05/15/2014 - 6/30/2014

High Performance Cluster Computing, Grid Computing and Pilot Software of IBM RTL

Internship Summary

Bhaskar Gautam (Technical Trainee)
ONGC, KAULAGARH, DEHRADUN

Student Details

Name	Bhaskar Gautam
University	Graphic Era University
Branch	IT
University Roll Number	2004979

Training Details

ONGC [KDMIPE- Keshav Dev Majviy Institute of Petroleum Exploration]
Address: ONGC, KDMIPE, 9, Kaulagarh Road, Dehradun- 248195
Contact: 0135-2753311, 2753193
Website: www.ongcindia.ongc.co.in

Official Guide Details

Name: Mr Rajeev Agarwal
Designation: Deputy Superintending Engineer [Electronics and Networking][GEOPIC]
Contact: 9410390097

Training Details

Duration: 16th June, 2014 to 31st July, 2014
Actual Training Hours: 120 hours (6 hours per day 3 days a week)

About The Organization

Oil and Natural Gas Corporation Limited (ONGC) is an Indian multinational oil and gas company headquartered in Dehradun, India from KDMIPE, Founded and operated since 1956, it is a Public Sector Undertaking (PSU) of the Government of India, under the administrative control of the Ministry of Petroleum and Natural Gas. It is India's largest oil and gas exploration and production company. It produces around 69% of India's crude oil (equivalent to around 30% of the country's total demand) and around 62% of its natural gas.

In Dehradun it has 5 department namely: Frontier Basin, KDMIPE, IDT (Institute of Drilling technology), GEOPIC and ONGC Academy, under 2 offices: TelBhavan- Garhi Cannt and KDMIPE- Kaulagarh respectively.

INTERNSHIP SUMMARY

Topic:

High Performance Clusters, Grid Networking [Presentation and Study part]
IBM Robotic Tape Library [Software designing undertaking and implementation]

Details:

The project assigned to be worked upon was bifurcated into two: the presentation and study apart and one implementation and designing part. In the presentation and study part our respected mentor Mr Rajeev Agarwal guided me through various topics such as Cluster computing, Grid computing, Storage Area Network, Grid vs. Cluster Computing, future trends. I was made aware about these terminologies, was made to understand them, study them and also to choose one of the topic to give presentation upon for which I got to choose Grid vs. Cluster Computing.

In the software and its implementation part. I got an opportunity to work upon the software required for the functioning of an automated machine named RTL(Robotic Tape Library) for which I chose the C languages as my implementation language for the creation of the software and endured to relate and include as many aspects I could which can be seen in a real time implementation machine.

Key Learnings:

- Exposure to aspects of efficient Data storage, sharing and access options by understanding the structure of Cluster Computing, Grid Computing. Topologies required for their implementation, hardware required for efficient data transfers, challenges faced and aspects of overcoming such.
- Work Environment and structure understanding of work implementation in a leading, in fact the largest production firm in its field.
- Language learning skills implementation for creation of designing software required for the functioning of an automated library machine.