

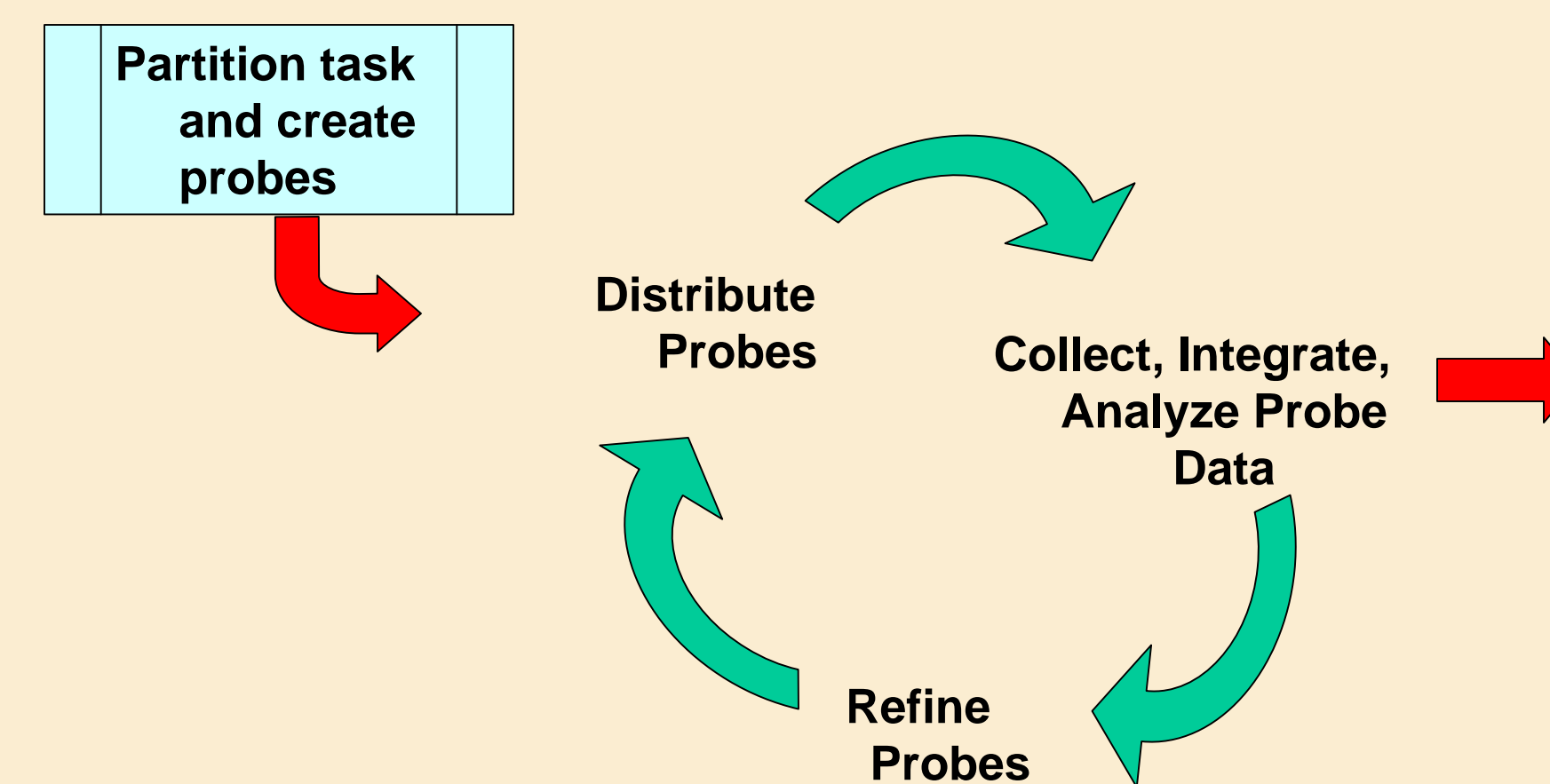


**Goal:**

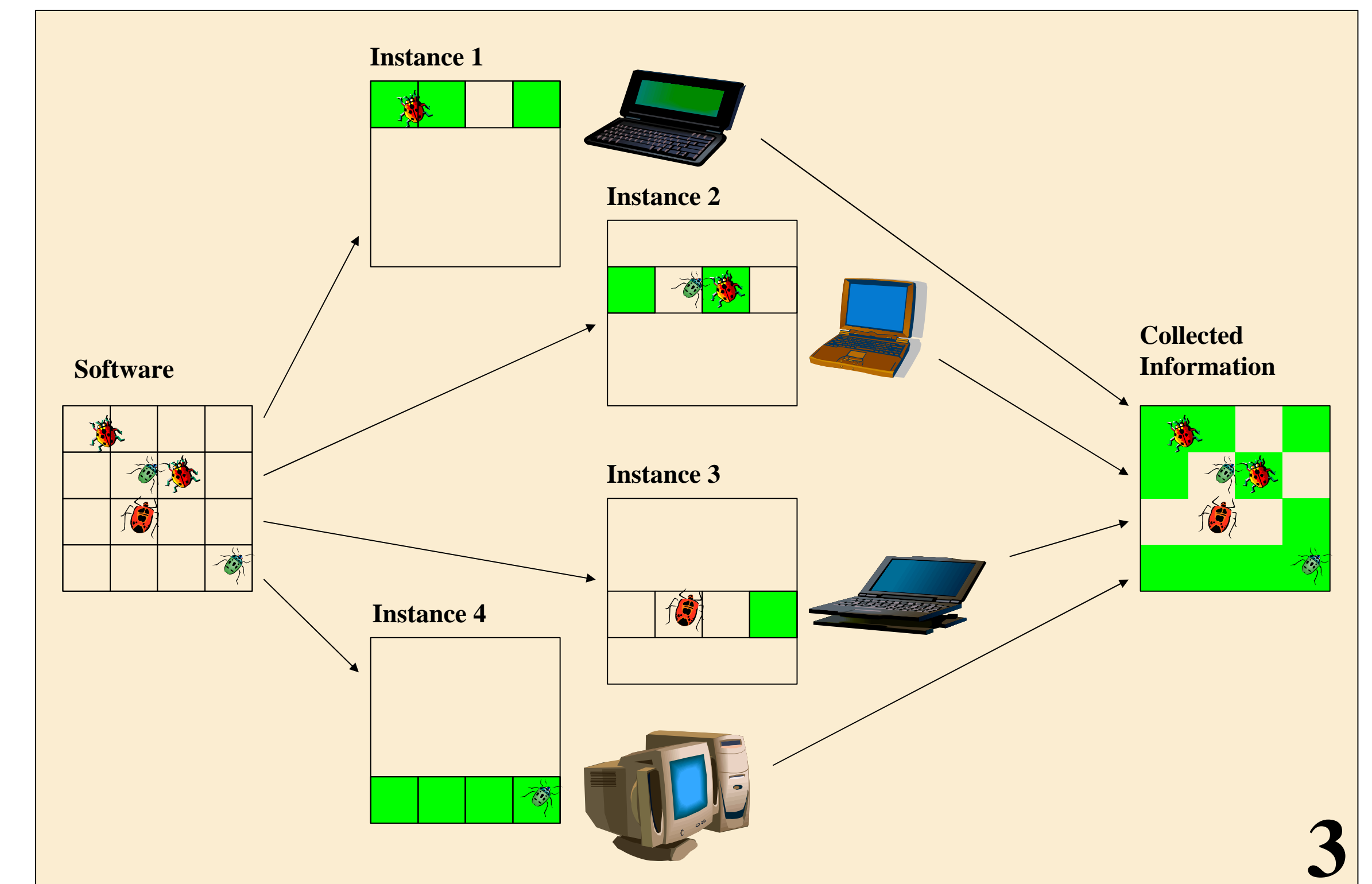
Continuous Monitoring  
of Deployed Software  
using  
Lightweight, Configurable  
Instrumentation

1

**Solution:** Software Tomography



2



3

**Studied Monitoring Task:**

Estimate branch coverage of  
deployed instances using  
Software Tomography

**Questions:**

- > How good is the estimate?
- > Can estimate be improved with low overhead?

4

**Three Techniques:**

SIMPLE: Single Branches  
REF-RR: Replace Probes  
REF-AG: Add Probes

**Studies:**

1. All sites use SPACE uniformly
2. Each site uses SPACE uniquely

5

**Evaluations:**

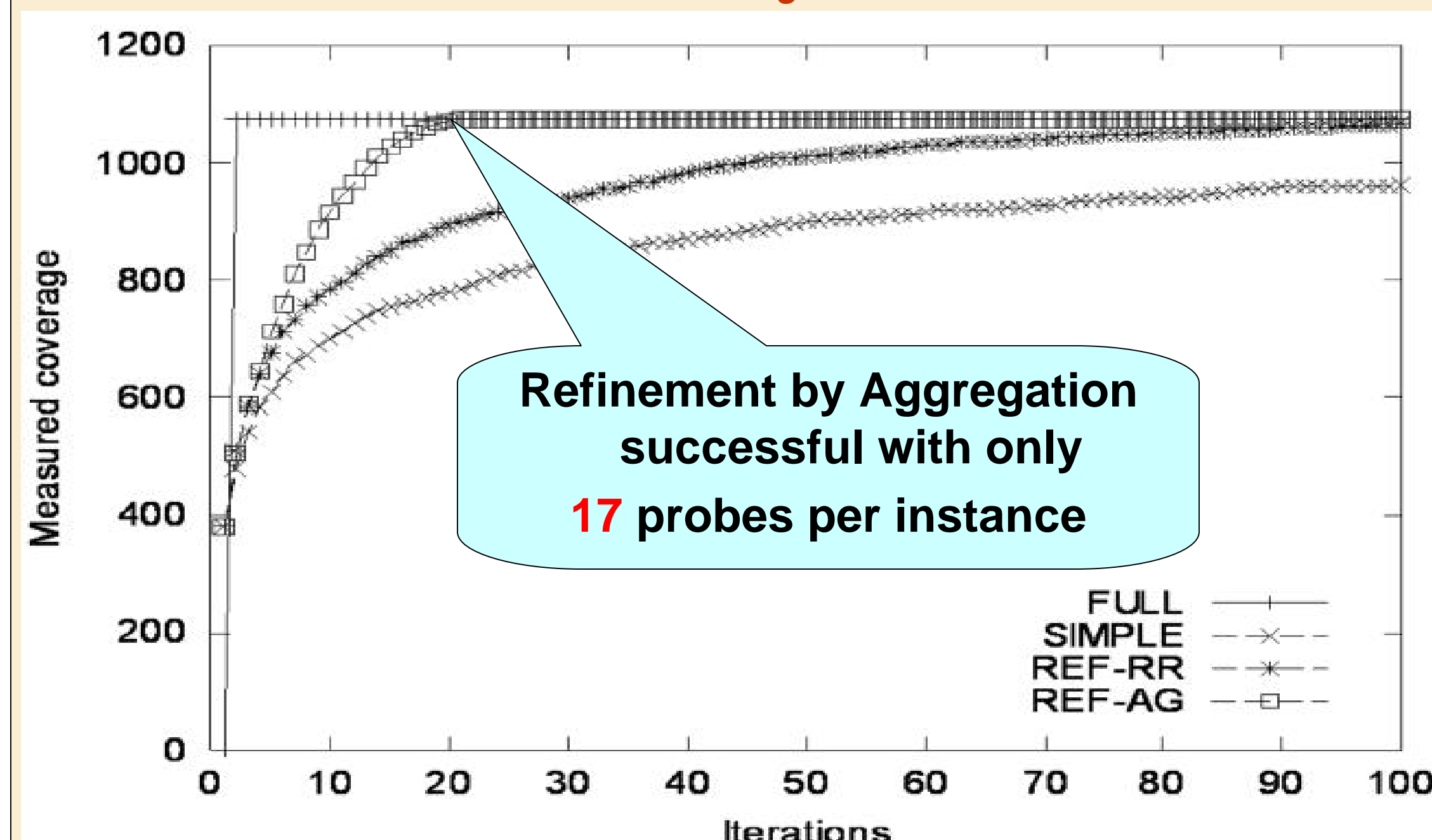
Effectiveness w.r.t. base case

Efficiency w.r.t.

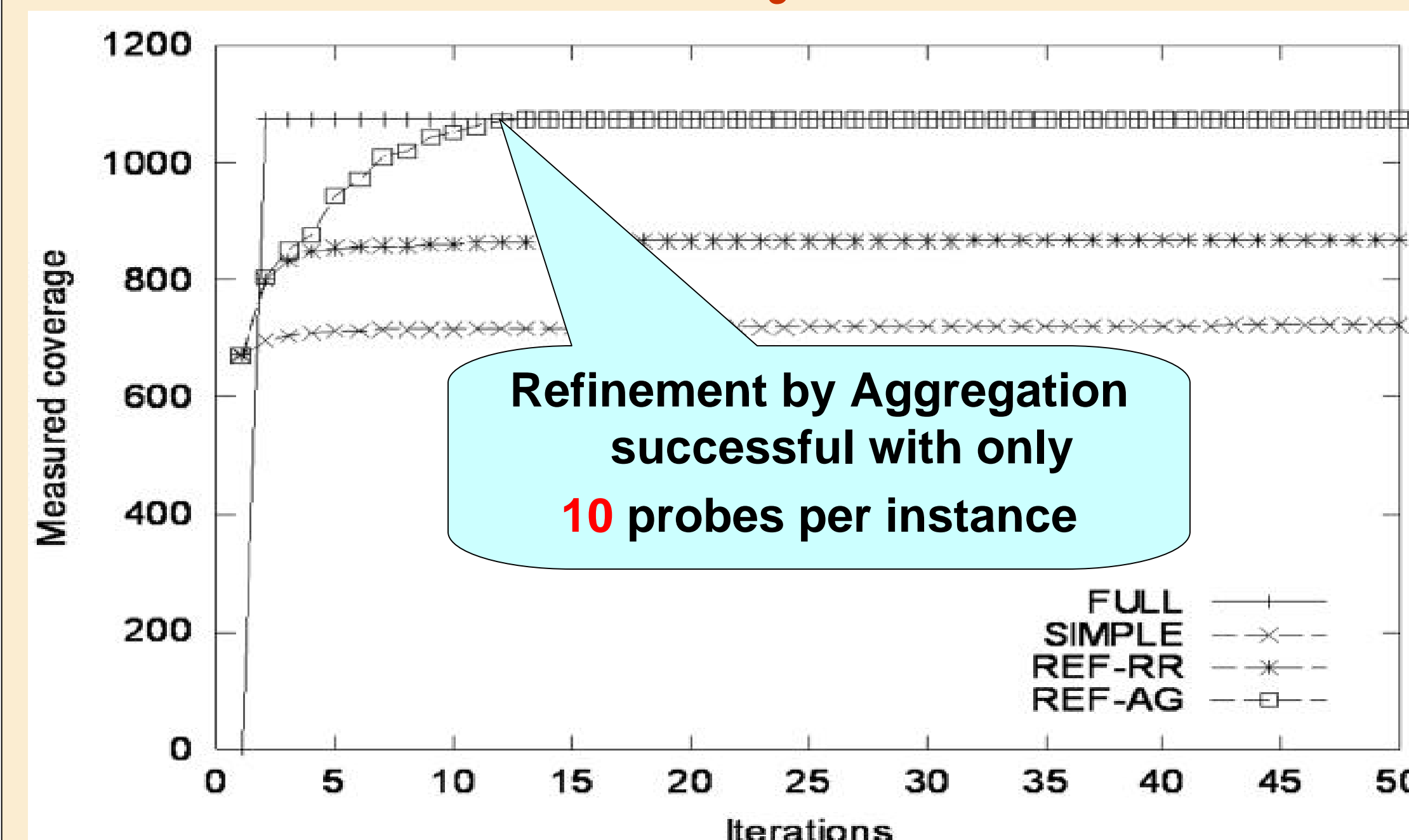
- # of probes per instance
- # of updates of probes

6

**Study 1**



**Study 2**



**Conclusion:**

Software Tomography can  
provide a good estimate of the  
considered monitoring task.

**Future Work:**

Extend to other behaviors.

**Advisors:**

A. Orso and M. J. Harrold

9