Policy-enabled Mechanisms for Feature Interactions: Reality, Expectations, Challenges

FIW 2003 Panel
Petre Dini
pdini@cisco.com

Who will debate

- **Panel Chair:**

  Petre Dini, Cisco Systems // Concordia University

- **Guests:**

  Alexander Clemm, Cisco Systems, USA

  Tom Gray, Pinetel, Canada

  Fuchun Joseph Lin, Telcordia Technologies, USA

  Luigi Logrippo, UQAH/University of Ottawa, Canada

  Stephan Reiff-Marganiec, University of Stirling, UK

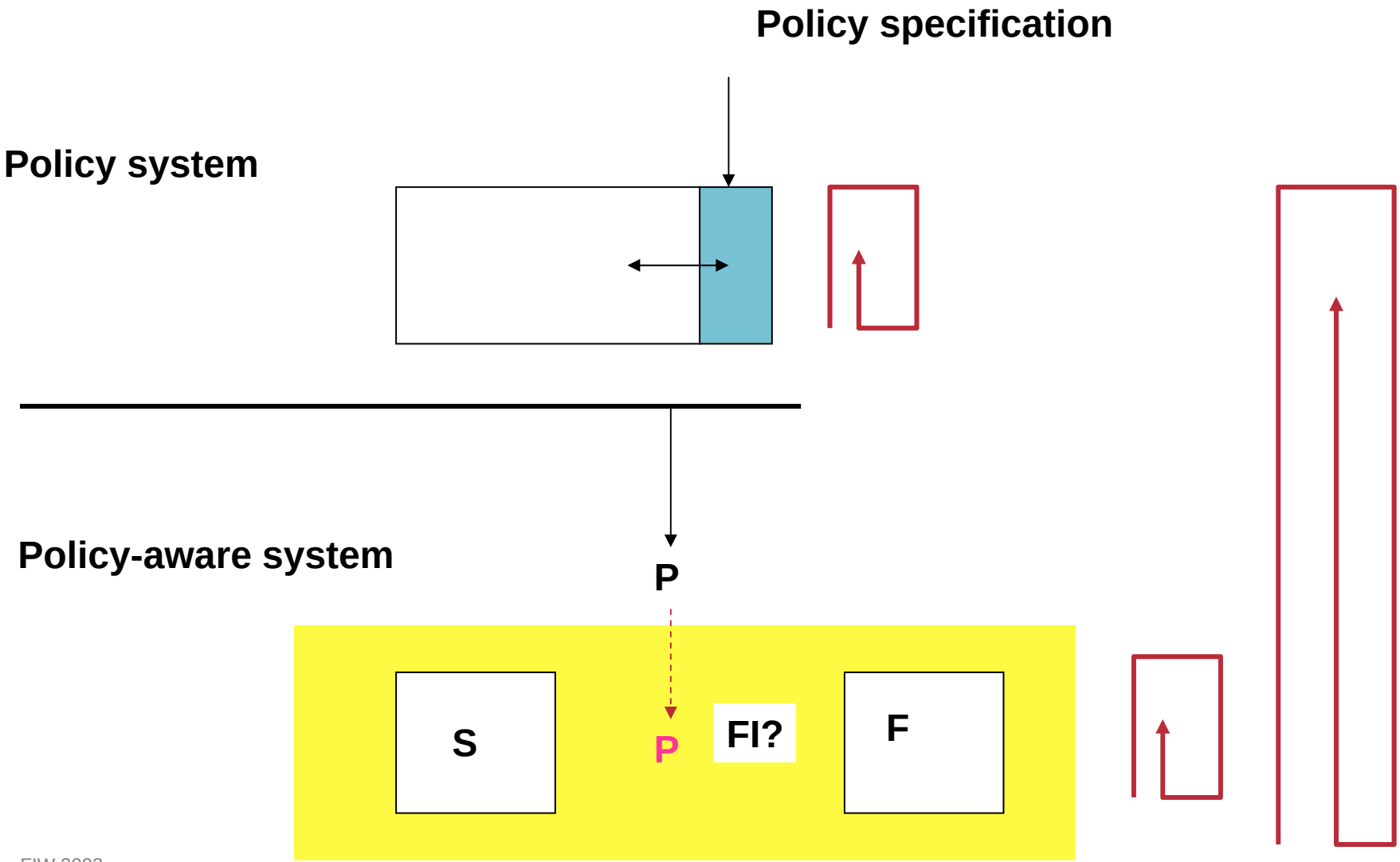
Why this debate?

- **A#1**
- **Feature interactions are related to the creation, maintenance, and evolution of new services (telephony, electronic commerce, web services, multimedia, banking, etc.) and to the implementation of these services across distributed, sometimes heterogeneous, platforms**
- **Policies are related to the creation, maintenance, and evolution of [new] services (telephony, electronic commerce, web services, multimedia, banking, etc.) and to the implementation of these services across distributed, sometimes heterogeneous, platforms**

Why this debate?

- **A#2**
- **Policies are used to design, specify, and implement techniques to detect and fix feature interaction problems**
- **Feature interactions problem may origin from policies that may have covertly embedded conflicts**

FI vs Policy


Policy specification
Policy system
Policy-aware system
P
S
P
FI?
F

What is debated?

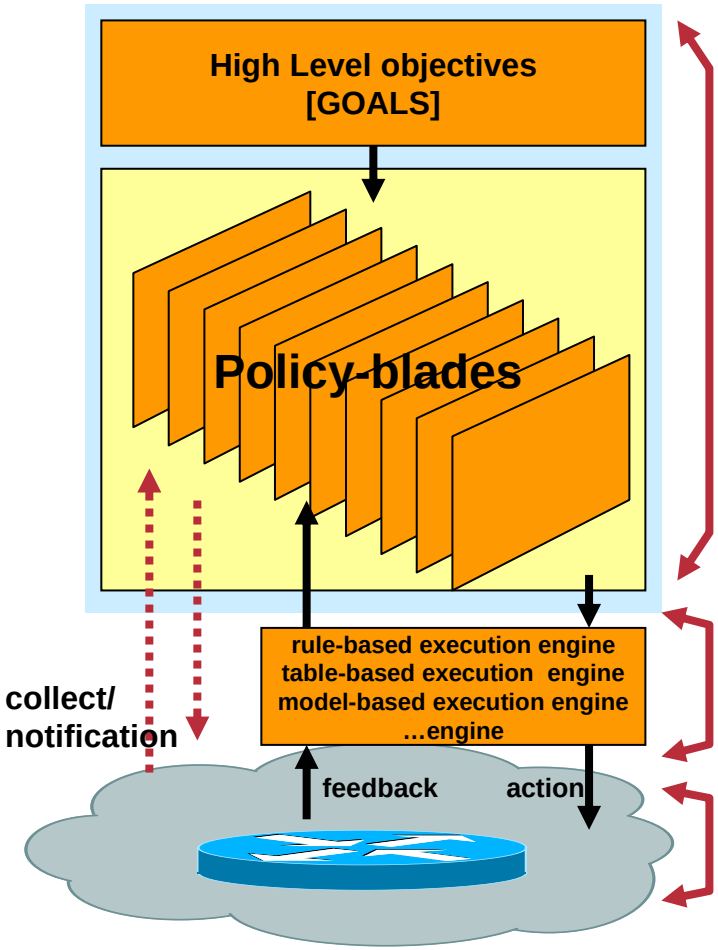
- **Feature Interactions**

vs

- **Policies**

- **Is policy a feature, or a solution for feature interactions?**
- **What formal tools/languages can be leveraged?**
- **Are all policy conflicts feature interactions?**
- **Can all feature interactions be solved through policies?**
- **Are there particular technologies where the marriage of two is benefit?**
- **What is the bridge between the two silos, currently debated in two distinct communities?**
- **Is man-in-the-loop a common concept?**

Goals→Policy→ Actions translation



- **Fuzzy middle between a human desire and a machine definition:**
- **Goal: *I want to encrypt and authenticate <all access> that my <subcontractors> have to <my network>***

Translate: *<from:> <to:> and <keep_link:goals-policies>*

Policy Definition: Authorize <owner/system> to *Encrypt* *<TCP packets> from <10.3.86.5> to <10.4/16> with <CAST> and Authenticate them with <HMAC-SHA>*

Policy Execution:
Authorize <owner/system> to
(rules to authorize…)
Encrypt* *<TCP packets> from
(selection, encryption, etc.)
<10.3.86.5> to <10.4/16> with <CAST> and
Authenticate* *them with <HMAC-SHA>
(authentication methods…)

Guests, then Discussions