CISC 830. Foundations of Cyberinfrastructure

Reading assignment

Synopsis

In this assignment, you will present on a topic in cyberinfrastructure as a group of three students. Your group will select one topic (see below), divide the topic into three subareas, and each student studies his or her subareas. After that, the group discusses what they have studied together, and integrate them into one coherent presentation. Each group gives an around 30-minute presentation, and leads an about 5-minute Q&A.

Topics

1) High performance computing: super computing, grid computing, e.g., OSG, Globus, Blue waters
2) Cyberinfrastructure and applications: biology, physics, astronomy, space weather, engineering
3) Data storage, management, visualization, mining
4) Cloud computing: virtualization, architecture, SW environment, e.g., Hadoop/MapReduce, K8s, Docker, Mesos
5) Data analytics cluster: Spark, Cassandra (Facebook), Dynamo (Amazon), BigTable (Google)

Grading policy

Your presentation will be graded as follows:
1. Was it easy to follow? (25 pts)
2. Did it include in-depth analysis? (25 pts)
3. Was the delivery effective? (25 pts)
4. Was the Q&A session useful? (25 pts)

Things to consider for the presentation

- What is the objective?
- What problem do we run into?
- What is the idea to address the problem?
- Details of the solution idea?
- Any data available to show the solution works?
- Any drawbacks?
- References