

The 8th International Conference "Distributed Computing and  
Grid-technologies in Science and Education" (GRID 2018)



Contribution ID: 272

Type: **Sectional reports**

## APPROACHES TO THE AUTOMATED DEPLOYMENT OF THE CLOUD INFRASTRUCTURE OF GEOGRAPHICALLY DISTRIBUTED DATA CENTERS

*Thursday, 13 September 2018 13:45 (15 minutes)*

University ITMO (ifmo.ru) is designing the system for cloud of geographically distributed data centers under centralized administration to control the distributed virtual storage, virtual data links, virtual machines, and data center infrastructure management. The system needs to be tolerant to hardware and software failures of any type. The integrated set of programs is developed to implement mentioned goals. Each program of the set is relatively independent agent in form of VM or container which can run on different hardware servers. Any agent might send the request for specific service to another agent with developed protocol. The cloud system of distributed data centers assumes well known functionality: creation, management, and provision of services with defined SLA. In presented approach most of above functions is implemented in form of mentioned agents. The installation of the system in a number of data centers is implemented with a range of automated deployment steps. Many FOSS components like Openstack, CEPH, SALT, Grafana/Kibana, Zabbix, RabbitMQ, etc were used as toolkits in this design. The developed cloud is now under heavy testing/developing.

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**Session Classification:** 6. Cloud computing, Virtualization

**Track Classification:** 6. Cloud computing, Virtualization