MODELLING OF INFORMATION TRANSMMIISION ON LOCAL NETWORKS

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Considering the questions on working out a complex of programs in MATLAB programming system, Cisco Packet Tracer and MyTestX that simulates systems of information transfer. Annotated screenshots are used to aid understanding. Important notes or tips are presented in tip boxes. Like any simulation, Packet Tracer relies on a simplified model of networking devices and protocols. Real computer networks, experienced both in-person/hands-on and remotely, remain the benchmark for understanding network behavior and developing networking skills.

Introduction
In Nigeria, communication tools such as telephones and the Internet are increasingly critical to economic success and personal advancement. The advent of the Internet has been variously described as being as important for society as the development of the personal computer, the telephone or even the printing press, the Internet serves many functions as virtual community, electronic marketplace, information source and entertainment center, among others. Through the Internet, we can create new businesses or facilitate the delivery of basic services such as health and education.

Almost all countries are on-line and Internet users grow by an average of 78 million new users annually. The growth of the Internet is creating opportunities for new high speed data networks, new multimedia applications, Voice over Internet Protocol (Internet Phone) and convergence of technologies.

For the maintenance of existing equipment, modernization and expansion of telecommunication networks, the country needs competent specialists. For their training, special software can help significantly to optimize and speed up the learning process.

Modeling of information transmission in local networks.
The Goal of this article is the development of a software product with the help of which it is possible to simulate computer networks and study both the operation of networks as a whole and to study individual nodes, protocols and algorithms for their operation. Development of a program for modeling the information transmission system in local networks for effective training of specialists in the field of communications.

The advantage of this topology is that, in comparison with topologies it has better fault tolerance, since it includes all the best qualities of other topologies.

Thus, this project will be organized by the backbone network on the basis of the ring, which will combine the core network routers (Bayelsa, Rivers, Delta, Imo). Network access and distribution, in turn, will be represented by a hybrid topology of the tree-ring: subscribers will be connected to the switches of the working groups on the tree structure, in turn switches to routers include transportation access rings. This will keep the services of the subscribers in case of emergency.

Core routers are included in the big ring road that connects the routers branches from a central router Bayelsa provides access to the PSTN and the Internet. The network topology in conjunction with a map of Nigeria

To verify the simulation results has been built in the Packet Tracer 5.3 model of the segment, adjust the basic units, the distribution of IP-addresses, and then were evaluated by the operation of its main characteristics. The maximum packet delay for VoIP services without the use of reserve satellite was 145 ms. The obtained value corresponds to the delay requirement for QoS networks for VoIP traffic in the TOR (150 ms).

Conclusion
The presented screenshots show separate stages of the program, including the preliminary task, the task for performance, theoretical data and methodical instructions on work with software product. The program is supplied by its own calculator to calculate the generalized characteristics of signals and noises under the set experimental conditions.

References
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