

**Methods and tools for the protection of information in networks
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**Методы и средства защиты информации в сетях
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Abstract: the article analyzes the problems of information security in computer systems and networks, including companies that operate in the field of e-business or in other areas.

Аннотация: в статье анализируются проблемы обеспечения информационной безопасности в области компьютерных систем и сетей, включая компании, которые работают в области электронного бизнеса или в иных областях.

Ключевые слова: магнитные носители, идентификация и аутентификация пользователей, блокировка данных и ввод ключей, контроль мандатов доступа и алгоритмов защиты.

Keywords: magnetic media, user identification and authentication, data lock and key input control mandates, access and security algorithms.

Ensuring information security in computer networks (BC) and PC operating autonomously achieved complex organizational, logistical, technical and policy measures.

Organizational safeguards information includes¹:

- access to processing and transmission of confidential information only proven officials;
- exclusion of outsiders view the content of materials processed through the display, printer and more.

Technical devices;

- limitation of access to the premises, in which there is information processing;
- the transfer of the communication channels of valuable information necessary to use the cryptographic information protection measures;
- magnetic media storage and the logs in the closed to unauthorized access safes.

For organizational and technical measures include:

- destruction of information that is stored in read-only memory and a hard disk with the write-off, or sending your computer for repair;
- implementation of the power equipment, which processes valuable information through a surge protector or an independent power source;
- installation of keyboards and printers on the pads in order to reduce the possibility of removal of information acoustic method;
- installation on the doors of premises security locks.

Technical means of information protection is a system of protection areas and areas with the help of the screening machine halls and the organization of border crossing systems. Protection of information in networks and computing resources through technical means is implemented through the organization of access to storage via:

- data lock and key input;
- control access to different levels of computer memory;
- control bits for the selection of records for the purpose of identifying and others.

Architecture software protection information consists of²:

- security controls, including control of entry into the system of registration, control of user actions, fixing the system log;
- reaction to the violation of the protection system to control access to network resources;
- control of the mandates access;
- control of the security algorithms;

¹ Alferov A.P., Zubov A. Yu Basics of cryptography. - M.: Helios, 2005, p.53.

² Baimakova I. A. Ensuring the protection of personal data. - M.: in IC Publishing, 2010. – p. 216.

- check the performance of hardware and software.

One of the common methods of protection is a clear indication of the secrecy of output information. On systems that support multiple levels of security, display terminal or the printing device of any unit of information (eg, files, records, and tables) accompanied by a special stamp indicating the level of secrecy. This requirement is implemented by appropriate software.

In separate group is protection against unauthorized use of the software. They are particularly important because of the wide spread of PCs.

For the protection of electronic information need to use cryptographic techniques that allow us to solve the major problems of the vulnerability of automated data processing and transmission.

This modern high-speed cryptographic transformation methods, allow us to keep the original performance of the automated systems. Although cryptographic transformation of data are the most effective means of ensuring data confidentiality, integrity and authenticity, using these methods is not everywhere. In practice, the cryptographic methods of information protection are often used to protect against unauthorized access to financial and other critical enterprise information, e-mail access, encryption of messages transmitted over telecommunications networks, and others.

Only use them in conjunction with the necessary technical and organizational measures can protect against a wide range of potential threats.

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