**Formation of a network service for territorially distributed data processing service centers**

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The most modern technology for meeting the needs of large corporations with IT services is DCaaS (DataCenter as a Service), a technology that provides the Data Center as a set of IT services.

Services consist of elements which are aimed at maintaining in good technical condition of the IT infrastructure. Consider the principles of forming a network service of the data center.

The organization of the network service provides the construction of a secure corporate network, which operates multiservice services (messaging, electronic document management, Internet access, IP-telephony, video conferencing).

To form network services, the organization of basic network services was considered:

1. Domain Name System (DNS). At the same time, it is ensured:

• Availability. Availability is ensured by duplication of server components. Clients receive 2 addresses from DNS server using the DHCP service.

• Security. The DNS service protocol was developed as an open one, and at the same time, the DNS configuration in the data center and Internet data center should be considered separately. The internal DNS server is divided into three components: advertiser, resolver, core DNS, each of which is duplicated. External DNS is organized according to a simplified scheme.

• Scalability. If necessary, the DNS service is scaled up horizontally by adding servers and implementing NLB clustering.

• Management. The management toolkit is graphical based on the MMC console and command based on the dnscmd shell.

• Consolidation. The DNS service is consolidated with the directory service.

2. Dynamic Host Configuration Protocol (DHCP).

The DHCP service provides the assignment of addresses and IP protocol parameters to users' devices in the IT infrastructure.

The DHCP service serves only systems from the zones of Corporate clients.

The DHCP service in the Data Processing Center is organized as a fail-safe cluster. DHCP relay agents are used to work in routed networks. Each subnet must have 2 relay agents. As a backup option, it is suggested to consider the possibility of activating the DHCP Forwarding option on routers.

The information transmitted through telecommunication networks has extremely high "value", therefore the main requirements for telecommunication networks are the required reliability, reliability and speed of data transmission.

The main content of the data exchange process in the telecommunication network as a means of managing a complex system, structural characteristics of data transmission networks and conceptually the function of the telecommunication network management process are considered. Requirements for data transmission in the telecommunication network are defined. The process of message transmission in the telecommunication network provided by the event tree graph is considered. Data transmission is estimated by the probability inverse to the probability of information loss in the telecommunications network. The resulting probability of occurrence of independent favorable events is determined. It is established that all messages in the telecommunications network must be formalized - the formalization of messages is a condition for automating both the exchange of information and its processing on computer control automation.

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