Test Report of GraphLab2.2 on Hamster

## 1. Environment

* Hadoop-2.0.5
* OpenMPI-1.7.2
* GraphLab-2.2

## 2. Test Result (all test cases are from GraphLab’s toolkit)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Algorithm | Passed through | Comments |
| Collaborative filtering | ALS | √ |  |
| SGD | √ |  |
| Bias-SGD | √ |  |
| SVD++ | √ |  |
| Weighted-ALS | √ |  |
| Sparse-ALS | √ |  |
| SVD | √ |  |
| Graph analytics | PageRank | √ |  |
| Format Conversion | √ |  |
| Undirected Triangle Counting | √ |  |
| Directed Triangle Counting | √ |  |
| KCore | √ |  |
| Graph Coloring | √ |  |
| Connected Component | √ |  |
| Approximate Diameter | √ |  |
| Graph Partitioning | X | mpirun cannot get passed |
| Clustering | KMeans++ | √ |  |
| Spectral Clustering | X | mpirun cannot get passed |
| Topic modeling | cgs-lda | √ |  |
| Linear Solvers | Jacobi | √ |  |
| Graphical model | Structure Prediction | √ |  |
| Distributed-Dual-Decomposition | √ | Core dumped when single process/ |
| Computer vision | Image stitch | √ |  |

## 3. Conclusions

(1) Hamster can fully support GraphLab-2.2 since GraphLab currently does not include some MPI2.0 primitives (e.g., MPI\_Comm\_spawn).

(2) Some problems occur because of the implementation of algorithm itself.

(3) GraphLab on Hamster with HDFS cannot directly get through. It might need some effects to solve the problem. (refer to wangda’s investigation.