IEEE Policy 2007 Panel: Business impact of research on policy for distributed systems and networks

Ritu Chadha
Telcordia Technologies
chadha@research.telcordia.com
One Telcordia Drive, Piscataway NJ 08854, USA.
+1-732-699-2987

Panel Topics

- What success stories does the policy research community have to show for these ten years of research in terms of real business impact?
- What was envisaged ten years ago that did not materialize, and what are the reasons for that?
- Is the community still investigating these issues? What is the likelihood of success if so?
- New trends: links with the research on business-driven IT management

Focus: Policy-Based Network Management

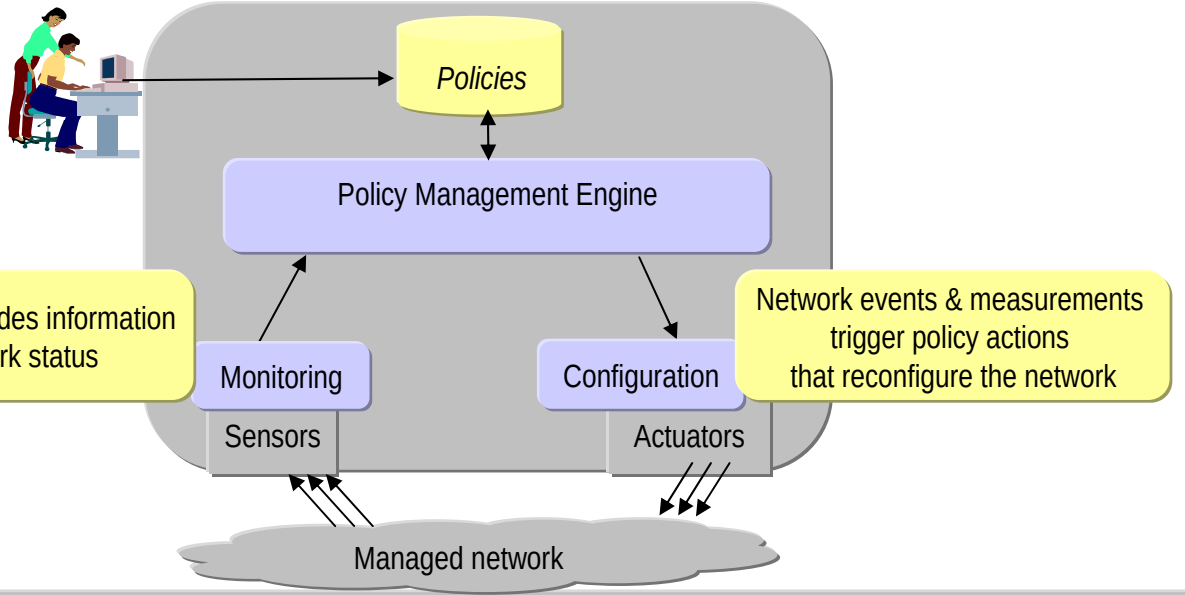
What we were trying to do

© Scott Adams, Inc./Dist. by UFS, Inc.

- Fortunately, I think we may remember a few key points of our vision for PBNM…

Vision: PBNM

Policies are used to tie together the operations of the network management components; users can manipulate policies to adjust network management behavior



Policies automate network reconfiguration based on network status

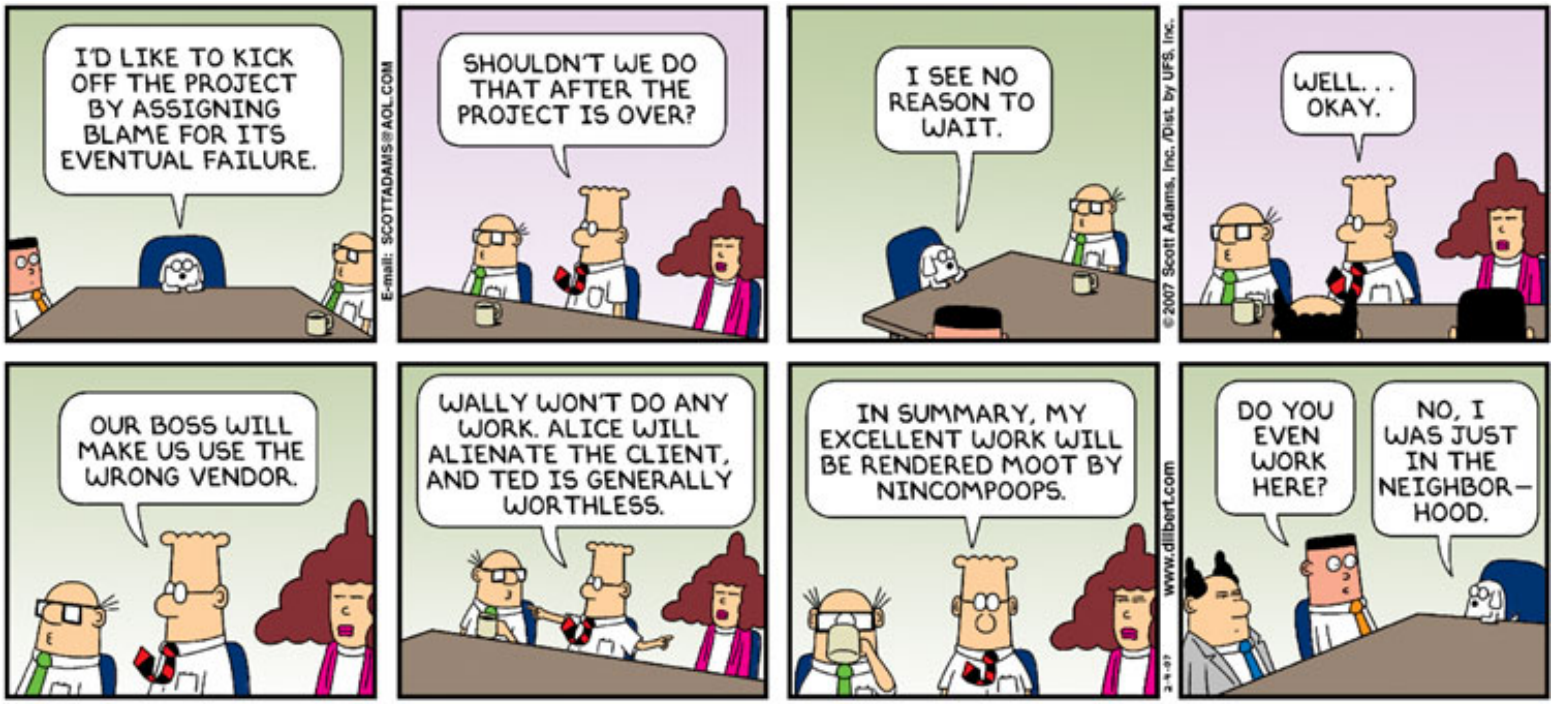
Telcordia

What we did

© Scott Adams, Inc./Dist. by UFS, Inc.

- Major Accomplishments (which one are we??)
  - Policy languages
  - Policy models
  - RBAC
  - Niche applications
    - QoS, traffic engineering
  - Raised awareness
    - Books
    - This conference!

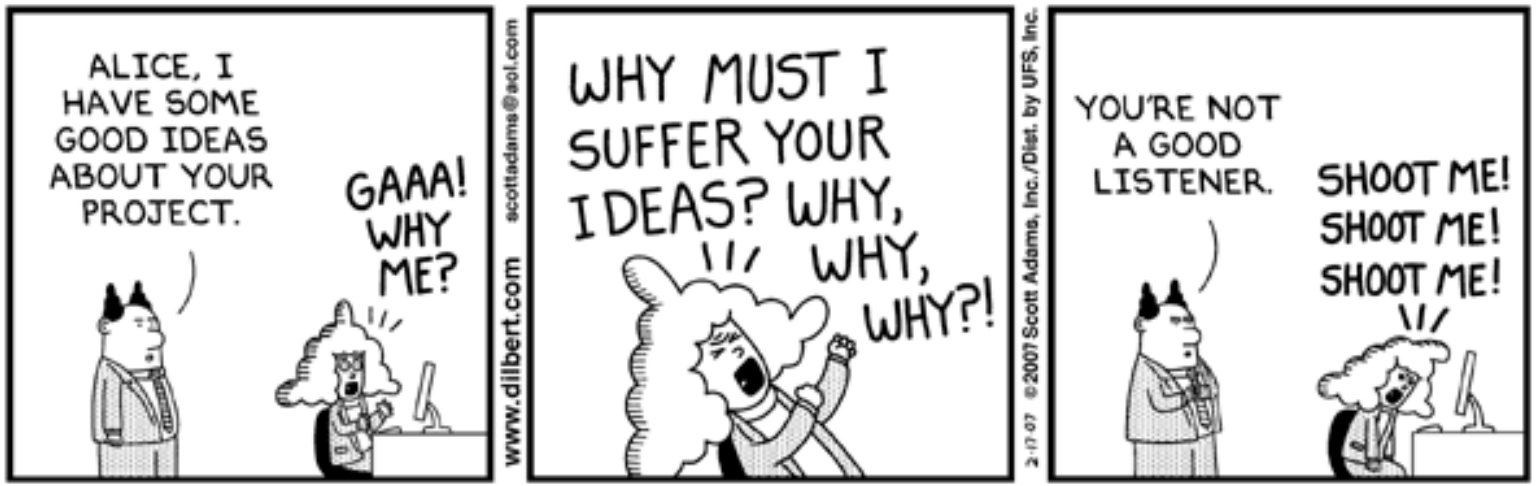
What we didn't do



© Scott Adams, Inc./Dist. by UFS, Inc.

- Major open areas:
  (fortunately, we don't work there either)
  - Fault-triggered reconfiguration
  - Policy Conflict Resolution
  - Large-scale deployments
  - …

What we need to do



© Scott Adams, Inc./Dist. by UFS, Inc.

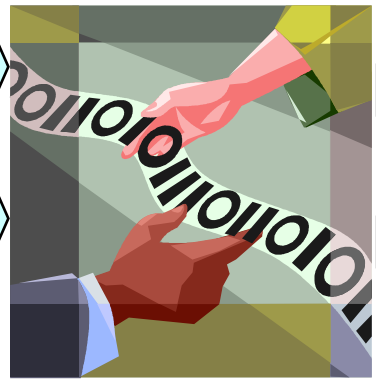
- We need to do what we didn't do!
  - Fault-triggered reconfiguration
  - Policy Conflict Resolution
  - Large-scale deployments
  - …
- How?
  - Drive network configuration based on business goals

What is Business-Driven IT Management?

Business: Financial Investment

Business goals:

Protect clients' data



Provide superior service to premium customers

Derived IT management policies:

```
<Policy PolicyId="SamplePolicy"
leCombiningAlgId="urn:oasis:name
c:xacml:1.0:rule-combining
lgorithm:permit-overrides">
<Target>
<Subjects> <AnySubject/>
</Subjects> <Resources>
<ResourceMatch
```

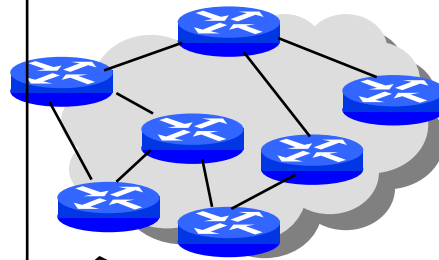
XACML

```
class-map match-all
gold
match ip dscp 10 12 1
class-map match-all E
match access-group 101
map match-all
```

CLI

```
policy-map AVVID
class silver
bandwidth percent 35
random-detect dscp-based
random-detect dscp 18 20 40 10
random-detect dscp 20 20 40 30
random-detect dscp 22 2 3 3
```

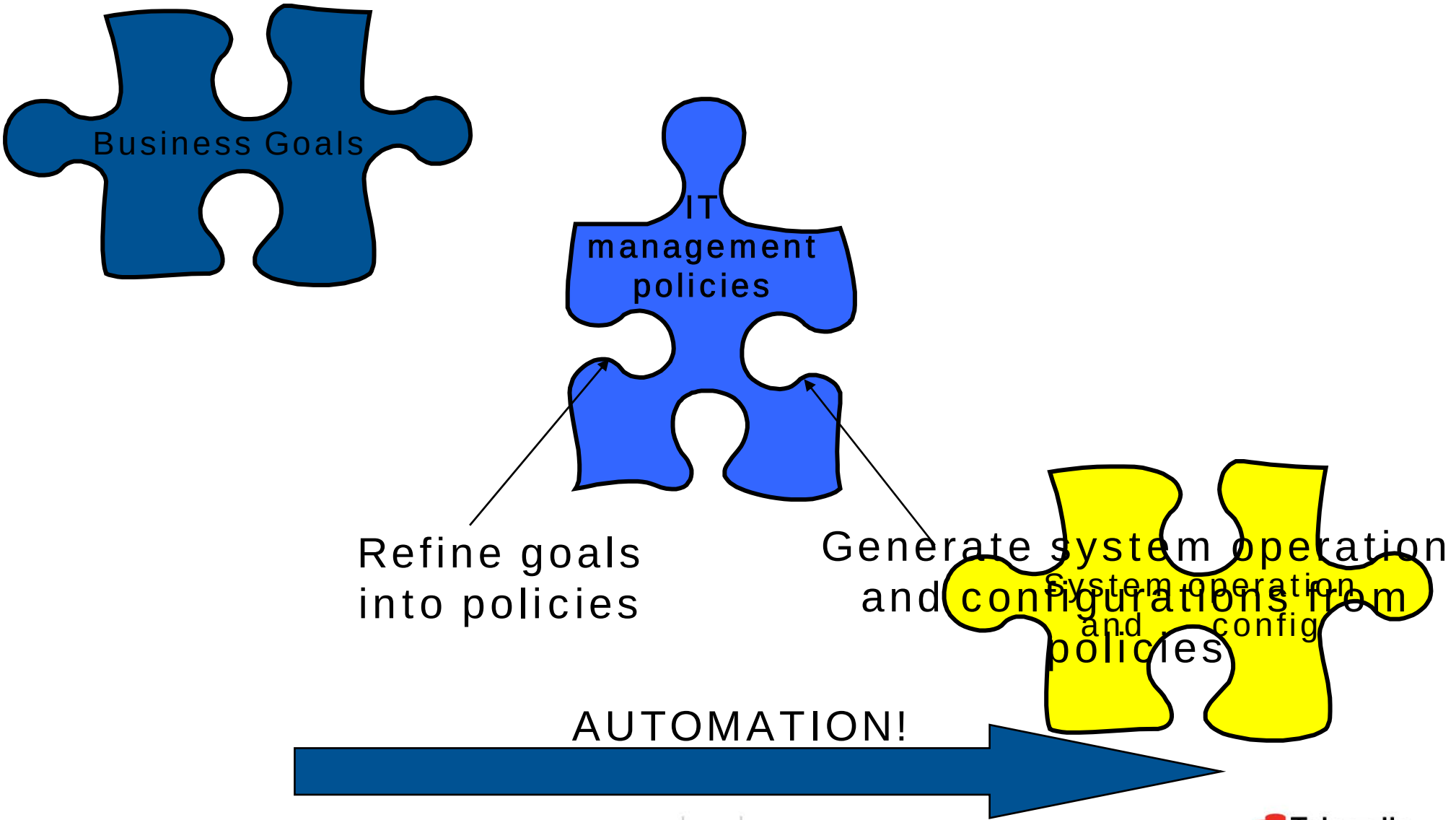
System configuration and operation:



Telcordia

…or, in simpler terms…

© Scott Adams, Inc./Dist. by UFS, Inc.

…have a corporate strategy and try to follow it!

Research on business-driven IT management