OpenStack

Project Initiation and Planning Document

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1. Project Vision and Objective

1.1. Project Scope and Vision

Last year IBM approached NDSU to have a computer science capstone group implement an instance of OpenStack on campus as a proof-of-concept, higher education oriented open source cloud. The task was a huge success and expectations were greatly surpassed by what the group was able to accomplish. IBM would now like to continue what was started last year by having another group further the development and utilization of the cloud at NDSU. Through this capstone project, IBM is able to further their relationship with the university and to explore the benefits of this type of platform in higher education. This also allows them to contribute more as a corporate sponsor to OpenStack and also aid in its deployment to locations that are able to benefit from the opportunities that OpenStack makes possible.

1.2. Project Goals and Objectives

To improve the implementation and utilization of OpenStack on campus by coordinating with faculty and personnel in the Computer Science department to find potential use cases and applications for a cloud infrastructure.

#	Goal or Objective
G1	Create a development OpenStack environment and become familiar with the product and its capabilities.
G2	Update the existing OpenStack production environment installed in the CS department.
G3	Explore new use cases with department faculty and staff. Present the possibilities OpenStack has to offer and find how individuals would like to be able to use it.
G4	Select target use cases based weighting doability and impact and implement.
G5	Contribute to the OpenStack community and aid IBM in their involvement in the platform as well.

2. Project Planning

2.1. Project Lifecycle

We will be following an agile development cycle. We have fundamental goals in place, but much of our project will need to adapt and develop along the way. By talking to professors we will define use cases that will become the objectives of our project. To achieve this, the group will work closely together, with frequent meetings, continuous collaboration, and weekly sprints. The work will be divided in three deliverables for the entire semester and each deliverable will be divided in subtasks of one or two weeks.

2.2. Project Setup

Decision Description
OpenStack will be used on the project.
A development stack environment will be set up on CS department virtual machines.
We will create scripts to build an NDSU OpenStack environment that will allow others to easily configure another instance that features the modules that are to be used as a standard at the university, similar to that of DevStack.
Scripts shall be well commented and shall include configuration options.
Documentation is really important. All the code, configuration, decisions and discussions shall be well documented.

2.3 Project Resources

The development and production environments shall be configured and tested on hardware provided by the Computer Science department.

3. Project Tracking

3.1 Stakeholders

Stakeholder	Role
IBM	Sponsor
Michael Fork	Mentor
Lance Bragstad	IBM Aid
Mathew Odden	IBM Aid
Adam Reznechek	IBM Aid
Dean Knudson	Instructor
Justin Anderson	Team Member
John Nagel	Team Member
Cesar Ramirez	Team Member
John Rensberger	Team Member
NDSU Faculty, Staff, and Students	Potential End-User

3.2 Communication Plan

The group and sponsor shall meet on a weekly basis. Meetings are scheduled for Tuesdays at 9:00 am and will be held via teleconference. There are also web-based discussion groups that include faculty input and allow for all interested parties direct access to our conversations.

Regularly Scheduled Meetings

Meeting Type	Frequency/Schedule	Who Attends
Conference Call	Weekly	Project team and mentor
Team Meeting	Monday-Thursday Evenings	Project team
Short Meeting	Weekly in class	Project team
Sprint Planning Meeting	Start of each sprint	Project team and mentor
Sprint Retrospective Meeting	End of each sprint	Project team
Sprint Review Meeting	End of each sprint	Project team, mentor, and sponsor

Information To Be Shared Within Our Group

Who?	What Information?	When?	How?
Project team	Task assignments	Weekly	Team meetings, listing in MS Project file, Google Drive shared folder, email

Information To Be Provided To Other Groups

Who?	What Information?	When?	How?
Sponsor and mentor	Final report	At completion of project	Req./Design docs., code, PowerPoint presentation
Sponsor and mentor	Project baselines	At the end of each sprint	Onsite customer demo, access to repository
Sponsor and mentor	Weekly report	Weekly	Email and Trac site access
Faculty, Staff, Systems Administrators	Use Cases	Real-time	Google Groups discussion boards, emails

Information Needed From Other Groups

Who?	What Information?	When?	How?
Sponsor and mentor	Requirement changes	Start of each sprint	Conference call or meeting with sponsor and mentor.
CS Systems Administrators	Availability of test hardware	Start of second sprint	Email

3.3 Deliverables

#	Deliverable	Delivery Time
D1	Testing OpenStack Environment	Interim
D2	Project Objectives	Final
D3	Project Configuration	Final
D4	Project Documentation	Final
D5	Project Conclusion and Delivery	Final

3.4 Project Metrics

Metric	Frequency	Location
Estimated Effort (in hours)	Per task	MS Project Plan
Actual Effort (in hours)	At task completion	MS Project Plan
Maintenance Effort (in hours)	As occurring	MS Project Plan

3.5 Assumptions

#	Assumption
A1	Department provides sufficient resources to operate OpenStack
A2	Requirements stay within scope
A3	OpenStack functionality remains consistent between releases
A4	OpenStack has valid documentation and legitimate support from community

4. Document Review

1 Project Manager

Name:	John Rensberger
Date:	
Signature:	

2 Mentor or IBM Aid

Name:	Michael Fork, Lance Bragstad, Mathew Odden, Adam Reznechek
Date:	
Signature:	