PROTECTION OF INFORMATION ON THE COMMUNICATION MULTISERVICE NETWORK OF THE LOGISTIC CENTER

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For the effective operation of corporate communication networks of logistics centers, it is necessary to have modern protection of programs, databases and information transmission facilities. A typical logistics center in the city of Al-Diwaniya, with branches in Baghdad, Basra and Kirkuk, was selected as the object of the study. The research subjects of this work are the principles of organization, operation and ways to improve the efficiency of a corporate multiservice c The corporate network of the logistic center is a complex multi-profile structure with a hierarchical management system. Therefore, when developing a project for system integration, it is important to properly design a network, from the reliable and correct operation of which will depend subsequently the steady operation of the entire banking data network.

The projected network should ensure the exchange of data between the structural divisions of the center, its branches and external organizations, the use of electronic mail. Connection to the Internet at workplaces of all users, the possibility of using an internal information portal.

Communication network based on FTTx technology. Scientific novelty lies in the creation of a multiservice network with the possibility of applying the proposed solutions to existing communication networks. The model proposed in the work allows one to calculate the characteristics of the quality of service, to assess the effectiveness of the use of FTTx technology in multiservice communication networks. The practical value lies in the possibility of creating a corporate multiservice communication network with minimization of costs for organization and technical operation, rational use of space and at the same time providing the necessary level of quality characteristics, in particular, reliability indicators.

Simulation modeling of the modernized communication network was carried out using the Riverbed Modeler software product, which is a set of tools for creating, modeling and studying communication networks. Allows you to analyze the impact of client-server applications and new technologies on the network; to model hierarchical networks, multi-protocol local and global networks, taking into account routing algorithms; evaluate and analyze the performance of simulated networks. Also, using the package, you can check the communication protocol, analyze the protocol interactions, optimize and plan the network. Riverbed Modeler contains a comprehensive library of protocols and objects..

A result of the simulation, telecommunication and server equipment from Cisco and Dell, respectively, was selected. Based on the data on the parameters of the transmitted traffic and the network topology, the main characteristics were calculated. Taking into account the selected equipment, the used broadband access technology and the values of the parameters obtained as a result of the calculations, a virtual model of a multiservice communication network was developed. The proposed communication network model meets all technical requirements and allows to fully solve the assigned tasks.

For secure connection of geographically dispersed offices appropriate to use technology VPN MPLS. From other technologies building virtual private networks, such as VPNs, ATM or Frame Relay, VPN MPLS technology distinguishes good scalability, the ability to automatically configure and natural integration with other IP services, including Internet access, Web and e-mail services.

MPLS VPN functionality can be summarized as follows:

-MPLS allows a single converged network to support both new and existing facilities, creating an efficient migration path to IP infrastructure.

-MPLS operates over existing systems and transmission networks (ATM, Frame Relay, X. 25, IEEE 802.3, etc).

-MPLS allows you to generate traffic. Routing data packets are carried out through the application of technology of processing labels.

-MPLS supports the provision of services with a guaranteed quality of service (QoS). Packages that need to be delivered with high quality, can be marked, allowing service providers to provide certain small latency for voice and video signals in end-to-end connection.

-MPLS provides appropriate security level to make IP network the same safe as frame relay network in WAN, reducing the need for encryption in IP networks.

When sending confidential information, it is important to ensure a high level of reliability of encryption. The most famous representative of the Organization's encryption technology of protective channel in VPNs is the technology of Internet Protocol Security (IPSec-protected IP).

The main purpose of the IPSec service is to ensure safe PD over IP networks using any link-layer technology (PPP, Ethernet, ATM, etc.). Use Internet Protocol security (IPSec) ensures integrity, authenticity and confidentiality of the data; its membership now includes almost 20 proposals for standards and RFC 18.

IPSec in the following techniques:

-encryption of the original IP packet that provides secrecy of data contained in the package, such as a field in the IP header and the data field;

digital signature IP packets that provides authentication package and source-the sender of the package;

-encapsulate the IP packet in a new secure IP packet with a new header that contains the IP address of the device that disguises the internal network topology.

Thus, the use of VPN MPLS based Ethernet networks with data encryption protocol , IPSEC allows you to design a modern corporate network and create Foundation for further modeling network, whose goal is to further optimization.

Based on the results of this study clearly visible steps of designing a modern corporate network connection. Applying the information, you can create and optimize the performance of existing networks, disabling network efficiency and reliability to a whole new level.

According to the comparative analysis of the simulation results, it can be said that the proposed model of the modernized multiservice communication network of the logistics center meets all the parameters formulated in the terms of reference. This configuration of the data transmission network provides a high level of performance, flexibility, and also makes it possible to expand it in the future.