UNIVERSITY OF
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IBM Bluemix Review

Purpose

IBM Bluemix is an implementation of IBM's Open Cloud Architecture designed to enable users to rapidly build, deploy, and manage cloud applications, while tapping a growing ecosystem of available services and runtime frameworks. BlueMix as a new public Platform-as-a-Service (PaaS) was first released in February 2014. In this review, an overview of Bluemix is introduced and the product features are described. Further discussion of the strengths and challenges facing Bluemix is carried out. Finally, we conclude with some recommendations of how Bluemix could be used in the University.

Product Overview

IBM Bluemix is a Platform-as-a-Service (PaaS) developed by IBM based on open standards and cloud to build, deploy, manage and run cloud applications like web and mobile, big data and other smart services. Platform as a service (Paas) is a service model where providers deliver not only infrastructure but also middleware (databases, messaging engines and so on) and solution stacks for application building, development and deployment.

Some features of Bluemix include:

- It is built on Cloud Foundry (an open source PaaS).
- Its open standard allows developers to use a variety of tools from IBM, third party and open technologies.
- It provides an integrated experience for developers with DevOps in the cloud and it helps them build enterprise and mobile applications quickly and more efficiently.
- It hides the complexities associated with hosting and managing cloud-based applications so that developers can just focus on development.

IBM Bluemix provides the following benefits:

- It reduces time for application/infrastructure provisioning.
- It allows for flexible capacity.
- It helps to address any lack of internal tech resources.
- It reduces the Total Cost of Ownership (TCO).
- It accelerates exploration of new workloads – social, mobile, big data.

Product Strengths

Some of the main strengths of this platform include:

- **Considerable extensibility and openness:** Bluemix is based on open-source Cloud Foundry and buildpacks technology. It offers services for Java, Node.js and Ruby frameworks. Many other potential "plug-ins" are available from open-source communities and third parties.
- **Design driven User Interface:** Bluemix is a design driven and user-centred tool, it provides a clean user interface, simple to use analytics tools and visualisation features.
- **Hybrid mode:** Bluemix provides a hybrid option, which is great flexible for enterprise users. With the integration mechanism and APIs available, Bluemix allows enterprise users to create their own private workspace and move data back and forth from the cloud.
- **Watson features (IBM promises to release the Watson interface for the enterprise via Bluemix in the near future):** IBM Watson is a cognitive technology that processes information more like a human than a computer- by understanding natural language, generating hypothesis based on evidence and learning as it goes. With natural language processing, hypothesis generation and evaluation and dynamic learning these three technologies, Watson promises to deliver the power to unlock the world of global unstructured data. Currently IBM is engaging with some universities in the US like MIT, Berkeley and Carnegie-Mellon to

incorporate Watson into their cognitive technology curriculum. At the UoB, we would be interested in developing links with IBM to explore the potential of Watson as a data analysis tool.

License and Cost

There are three purchasing models for IBM Bluemix: 1) pay-as-you-go, 2) platform usage subscription and 3) platform support plans for enterprise.

Depending on the usage required within the organisation, the organisation can choose the more suitable plan. For individual users, a user can get free instant access up to a 30-day trial without a credit card. After the 30-day trial, user will need to choose a subscription plan or enter the credit card for pay-as-you-go plan.

A caculation on the cost of Bluemix is included below:

Runtimes: Runtime is free during the 30 day free trial. Up to 1125 GB-hours are free each month after the trial. Post-trial, users are charged for the time that the apps run and the memory that is used.

Services and Add-Ons: Some services have plans, with flat-rate pricing. Some services have metered pricing. Price is calculated based on the consumption of the service. Many services provide free allowances every month.

Product Challenges

Some of the main challenges that the product currently faces include:

- IBM Bluemix is new to the PaaS market. It will put pressure on other PaaS providers such as Microsoft Azure, Amazon AWS, and this is likely to lead to a new wave of PaaS innovation.
- Attracting application independent software vendors and broadening enterprise users to Bluemix will be a critical imperative for IBM.
- With Bluemix built on Cloud foundry, users may expect greater protection from vendor lock-in. The support for real portability will need to be addressed by IBM.

Bluemix workshop at UoB

IT Innovation Centre helped organise a Bluemix event on 9th Sept 2014 to introduce Bluemix to academics and support staff. During the event, Bluemix and Watson as a taste of IBM's cognitive technology was particular interested by the attendees. Another IBM Bluemix workshop is planned in early 2015 for the students who take part in the Student Mobile Application Competition 2014-2015.

Conclusions and Recommendations

- Bluemix is a new Platform-as-a-Service developed by IBM, it is the key product in IBM's promising new cloud strategy.
- Although it has potential as a cloud development platform, although it still needs some time to prove its success.
- The main indicator to measure the success of Bluemix is by its ability to attract partners especially the application independent software vendors and to broaden its customer base.
- As a new player in PaaS Market, IBM Bluemix is worth to be investigated.
- Bluemix can be difficult to use for non-technical users as it may require some coding skills.
- The IT Innovation Centre recommends to continue investigating this product and to continue the dialogue with IBM to explore the potential of Watson as a data analysis tool.