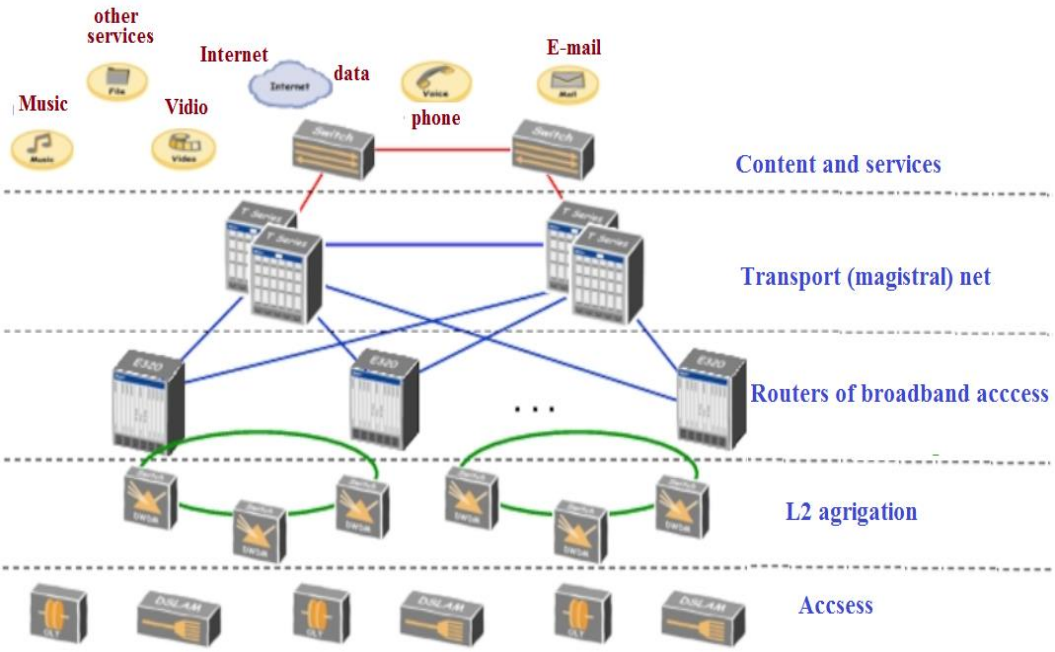

Figure 1. Architecture and levels of multi service networks

Although content services turn out to be on the fifth (upper) level (level of service and contents) Models in multi packet-switched service networks required the development of new bandwidth methods Most packet switching networks and multiple or multiple access of subscriber stations. The organization of communication, called the "Package Switching" method (PS), assumes the separation of an input information flow into small segments or data packets that are moved over a communication network or data network and provides a significant increase in system efficiency, increases the transfer rate. During the transmission, each standard technology (WDM, PON, DWDM, GPON, SDH, PDH (T1, E1), FDDI, SONET, RS-232, etc.) uses the appropriate method of exchanging (Fig.1)

protocols and sessions between nodes, network elements, as well as stations. The main transmission and reception criterion is timeliness and quality (accurate accordance with the transmitted signal to the original) signal. The use of modern high-speed digital signal processors provides fast signal processing and direct the corresponding direction. And modern digital signal processors are hybrid. For example, in the DSP based on VLIW architecture - a very long word of the command - with the help of independently working operating modules, simultaneous execution of these teams of simple short commands, each of which defines one operation (the principle of operation of RISC processors). Examples of DSP with such architecture are TMS320C62xx, TMS320C64XX, TMS320C67XX, each of which contains 8 operating modules, broken into two groups and two register files with a volume of 32 × 32 bits. Multimedia information transmission protocols are different in different ways to show differently in the tables. Our analysis shows the TCP / IP protocol stack.

Stack TCP/IP protocols	**Functions**	**Protocols**
Application Level	Work Most Network Applications	HTTP, RTSP, FTP, DNS.
Transport level	Direct link between finite points and reliability	TCP, UDP, SCTP, DCCP
Internetwork level	Definition and Logic Addressing	IPv4, IPv6, ICMPv4, ICMPv6
Access level	Physical addressing. Working with the transmission medium, signals and binary data	Ethernet, IEEE 802.11 Wireless Ethernet, SLIP, Token Ring, ATM и MPLS, Physical environment and information coding principles. T1, E1

Figure 2. TCP / IP protocol stack table.

Their capacity is 4800 MIPS for DSP TMS320C6416, 2000 MIPS for TMS320C6202 and 1000 MFLOPS for TMS320C6416. Motorola MSC810X processor with a capacity of 1200 MIPS contains on an alu crystal and filter coprocessor. High performance also have a CSP with a parallel super scalar VLIW architecture [2]. These include Tigersharc ADSP-TS001 processors (300 MFLOPS) and ADSP-TS201S (1200 MMASS for 32-bit data and 4800 MASS for 16-bit data). The new generation includes DSP (Digital Signal Processor) with a fixed point of

the ADSP-219X family with improved architecture and increased performance (150-300 MIPS) and high-performance low-consuming (up to 0.5 MW / MIPS) Black fin processors: ADSP-BF535P (350 MHz, 700 MIPS), ADSP-BF531 (2) (400 MHz, 800 MIPS), ADSP-BF533 (600 MHz, 1200 MIPS). Basically, at a low level, the tasks of analyzing the passage of a signal and noise mixture through a receiving tract are solved, now synthesis methods will be considered) optimal (i.e. the best in a sense) receivers. It should be immediately accounted for that in the theory of optimal receiving signals, optimality is understood quite narrowly: it means the best allocation of information from the signal received in the mixture with interference. At the same time, additive noise interference having a normal probability distribution.

It is these signals (1.1) with interference at the input of the receiver acts an additive mixture (sum) of the signal S_λ (T), depending on the parameter λ, and noise n (t), μ(t), i.e. Realization of the mixture of signal and noise:

$$y(t) = s_\lambda(t) + n(t) \quad \text{or} \quad S_\lambda(t) = X_\lambda(t)*\mu(t)+n(t) \qquad (1.1)$$

Such signals are always transmitted using the appropriate modulation (1.2), (1.3), especially in radio communication systems and communication channels. And here you can bring in the example many types of signals and methods for converting the signal spectra.

$$u_{PhM}(t) = U_m \cos\left[\omega_0 t + k s(t)\right] \qquad (1.2)$$

$$u_{FM}(t) = U_m \cos\left[\omega_0 t + k \int_0^t s(\tau)\,d\tau\right] \qquad (1.3),$$

Types of formatted signals can be cited as a result of theoretical analysis and research of this article. (Figure 3).

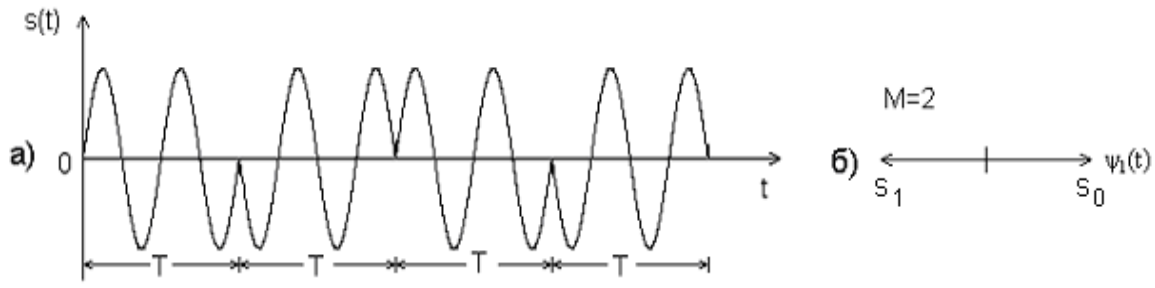

Figure 3. PhM generated signal.

In conclusion, it is advisable to note that the theoretical study contributes to the development of aspects and multifaceted generation of signals of the modern process of transmission and processing of signals at the physical level, especially Internet services (or other types of services) on multi-service and multimedia networks.

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