

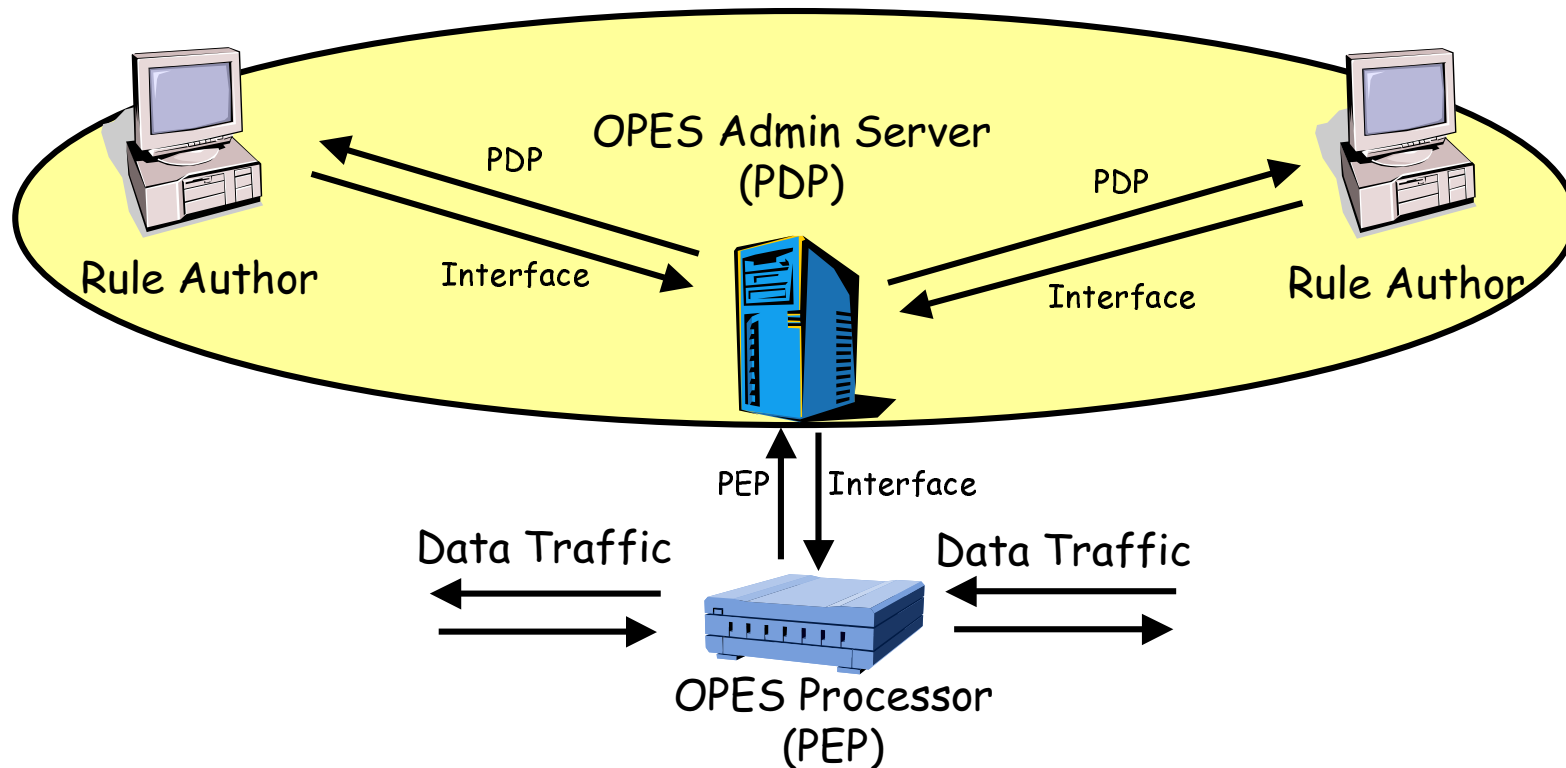
Specification of OPES Rules/Policies

**55th IETF
Atlanta, GA**

Andre Beck

Scope

- From the OPES Charter:
"The working group will define one or more methods for specification of policies, as well as the rules that enable application endpoints to control execution of such services."
- Distribution of rules from rule authors to OPES admin servers is out of scope



Design Considerations



- Simple vs. complex
 - Boolean logic
 - Loops
 - Arithmetic Operations
- High-level vs. low-level
 - Message type level
 - Message header level
 - Message body level
- Verbose vs. compact
 - XML-based?
- Protocol-agnostic vs. protocol-specific
 - Protocol-optimized
 - Basic framework + protocol-specific extensions
- How much can we learn from similar IETF efforts (e.g. CPL)?

Intermediary Rule Markup Language (IRML)



- draft-beck-opes-irml-02 (expired)
- XML-based rule specification language
- Supports nested rules, simple boolean logic
- Rule conditions reference application protocol headers
- Rule condition patterns may contain regular expressions and are matched against application protocol header values
- Supports HTTP and can be extended to support other application protocols
- OPES services are identified by URIs
- Supports OPES service execution with run-time parameters and environment variables

IRML Example Rule Module

```
<ruleset>
  <authorized-by class="content-owner" type="individual">
    <name>Lucent Technologies</name>
    <contact>rule-info@lucent.com</contact>
    <id>www.lucent.com</id>
  </authorized-by>
  <protocol>HTTP</protocol>
  <rule processing-point="4">
    <!-- Is the requested web document our home page? -->
    <property name="request-path" context="system"
matches="^/$|^/index.html$" case-sensitive="yes">
      <!-- Did the user send us a specific cookie? -->
      <property name="Cookie" matches="sew=23">
        <execute>
          <service name="Localized Content" failure="ignore">
            <uri>opes://local.net/insert-local-content</uri>
            <parameter name="clientip" type="dynamic">
              <variable name="client-ip" context="system"/>
            </parameter>
          </service>
        </execute>
      </property>
    </property>
  </rule>
</ruleset>
```

Discussion



- Is IRML a good candidate?
- If so, what is missing in IRML? What can be improved?
- Any other rule format suggestions?
- Please engage in discussion on OPES mailing list