

A Study on the Role of ISOC Manager Groups on the Cloud Computing System

Sung-Geun Han*, Gyu-Seok Kim**

*, **KISTI, Korea

E-mail : sghan@kisti.re.kr*, gskim@kisti.re.kr**

1. Introduction

The need of IT resources has been increased as there has been the diffusion of digital devices like mobile smart phones. The amount of time people spend on their smart phone is growing steadily. People use smart phone not only for making calls, but also for performing information tasks. Usually some tasks demand resources more than the mobile device can afford. Cloud computing system is introduced to meet the need of resources. Cloud computing system is based on the techniques of virtualization; server virtualization, network virtualization, storage virtualization, etc. Users can access easily IT resources through cloud computing system and pay for the usage of resources. KISTI is building private cloud computing systems in order to provide users with IT resources rapidly. In addition, for supporting users effectively KISTI organizes system manager groups. Each manager group is composed of system administrators in each part. In this paper, cloud-based ISOC process is defined and the role of manager groups is defined for the process.

2. ISOC(Information System Operating Center)

ISOC is the web-based system for managing the IT resources efficiently. Various users are using ISOC for IT resources; system administrators, information service users, hardware engineers, software engineers, system monitoring and control managers, and other system engineers. Each user can demand or support IT resources through ISOC. For example, IT service users submit their requirements of IT resources using ISOC. System managers prepare IT resources in reference to the application forms submitted. All the status of preparation and provision of IT resources are notified to users through ISOC. Other engineers monitor the provided resources and if necessary, they upgrade or update system for the trouble shooting or supporting better services.

2.1. ISOC task process

ISOC is used by various users mentioned in the previous section. To meet the need of various users, ISOC is working on the phased task process. <Figure 1> shows ISOC task process.

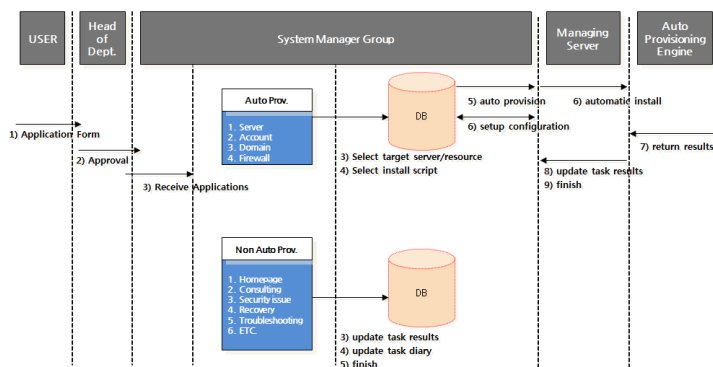


Figure 1. ISOC task process

In order to open an information service, users fill in an application form through web-based ISOC system. The application form is firstly submitted to the head of the division. The head of the division can give an approval or reject the requirements. Only approved application form can be transferred to the system manager groups. System manager groups play their role referring to the application form. If all of the tasks of the manager groups are done, the provisioned resources are given to the user through ISOC. Users can examine the series of working process through the view page of the ISOC task process.

2.2. ISOC application forms

Cloud based ISOC offers various application forms for user friendly resource use. ISOC users can require not only hardware resources like server or storage, but also software resources like system application, middle ware software, firewall policy, etc. These are the application forms; a server & storage form, a shell account form, a database account form, an ftp account form, an e-mail account form, a firewall policy form, a DNS form, a data backup & recovery form, and a troubleshooting form.

3. The role of the manager groups

3.1. Auto-provisioning

KISTI establishes a private cloud computing system in order to handle the user's needs of IT resources quickly and efficiently. Especially, most of IT resources are serviced on the virtualized systems. In the ISOC task process, system manager groups can use the auto-provisioning of the resources using the virtualization techniques. The auto-provisioning catalogs used by manager groups are as followed : OS templates, Apache webserver installation, Tomcat installation, WebToB webservice installation, Jeus web application server installation, User shell account open, Database user account open, storage allocation, etc.

3.2. Manager groups and their role

There are several system manager groups in ISOC to support IT resource allocation and provisioning. System manager groups have specific functions for operating systems. System manager groups are as followed.

- Application manager group : application provisioning for web server, middle-ware, and other system applications
- Database manager group : DB user and data management
- Storage manager group : storage allocation
- Network & security manager : security facility and firewall management
- Backup manager : system and user data backup scheduling
- VM manager : virtualized system management, providing OS templates

<Figure 2> shows the role of each manager group in ISOC task process.

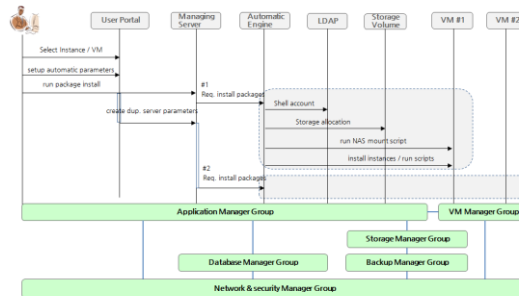


Figure 2. The role of manager groups

In figure, manager groups work together with other groups. In cloud based ISOC, the role of VM manager group is more important. VM manager group should provide virtualized system resources to other manager groups. Using these virtualized system resources, each manager group can support users with auto-provisioning.

4. Conclusion

ISOC is a web-based system for supporting IT resources and improved to be processed on the cloud computing systems. In order to support user's IT requirements, many system manager groups are composed. System manager groups have each specific role and cooperate with other groups for dealing with user's requirements efficiently.

5. References

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 [2] S-G Han, G-S.Kim, Y-H Shin, J-B Kim, M-W Park, J-Y Ghim, "Implementation of the Information Service Request Supporting System", 2010 KIISE Conference, Vol.37, No.1(B), pp.401-405, 2010.