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PaaS Solutions Evaluation ^[1]

Date published:

Monday, 1 September, 2014

Document type:

Summer student report

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Project Specification: OpenShift Origin is an open source software developed mainly by Red Hat to provide a Multilanguage PaaS. It is meant to allow developers to build and deploy their applications in a uniform way, reducing the configuration and management effort required on the administration side. The aim of the project is to investigate how to deploy OpenShift Origin at CERN, and to which extent it could be integrated with CERN "Middleware on Demand" service. The student will be exposed to modern cloud computing concepts such as PaaS, and will work closely with the IT middleware experts in order to evaluate how to address service needs with a focus on deployment in production. Some of the tools that are going to be heavily used are Puppet and Openstack to integrate with the IT infrastructure. Abstract: The report is a brief summary of Platform as a Service (PaaS) solutions evaluation including investigation the current situation at CERN and Services on Demand provision, homemade solutions, external market analysis and some information about PaaS deployment process. This first part of the report is devoted to the current status of the process of deployment OpenShift Origin at existing infrastructure at CERN, as well as specification of the common issues and restrictions that were found during this process using different machines for test. Furthermore, the following open source software solutions have been proposed for the investigation of possible PaaS provision at CERN: OpenShift Online; Cloud Foundry; Deis; Paasmaster; Cloudify; Stackato; WSO2 Stratos. CERN ?homemade? solution called Middleware Manager Service was also examined as well as series of proprietary software to compare the features and possibilities of integration. The second part of report contains information about Cloud Foundry PaaS solution and about the process of its deployment at CERN.

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