UDC 004.732

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DEVELOPMENT OF A SECURED CORPORATE NETWORK

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Abstract.
We consider the stages of corporate network building, consider the strategic planning stages and technical design in protection of computer networks. The reasonable conclusions are based on the study of computer networks.

Keywords: security, scale architecture, local area network, server, technology.

The development of computer network technologies provides a wide range of options for designing, building, protecting and managing corporate networks, which in turn provides a wide range of choices for each client [1].

The first stage of designing is searching of the best option for building a corporate network based on the needs of the enterprise, the capabilities of modern technologies and the prospect of their development and improvement, budget of the client.

The main strategic issues of creating a secure corporate computer network are as follows [2]:

- Selection of basic VLAN technology for corporate networks. VLANs will ensure a clear corporate network allocation on the subdivision of individual units and ensure data sharing and interaction between units, which in turn will ensure structure integrity and security.
- Determining of technology for connection structure in subnets within the corporate network. This item can be solved for each subdivision (each subnet) separately, based on the requirements of subdivisions of the enterprise.
- Defining the security level for each subnet and the overall network. Choice of hardware and software implementation of network security. It is mandatory to carry out 2-3 tests to simulate the attack of intruders and unauthorized penetration into the corporate network [3].
- The structure of communications and communication equipment for subnets included in a large local area network. For each subnet, these issues can be addressed individually based on the requirements of each unit of the enterprise. However, the implications associated with the choice of different technologies in different subnets should always be considered - the complexity of subnetting should not be excessive.
- Choose how to merge subnets, such as routing, gateways, or switches.
- Choosing a way to ensure uninterrupted network operation, hardware and software data backups, uninterruptible power systems, etc.

In addition to these issues, there are other tasks that can be included in the list of strategic planning and design of a corporate secure enterprise network.

Once strategic planning issues have been considered, technical design issues should be determined [2]:

- Corporate network scaling. The corporate network must be designed in such a way that, even when it is enlarged several times, it does not affect the speed or quality of its work. The number of workstations and intermediate equipment is the most important factor in network design. During design, the prospect of enterprise development for the next 3 years, should be taking into account as well as the architecture of the network (mainly client-server architecture).
- Hardware and software definition for the realization of protection of the most vulnerable place of the corporate network - access to the global network, based on the financial capabilities of the enterprise

and the formed requirements of protection. In order to make the right choice, it is necessary to analyze the current market and choose the technology that most fully meets the requirements of the enterprise and at the same time requires the least cost of installation, maintenance, support and further modernization [3].

- Network construction. An enterprise must take into account the interaction of the corporate network and security systems (CCTV, alarms, centralized checkpoints, etc.) and decide whether they will interact and work as a single system or should be separated. If a corporate computer network acts as a standalone system, it must be ensured that it does not interfere with the operation of other enterprise systems and, conversely, that other enterprise systems will not affect the operation of the enterprise computer network in any way. When all systems interact, it is necessary to minimize the impact of one system on the other, maximize protection at the point of contact, and decentralize its management.

Conclusion: Designing and building a corporate enterprise network is a complex and time-consuming process that requires highly skilled engineers. The correctness and compliance of the network parameters to all the requirements of the enterprise will depend on the operation of the systems and the quality of the enterprise as a whole. Therefore, a properly designed and built computer network enables the enterprise to operate efficiently.

LITERATURE

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