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DATA PROTECTION THROUGH CLOUD TECHNOLOGIES

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Abstract:

To ensure the confidentiality and integrity of data stored in the cloud, it is necessary to use digital signature and encryption algorithms based on international standards.

Keywords: Cloud, cryptographic, provider, privacy, integrity, international standards, profile, security audit, common vulnerabilities in the cloud, transnational, factor, individual.

Most of the problems of user data protection in the cloud can be solved based on the use of existing methods of cryptographic data protection, administrative measures by the cloud service provider and the user, and the conclusion of accounting service contracts. individual needs of customers, adoption of international standards in the industry, introduction of state control and creation of independent experts in this field.



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For example, to ensure the confidentiality and integrity of data stored in the cloud, it is necessary to use digital signatures and encryption algorithms based on international standards.

Existing two-factor user authentication methods can be used to prevent unauthorized use of the user profile. Currently, most manufacturers have their own, sometimes even well-documented interface for programming, but this makes it impossible for users to switch from one service provider to another.

In such matters, practice shows that only the development of an open uniform international standard can solve this problem. The main problems that require detailed analysis and solution are:

- a) the problem of privileged users with privileged access to system functions or cloud service administrators. They pose the greatest threat to the security of data in the cloud, and therefore it is recommended to independently monitor and control their actions in the cloud in order to reduce the risk of possible destructive actions by them. Statistics show that the highest number of security breaches are internal users;
- b) Inconsistency of laws in the field of information processing, transmission, storage and protection of different countries, which is one of the main problems preventing the spread of cloud computing.

Solving this problem is a key factor in physically locating cloud service provider servers in different countries and regions, as well as allowing users from different countries to use the same service provider. This problem affects multinational corporations the most;

- d) issues of trust in the service provider, which can be resolved only by conducting a security audit of the cloud service provider and verifying the



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compliance of its security system with international information protection requirements formulated in international standards. Forming and justifying requirements is one of the important issues;

e) problems with common vulnerabilities in the cloud are almost no different from those in traditional systems, except that one vulnerability found can be used for the entire cloud, but at the same time it can be fixed more easily using a centralized update. from conventional systems. Currently, its criticality is much greater, because it can easily affect all users of this service provider, and therefore requires preventive measures and protection methods;

f) problems of access to services and information by users, restoration of their work after data failure or loss should be solved at the administrative and legal level.

When concluding contracts with the user, the obligations of the parties and the circumstances of the event that led to these consequences should be clearly defined, and the investigation should be carried out by an independent third party. A similar problem exists in traditional systems, but the user has the ability to directly influence the level of redundancy in the system, which allows it to be more flexibly adapted to the specific requirements of the user and his financial capabilities;

the problem of permission, sharing and blocking access to users resources and data in the cloud;

the problem of protecting intellectual property in the cloud, in particular, software and data.



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