

A method for optimizing the choice of a cloud computing service based on user requirements

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Abstract. The growing popularity of cloud computing and the variety of services provided makes the choice of cloud services a non-trivial task for consumers. It is important to determine the best cloud computing service that can meet the requirements of users. The purpose of the article is to present one of the methods of decision support to non-specialists, with the help of experience of experts using the services of the computing cloud. A wide range of cloud services makes it difficult to choose from the many options available. The article offers a solution using the hierarchy analysis method to solve the problem of choosing a cloud service. The problem of slow implementation of clouds is widely known, the practical application of the chosen method helps to cope with the problems of choosing a cloud solution service. As part of the study, four cloud service providers were selected, and classification was performed according to seven criteria.

Keywords: virtualization, hierarchy analysis, virtualization service, virtualization technologies, decision-making systems, virtual machine, IT environments, IT infrastructure, construction, administration, effective management, symmetry, optimization, query algorithm

REFERENCES

1. Saati T.L. *Prinyatiye resheniy. Metod analiza iyerarkhiy* [Decision-making. Method of hierarchy analysis]. Moscow: Radio i svyaz', 1993. (In Russian)
2. Stepanenko N.V., Alekseeva T.V., Gubina L.V. Application of the hierarchy analysis method in the choice of a company automation method. *Prikladnaya informatika* [Applied Informatics]. 2018. No. 6(78). Pp. 5–14. (In Russian)
3. Kharitonov S.V., Ulitina E.V., Dik V.V. Application of the hierarchy analysis method in the agreement of evaluation results. *Prikladnaya informatika* [Applied Informatics]. 2012. No. 6(42). Pp. 108–113. (In Russian)
4. Moscoso-Zea O., Saa P., Paredes-Gualtor J. et al. Moving the IT Infrastructure to the Cloud. *Enfoque UTE*, 2018. № 9(1). Pp. 79–89. <https://doi.org/10.29019/enfoqueute.v9n1.219>
5. Volozhenin A.S., Ginzburg A.V., Faertag T.A. Application of virtualization technologies in construction IT infrastructures. *Ekonomika i predprinimatel'stvo* [Economics and entrepreneurship]. 2016. No. 10-3(75-3). Pp. 549–552. (In Russian)
6. Carr N.G. *Velikiy perekhod. Revolyutsiya oblachnykh tekhnologiy* [The Great Transition. The Revolution of cloud technologies]. Moscow: Mann, Ivanov and Ferber, 2013. (In Russian)
7. Vermishev Yu.Kh. *Metody avtomaticheskogo poiska resheniy pri proyektirovanii slozhnykh tekhnicheskikh sistem* [Methods of automatic search for solutions in the design of complex technical systems]. Moscow: Radio i svyaz', 1982. 152 p. (In Russian)
8. Kulakova A.O., Maksimova T.G. Using the hierarchy analysis method to justify the choice of a project development scenario. *Innovatsii* [Innovation]. 2019. No. 2. Pp. 42–48. (In Russian)
9. Aleksanyan G.A., Ordynskaya Yu.A. Cloud services for small business. *Ekonomika i sotsium* [Economics and Society]. 2014. No. 2(11). Pp. 996–1002. (In Russian)
10. Mirin S. Russian market of cloud infrastructure services 2022 [Electronic resource]. *iKS-Consulting – mezhdunarodnoye konsaltingovoye agentstvo* [iKS-Consulting – international consulting agency]. <http://www.iksconsulting.ru>: [website]. URL: <http://survey.iksconsulting.ru/page32257739.html> (accessed: 01.08.2023)

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