



Managing Distributed Workspaces with ActiveXML

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Active XML model: XML documents with embedded service calls

Property list at real estate agency peer:

```
<realEstate>
  <property ID="101" type="studio">
    <location> Rue de Clignancourt, Paris 18</location>
    <surface> 30 sqm </surface>
    <descr> Nice view on Montmartre </descr>
    <price> 40.000</price>
    <sc>getTransportInfo("../location")</sc>
  </property> ...
</realEstate>
```

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Peer-to-peer distributed information management through Web service calls

Active XML model: XML documents with embedded service calls (cont.)

Property list at real estate agency peer:

```
<realEstate>
  <property ID="101" type="studio">
    <location> Rue de Clignancourt, Paris 18</location>
    <surface> 30 sqm </surface>
    <descr> Nice view on Montmartre </descr>
    <price> 40.000</price>
    <sc>getTransportInfo("../location")</sc>
    <transport>Nearest metro station: Barbes
      Buses: 68 <sc>getRoute("68")</sc>
    </transport>
  </property> ...
</realEstate>
```

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Active XML services

Services invocation: lazy/eager, pull/push, frequency,...

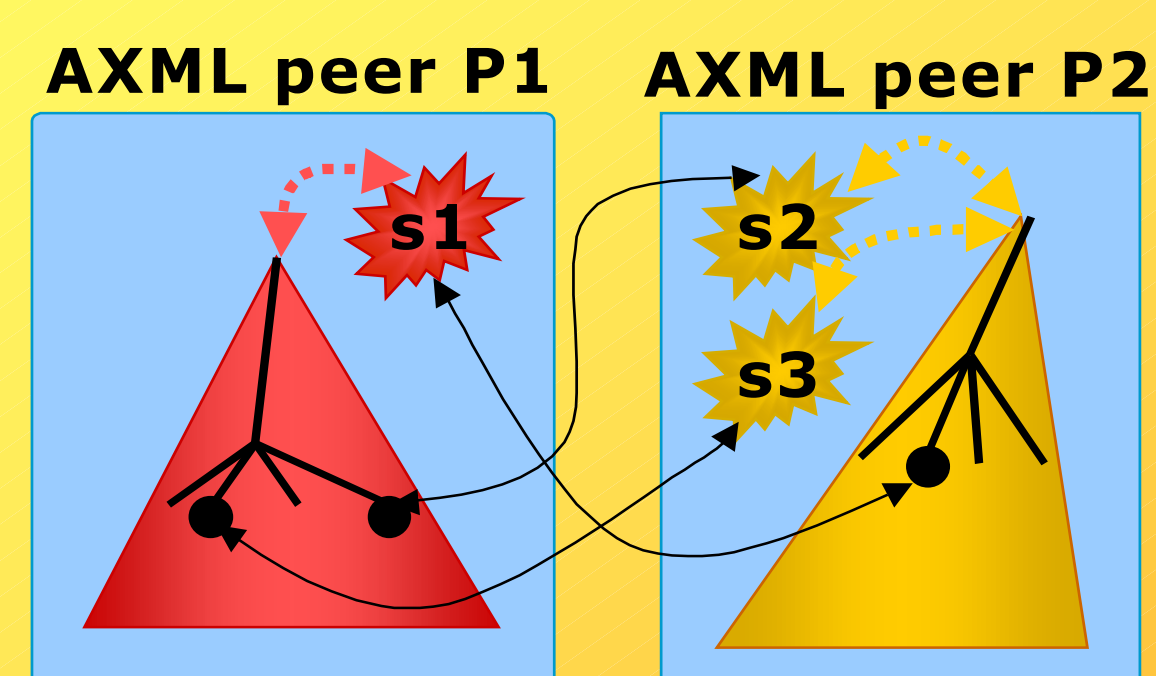
Services definition: opaque or declarative

```
let Find_Property($location,$price) be
for $p in realEstate/property
  $l in $p/location
  $p in $p/price
  $t in $p/transport
where $l=$location, $p < $price
return <offer> $l, $p, $t </offer>
```

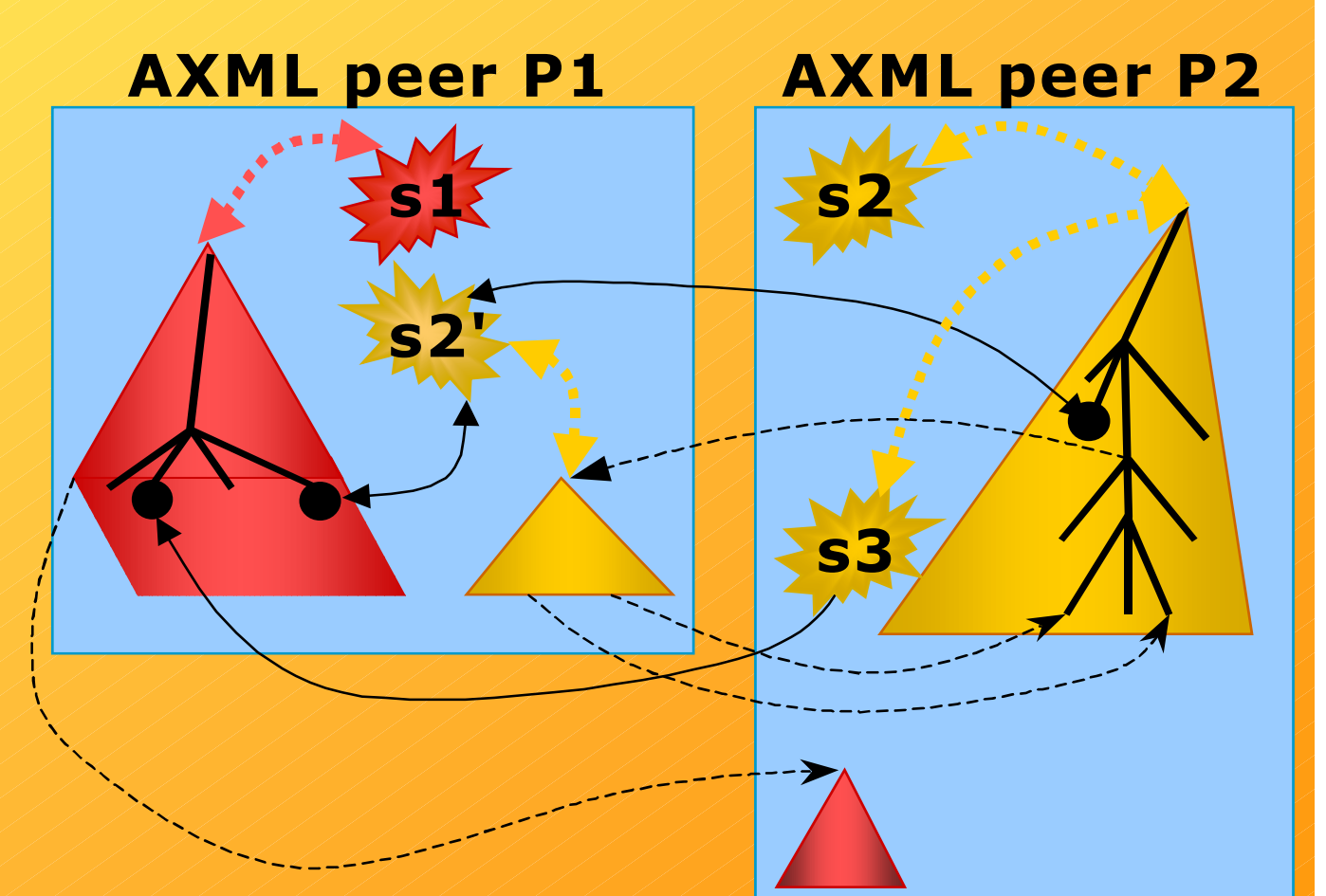
Note: both regular and active parts can be queried

Distribution and replication in AXML

AXML peers



distribution & replication of data and services



Distributed workspace for a real estate agency

- Main agency peer
 - Documents: the available real estate properties and the customers requests
 - Services: search for properties / requests according to given criteria
- Agent with a mobile peer (e.g. PDA)
 - Documents: partial replica of the real estate document
 - Services: customized search services for the real estate properties

Demonstration highlights

1. Specification of the agent workspace
 - Choosing the services to be used
 - Customizing some service parameters
 - Specifying cost parameters (e.g. network battery, I/O etc.)
2. Automatic configuration
 - Replication of relevant data
 - Replication of customized services
3. Exploitation
 - Service invocation (distributed query evaluation)
 - Synchronization

} Recursive process