

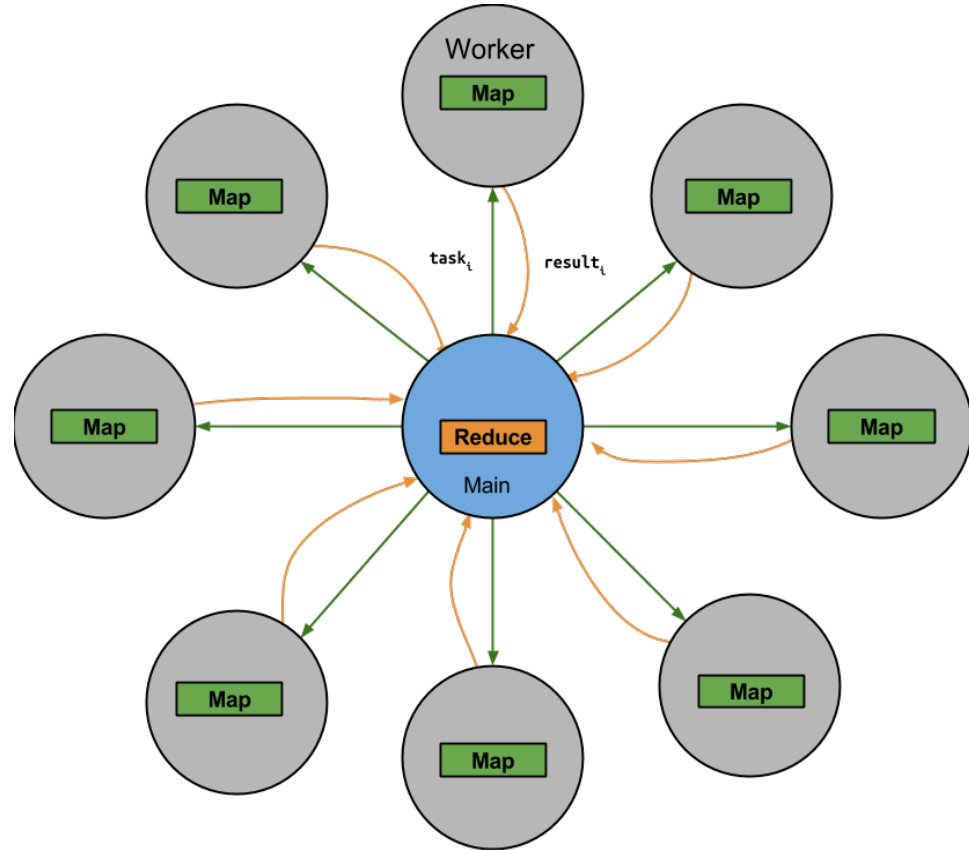
Topaz: Overview

Opportunity

- Unreliable/Inaccurate Machines
- Cheaper, Faster, More Energy Efficient.

Topaz

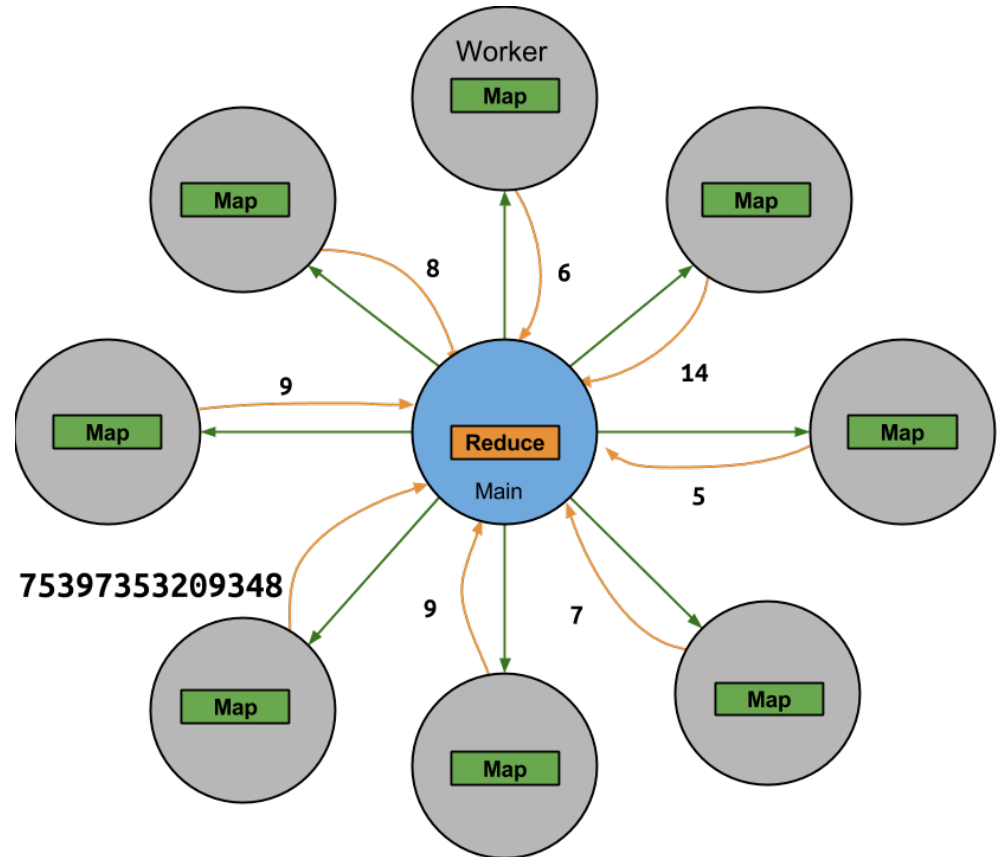
- **Computational Model**
 - 1 reliable 'main' machine
 - N unreliable/inaccurate 'worker' machines
- **Programming Model**
 - Compute-Combine
 - Multiple tasks
 - Unreliable Machines execute tasks
 - Reliable machine combines results to get final answer



Topaz: Eliminating Outliers

January-March, May

- **Problem:** Bad Results
- **Solution:** Outlier detector
 - Discard outlier
 - Replace with median
 - Re-execute task, get right result



Does this Work?

- Empirical Question
- Implemented System, Benchmarks
- Got Experimental Results

BOTTOM LINE: IT WORKS

