Distributed Monte Carlo

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Computing Pi

\[ A_s = (2r)^2 = 4r^2 \]
\[ A_c = \pi \times r^2 \]
\[ \pi = 4 \times \frac{A_c}{A_s} \]
Computing Pi

• Mapper
  – Generate points in a unit square
  – Count points inside/outside of the inscribed circle of the square

• Reducer
  – Accumulate points inside/outside results from the mappers
Computing Pi

• Java Code
  – http://goo.gl/FnJpKO

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