



IBM Research Doubles Its Productivity with Cloud Computing

Overview

IBM Research Compute Labs

Challenge

- IBM researchers required faster turnaround times for the provisioning of resources for specific research projects.

Solution

- By introducing cloud computing to research labs, IBM enabled business process workflow management, provisioning and capacity planning to occur within the time it takes to get a cup of coffee.

Key Benefits

- The advent of cloud computing has resulted in greater productivity, better utilization of resources and the consolidation of individual labs' capital budgets into a single centralized budget. Cloud Computing has been such a success at the Watson and Zurich Research Labs that it was rolled out to six additional research labs through the end of 2008.

IBM researchers can testify first hand to the benefits of cloud computing because they are reaping the efficiencies created by cloud computing on a daily basis. It's not surprising that IBM Research Compute Labs with their 3,000 researchers should be in the vanguard of cloud computing. The labs are living workshops scattered around the globe where cutting-edge innovations for new technology, services, IT optimization, streaming workflow and disaster recovery are forged.

The labs' experience with cloud computing began as an effort to expand the use of virtualization to improve resource utilization levels, but it quickly grew into something much larger. IBM researchers' need for faster turnaround times for the provisioning of resources for specific research projects drove the adoption of cloud computing. Typically, it required two weeks for researchers to gain approval for a resource request, get the appropriate infrastructure identified and provisioned and have usage monitoring in place. Valuable time was being lost.

With cloud computing, researchers around the world visit a business portal to request a customized software stack on the hardware of their choice and to schedule the timing and duration of their projects. The cloud technology scours IBM's global infrastructure for physical and virtual resources, including 500 virtual machines worldwide, needed by the project. The business process workflow management, provisioning and capacity planning can occur within the time it takes to get a cup of coffee.

The cloud also enables workloads to adjust dynamically. For instance, the cloud enables IBM's Watson Research Center to migrate running workloads to other global research centers when the Watson Center is closed for the three-day Labor Day holiday in the U.S. The cloud also assigns the workload to the platform where the particular application running the workload functions best. The cloud has also helped with more prosaic tasks, such as testing vendor patches without dropping untested code into production. With the cloud, software patches can be tested on massive heterogeneous server set-ups without jeopardizing production. With the advent of cloud computing, the IBM Watson and Zurich Research Centers expect to be able to provision more than 1,200 virtual machines in 2009 – more than double the number provisioned in 2008. Thus, the advent of cloud computing has resulted in greater productivity, better utilization of resources and the consolidation of individual labs' capital budgets into a single centralized budget.

Cloud computing represents a key technology in delivering the new economics, rapid deployment of services, and tight alignment with business goals that

will be the hallmarks of the new enterprise data center. Cloud computing has been such a success at the Watson and Zurich Research Labs that it was rolled out to six additional research labs by the end of 2008.

IBM Design Centers can assist your business in developing cloud computing solutions to solve infrastructure challenges. Once engaged with a Design Center, customers partner with skilled IBM experts from the concept stage all the way through implementation of a cloud or ensemble to drive first-of-a-kind advanced solutions to reality.

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