ABSTRACT

The diploma work contains: 60 pages, 25 pictures, 20 links.

The high rate of development of services, the extent of their coverage, as well as the increase in the number and variability of content have led to a change in the concept of organizing computing – data centers and clouds have replaced the outdated client-server architecture.

With the development of the Internet, network monitoring and management has become a bottleneck in the classic network approach. This led to the emergence of a new concept for building networks based on the SDN (Software defined network) architecture.

A feature of this architecture is the separation of the control layer from the data transfer layer. In this case, the entire network management logic is concentrated in the controller, and all other network devices are used only for data transmission.

Application of Software-Defined Networks must provide the following possibilities:

- flexible management of networks and network resources;
- rapid implementation of new services;
- independence from manufacturers of network equipment; ☐   wide possibilities of ensuring mobility of users;
- rapid introduction of new technologies.

This is achieved through a new approach to the distribution of transfer and control functions between SDN devices.

Thus, SDN technology allows to significantly improve the efficiency of telecommunication networks, bandwidth and quality of service. SDNs are the future of telecommunications.

Key words: SDN, OpenFlow , router, network