

Self-Management: Separating Facts from Fiction

10th IEEE/IFIP Conference on
Network Operations and Management Systems
(NOMS 2006)
Vancouver, BC, Canada
April 2006

Randy H. Katz
Computer Science Division
Electrical Engineering and Computer Science Department
University of California, Berkeley
Berkeley, CA 94720-1776

1

Self-Management

- Fact #1: It's about systems operations
- Fact #2: Systems are extremely large, very complicated, and software intensive
- Fact #3: Workloads highly variable, difficult to predict, difficult to plan for
- Fact #4: Beyond the comprehension of any reasonably sized team
- Fact #5: Storage is incredibly cheap but network bandwidth is not
- Fact #6: Process local, manage global

2

Implications

- System dependability is key
- (Semi-)Automated systems are essential
- Statistical analysis/learning/control promising
- Pervasive monitoring is enabling
- Only decentralized/p2p approaches can scale
- Observe-Analyze-Act: figure out what to do it and do it fast enough ...