

# 1 Using Parallel Turing Machines

There are ways use and exploit benefits in parallelizing computing. Most of the effort focus in on the input and output mechanisms connecting the control units, and the collective control of the control units. Facilities that help in generating such a collective of computing machines include:

- **Library Frameworks:** are a set of objects, protocols and modules which are contained collectively.
- **Interconnection Library (Framework):** are library frameworks designed connect and migrate other frameworks.

In general, clusters require middle-ware such as MPI, BEEP, NSPorts, XML-RPC or other mechanism to provide the communications for their input and output. MPI, BEEP and NSPorts each form libraries which are part of a library framework. The costs of these middle-wares contribute to the engining of specific Turing machines with an emphasis on performance. During this project, BEEP was explored and discovered to be useful for the overall SDSS Knowledge Base and Computational Service. However, BEEP is not necessarily this project. MPI and NSPorts are comparable methods of distribution and are useful for this project.