

The theme of the final qualifying work: Analysis of the effectiveness of fiber-optic communication channels in the LAN object having a distributed structural organization in terms of information security on the example of the enterprise IP Filonenko AA

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Information about the customer organization: PYATIGORSK state University»
The relevance of protection against unauthorized access is associated with a set of organizational and technical measures to ensure the security of information by technical means that will prevent the penetration of an attacker to the sources of information, protect the media, as well as prevent information leakage through various technical channels.

Purpose: to study the possible application of optical fiber as a medium for optical digital transmission of information in distributed information transmission systems at the enterprise IP Filonenko AA.

Tasks to study:

- advantages and disadvantages of fiber optic cables compared to traditional copper cables;
 - theoretical basis of fiber optics;
 - physical effects and phenomena in optical fibers;
 - the main types of optical fibers used in fiber-optic communication lines, their characteristics;
 - possibilities of practical application of fiber optic cable;
- data transfer rate through fiber optic and copper cables.

The theoretical significance

- shortcomings of the system of information functioning on communication channels used on the studied object are revealed;
- analyzed the legal and legislative documents relating to the protection of information and information security of the enterprise;
- the systems of software and technical means of information security functioning at the object of research are studied;
- the scheme of construction of a distributed communication system using fiber-optic technologies has been developed;
- differences and drawbacks in the use of fiber-optic cable in comparison with copper are revealed.

The practical significance of the study analyzed and investigated the possible options for the construction of distributed systems using fiber optic cable in the local area networks of the enterprise; proposed solutions to this problem.

The results of the study: acquainted with the structure and subject area of the enterprise SP Filonenko AA, analyzed the system of information protection of the enterprise. The efficiency of application of fiber-optic communication channels for objects with a distributed structural organization was analyzed.