Use Graph to Talk About Measurement of Different Communication Abstractions in Distributed System

Kan Wu

University of Wisconsin, Madison

kanwu@cs.wisc.edu

September 27, 2016

Overview

1. Timing
   - Record your timing during loop and simple statements
2. Using My Timer
   - Verify Jeff Dean's numbers
3. Reliable Communications
   - Interfaces and Reliable Design
   - Performance and Reliability
4. Google RPC and Apache Thrift

Record your timing during loop and simple statements

It proves clock_gettime is precise enough to catch time difference even between 2 or 3 mov like assembly code.

Verify Jeff Dean's numbers

Use our function or other methods to measure some numbers in Jeff Dean's paper.

Interfaces and Reliable Design

This part is to overview my measurement of our communication library.

Reliable Communications: Performance

Overhead and RTT.

- Overhead of sending
- RRT
- Single of Two machines?
- Bandwitdh and analysis

Reliable Communications: Performance

Bandwidth.
What limits my bandwidth:

Reliable Communications: Reliability

This part is to overview my measurement of our communication library. Compiler didn't influence my code large.

Marshalling a Message

Method: SerializetoString, SendMessageBegin ...

RTT Measuring

Echo Server

BindWidth Measuring

Compiler Difference