What’s IT worth to the business?
IM 2007 panel

john wilkes
HP Labs, Palo Alto, California
Q: what do CEOs/CIOs need?  
A: run IT like a business
IT spending: hardware vs administrator costs

- **Storage costs are dropping**
  - 1995: ~$5000/GB raw
  - 2005: $0.5/GB raw

- **People costs are not:**
  - 2004–5 admin salary: US$68k
  - growing ~0–6%/year [SAGE-USA survey]
Solution: automation
Control loops

Automation
Control loops
Automation

For this to work:
• we need to delegate authority to the system
• what do we want it to do?
• what may it not do?
Control loops
IT in support of business

IT components

business objectives → IT components

Sensor data → QoS objectives → Control System

“What if?” model

+/- QoS comparator

control settings ("knobs")

Application

Resources

Sensor data
Control loops
IT in support of business

IT services

business objectives

Sensor data

QoS objectives

Control System

“What if?”

control settings (“knobs”)

Application

Resources

Sensor data

QoS objectives

Sensor data

Business objectives

+/- QoS comparator
Control loops
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Business processes

IT services

Business objectives
Control loops
IT in support of business
Control loops
IT in support of business

The market
Communicating business intent to IT

• We’ve had a hard time educating businesses about IT metrics
  – let’s try doing the reverse ➔ BDIM

• What do business care about?
  – money

• What makes automation easier?
  – a single metric to optimize against
Communicating business intent to IT
Economy-based service-oriented computing

• easier automation
  – smaller optimization context, single metric to optimize

• easier to understand where to invest
  – look for max ROI

• greater transparency ➔ better accountability

• encourages competition ➔ better services

• narrower interfaces
  – specify consequences, not behaviors
Communicating business intent to IT
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• Metric transitions are hard to do
  – so do as few as you can!
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