Notice of the Final Oral Examination
for the Degree of Master of Science

of

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BSc (University of Victoria, 1998)

“A Modular Architecture for Cloud Federation”

Department of Computer Science

Thursday, December 3, 2015
11:00 A.M.
Engineering and Computer Science Building
Room 468

Supervisory Committee:
Dr. Sudhakar Ganti, Department of Computer Science, University of Victoria (Supervisor)
Dr. Yvonne Coady, Department of Computer Science, UVic (Member)

External Examiner:
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Chair of Oral Examination:
Dr. Henning Struchtrup, Department of Mechanical Engineering, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

Cloud Computing is the next step in the evolution of the Internet. It provides seemingly unlimited computation and storage resources by abstracting the networking, hardware, and software components underneath. However, individual cloud service providers do not have unlimited resources to offer. Some of the tasks demand computational resources that these individual cloud service providers cannot fulfill themselves. In such cases, it would be optimal for these providers to borrow resources from each other. The process where different cloud service providers pool their resources is called Cloud Federation. There are many aspects to Cloud Federation such as access control and interoperability. Access control ensures that only the permitted users can access these federated resources. Interoperability enables the end-user to have a seamless experience when accessing resources on federated clouds. In this thesis, we detail our project named GENI-SAVI Federation, in which we federated the GENI and SAVI cloud systems. We focus on the access control portion of the project while also discussing the interoperability aspect of it.