



**University  
of Victoria**

Graduate Studies

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

of

**SUSHIL BHOJWANI**

BE (University of Rajasthan, 2008)

**“Interoperability in Federated Clouds”**

Department of Computer Science

Thursday, September 24, 2015

9:30 A.M.

Engineering and Computer Science Building  
Room 660

Supervisory Committee:

Dr. Yvonne Coady, Department of Computer Science, University of Victoria (Co-Supervisor)  
Dr. Sudhakar Ganti, Department of Computer Science, UVic (Co-Supervisor)

External Examiner:

Dr. Fayez Gebali, Department of Electrical and Computer Engineering, UVic

Chair of Oral Examination:

Dr. Christopher Nelson, Department of Biochemistry and Microbiology, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies

## **Abstract**

Cloud Computing is the new trend in sharing resources, sharing and managing data, performing computations on a shared resource via the Internet. However, with the constant increase in demand, these resources are insufficient. So users often use another network in conjunction with the current one. All these networks accomplish the goal of providing the user with a virtual or physical machine. However, to achieve the result, virtual machine users have to maintain different credentials and follow a different process for each network. In this thesis, we focus on SAGEFed, a project that enables a user to use the same credentials and commands to reserve the resources on two different federated clouds, i.e., SAVI and GENI. As a part of SAGEFed, the user can acquire or reserve resources on the clouds with the same API. The same service also manages the credentials, so they do not have to manage different credentials while acquiring resources. Furthermore, SAGEFed demonstrates that any cloud that has some form of client tool can be easily integrated.