A Testbed Definition of a Simulation Optimization Problem

Shane G. Henderson
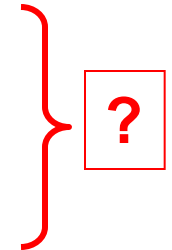
Joint work with Raghu Pasupathy

www.simopt.org

First, an update

Categorical	1
Integer, Constrained	20
Integer, Unconstrained	3
Cts, Constrained, Smooth	5
Cts, Constrained, Nonsmooth	6
Cts, Unconstrained, Smooth	5
Cts, Unconstrained, Nonsmooth	4

?

Issues: Many need implementing. Common interface

Problem Definition

- Minimal: pdf description of problem (1-2 pgs usually, some longer)
- Optional: Other files, e.g.,
  - Implementation (Matlab preferred)
  - .zip (data, implementation, other)
  - Textfile with extra "high-level" info
- The pdf file is the "heart" …

Problem Definition, e.g., Voting Machines in Ohio

- **Problem statement** describes problem so that distribution of sample paths is specified. Arrival processes, service time distribution, voter behaviour
- Recommended **parameter settings**
  - Of problem, not algorithms, e.g., arrival rates
- **Starting solutions**: Single and multiple
- **Measurement of time** (effort): one election
- **Optimal solution** if known, and any other **known structure**