

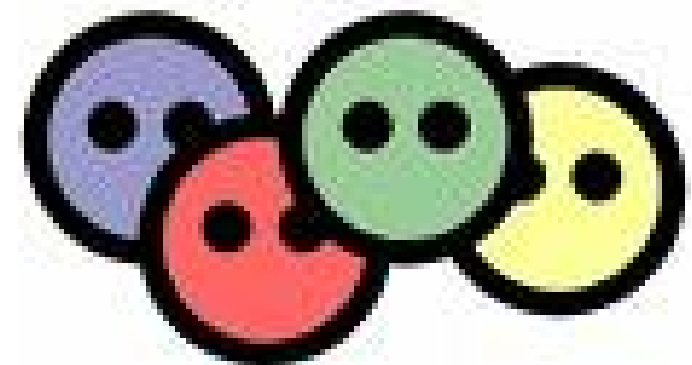
# Two Webs!

*(“So where are the agents?”)*



**Web 2.0?**

REST WebArch  
HTTP RDF  
**URIs** Data  
HTML Links OWL  
XML





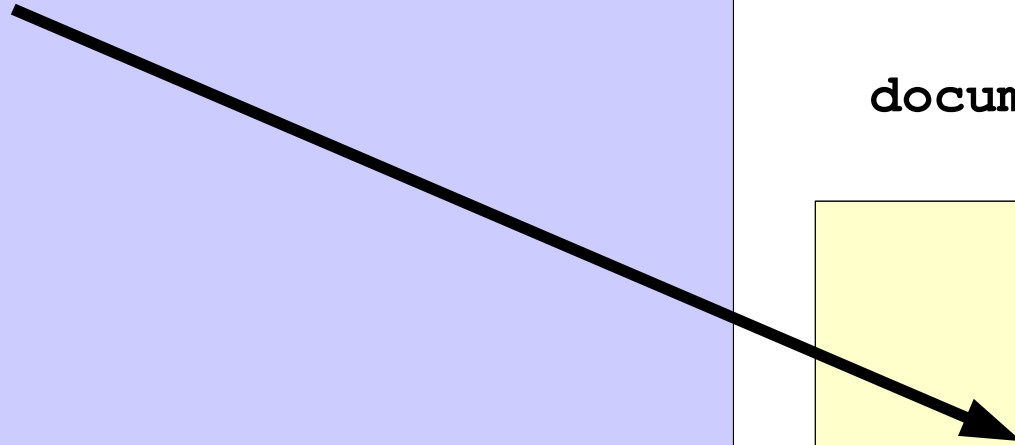


The Web

documentA.html

```
<a href="documentB.html">Another Doc</a>
```

documentB.html



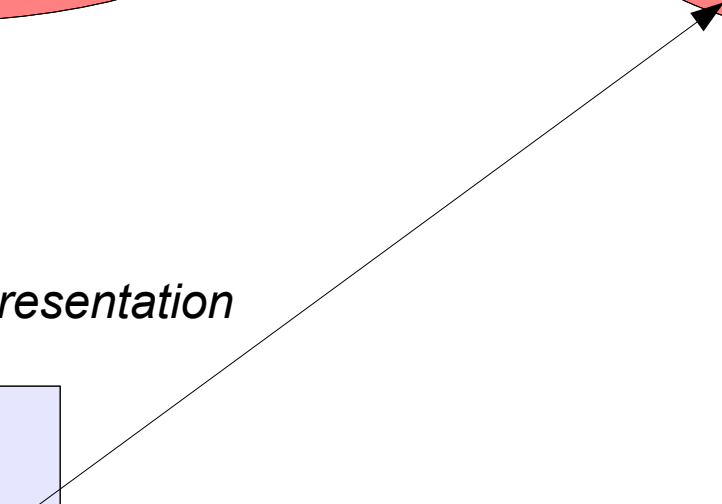
http://example.org/resourceA

http://example.org/resourceB

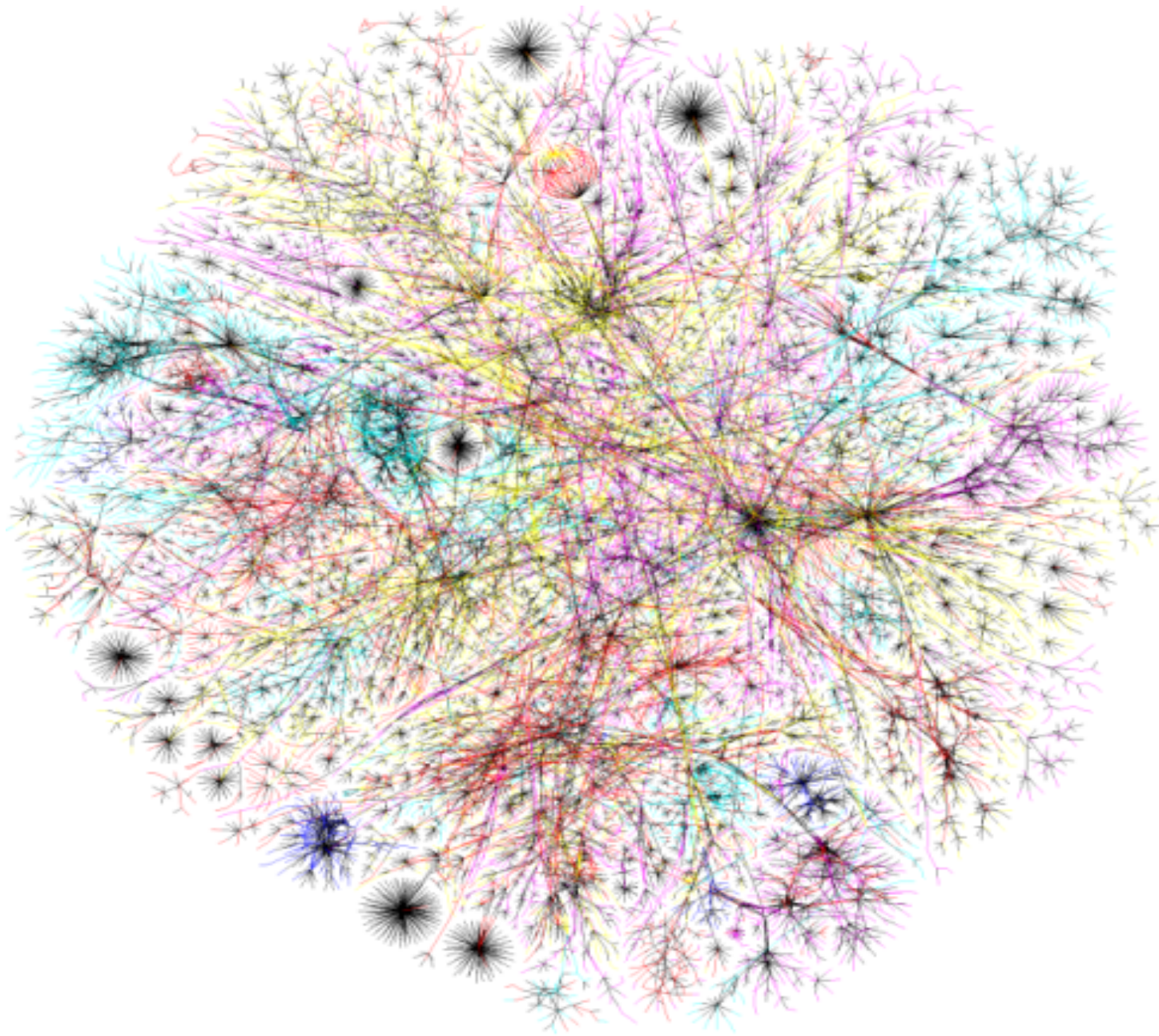
*representation*



*representation*







Source : <http://opte.org>



# The Semantic Web

**`http://example.org/resourceA`**



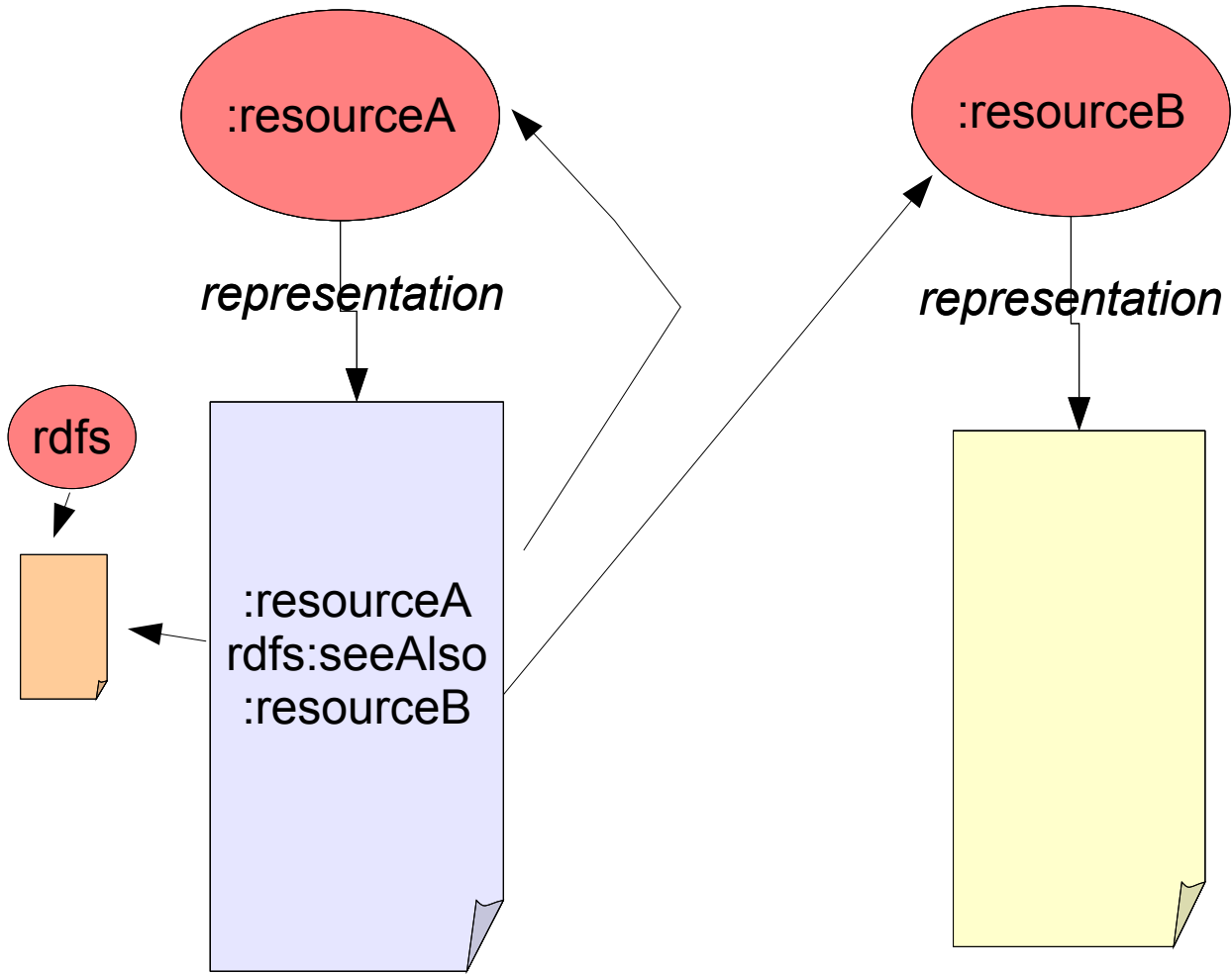
**`http://www.w3.org/2000/01/rdf-schema#seeAlso`**

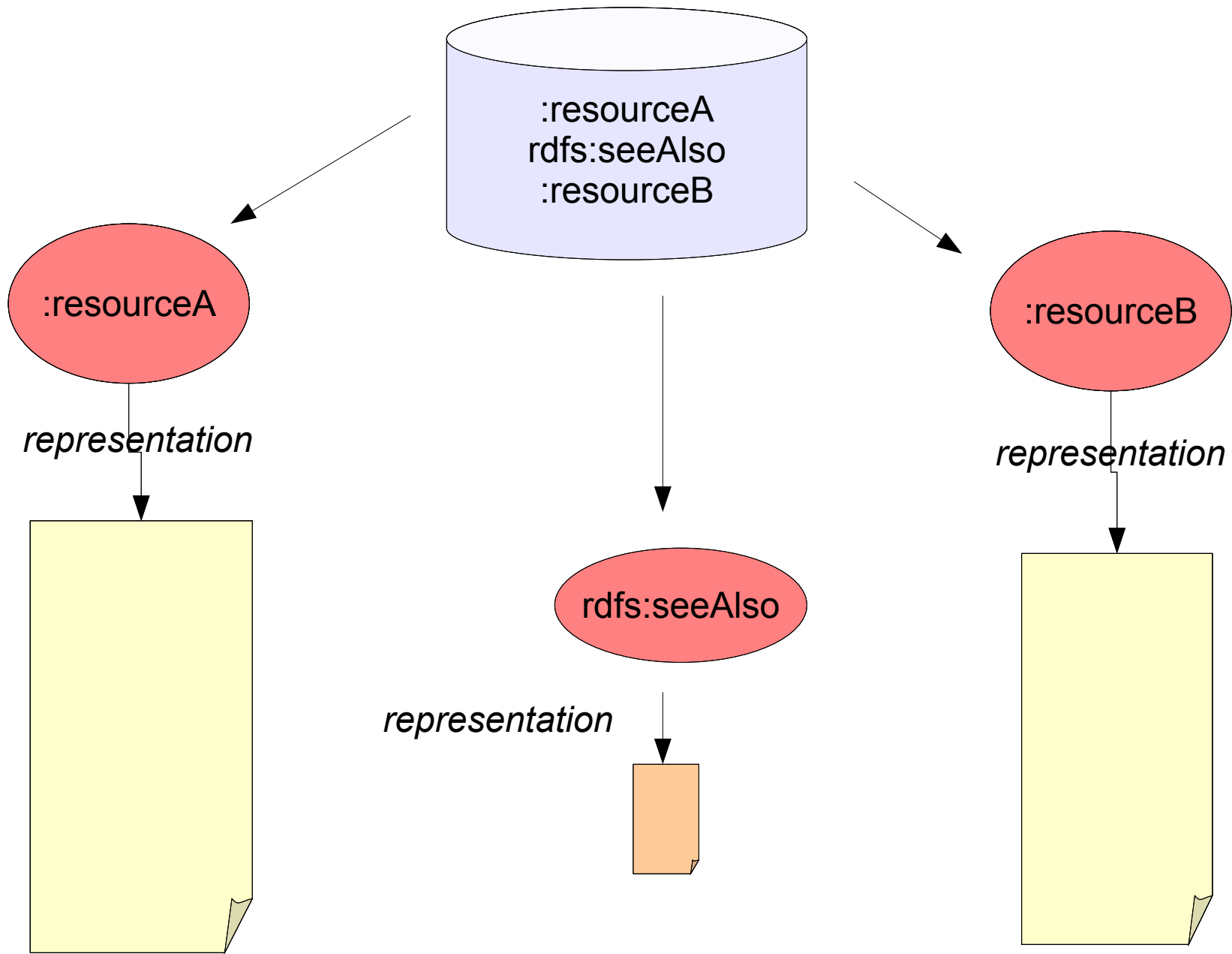


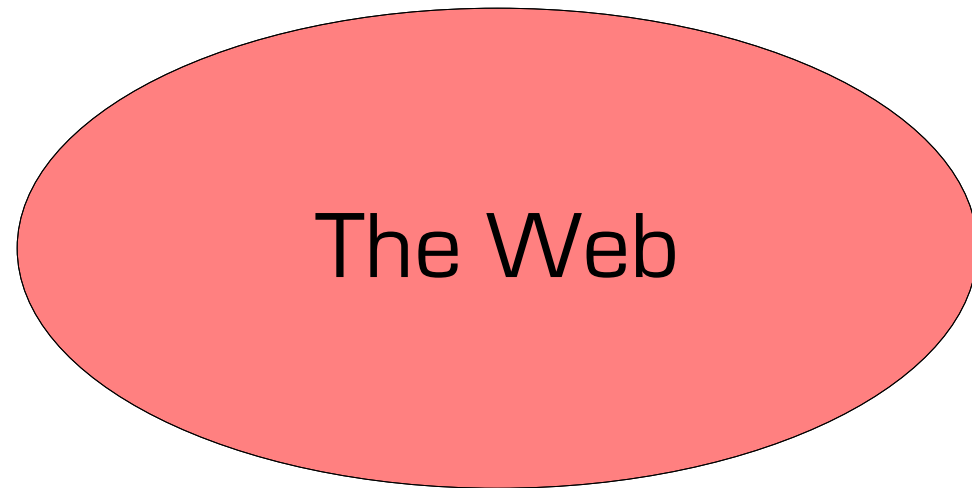
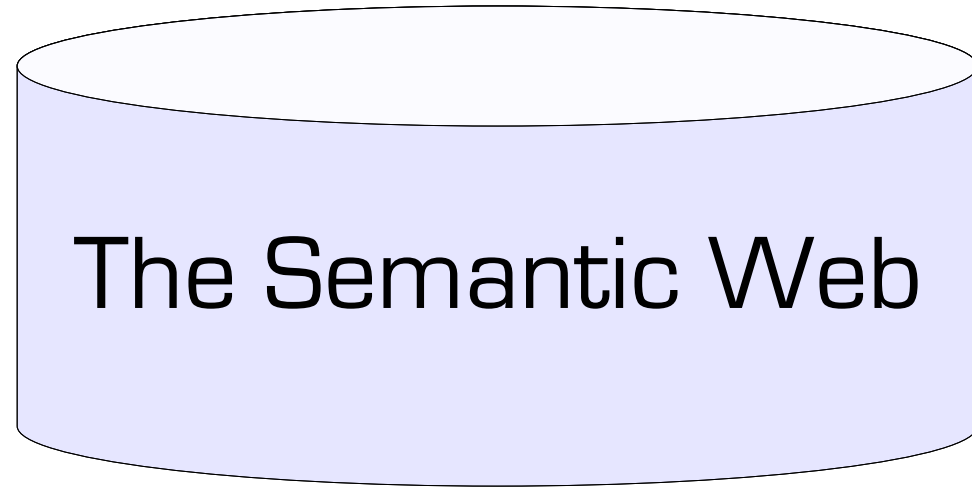
**`http://example.org/resourceB`**

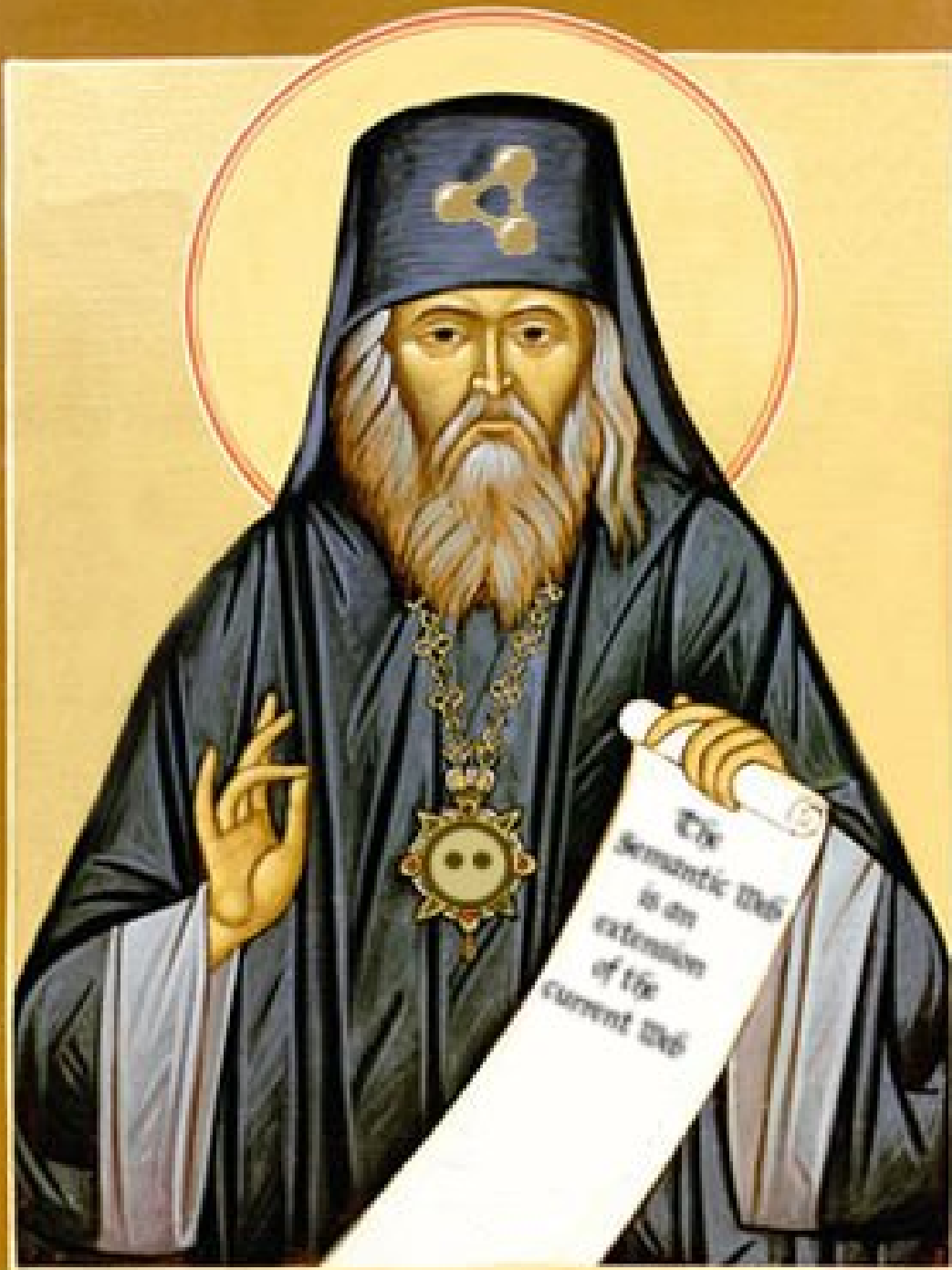
**<http://example.org/resourceA>  
<http://www.w3.org/2000/01/rdf-schema#seeAlso>  
<http://example.org/resourceB>**

**.**





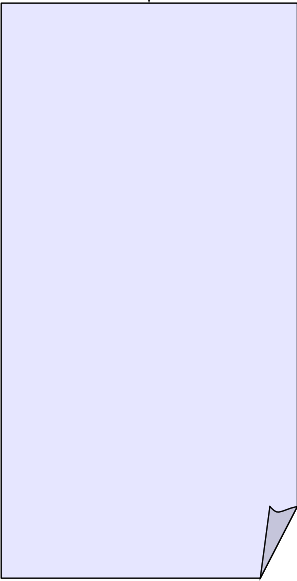




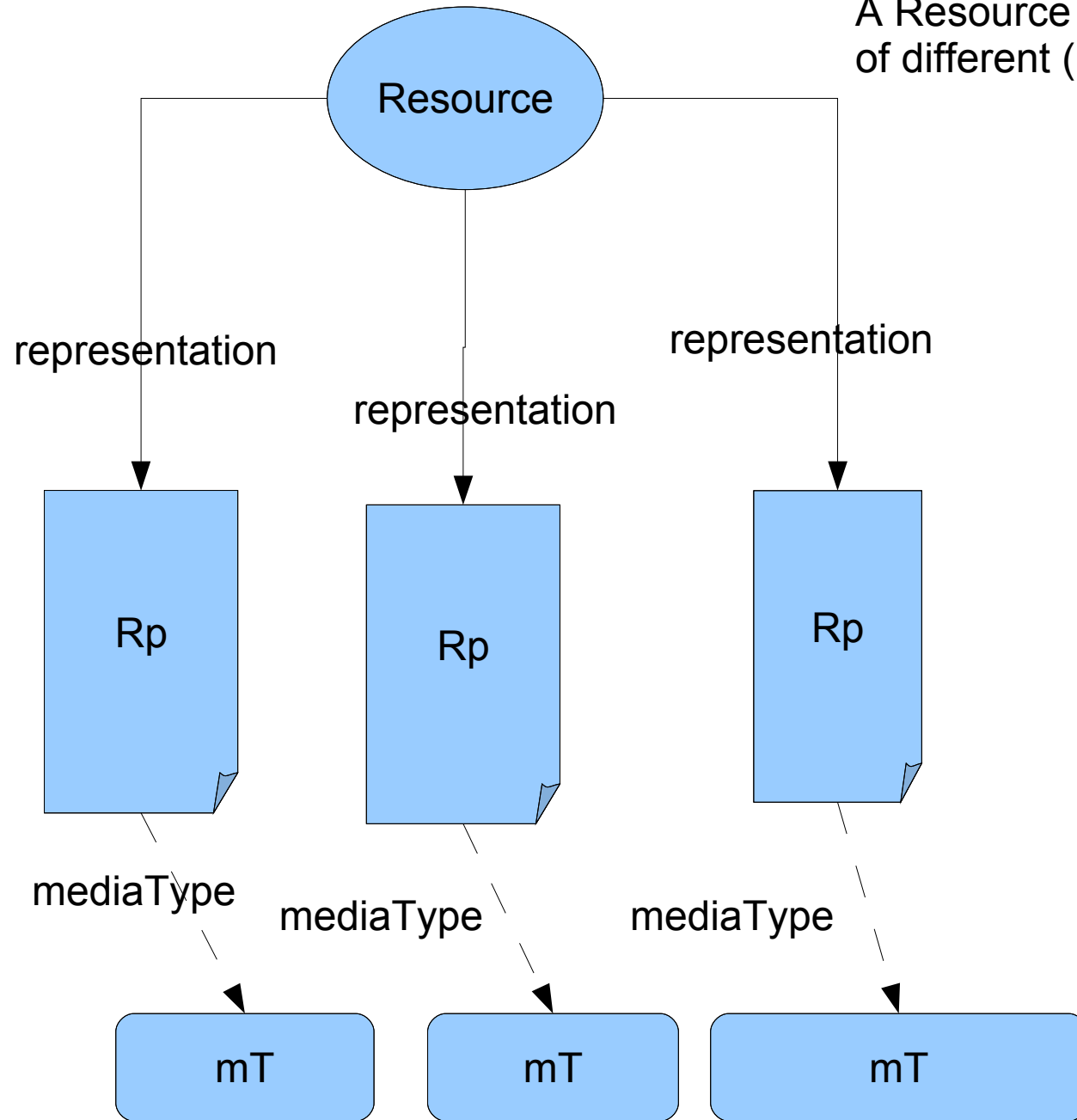


<http://example.org/resourceA>

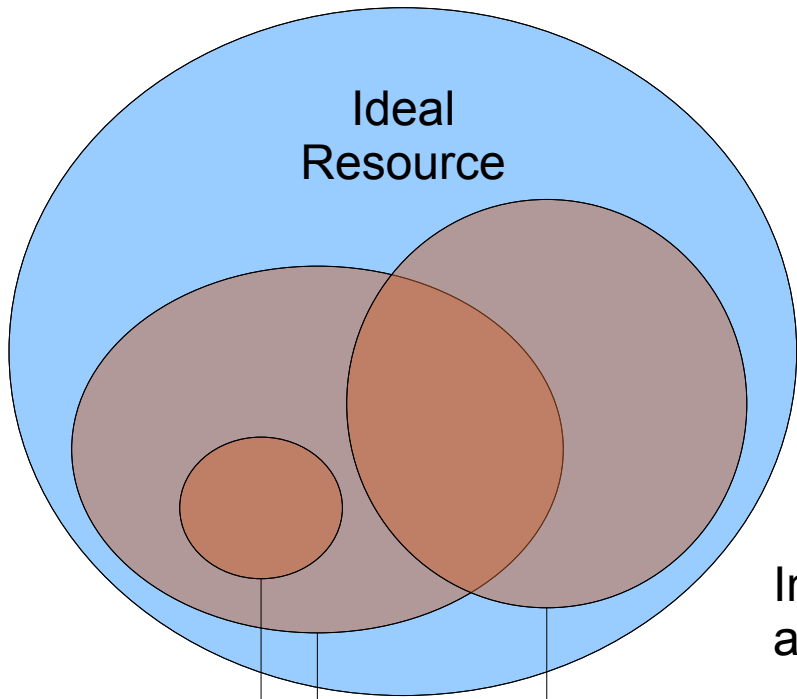
*representation*



A Resource has a set of Representations of different (media) types [WebArch]



mT1 = text/html  
mT2 = image/jpeg  
mT3 = application/rdf+xml

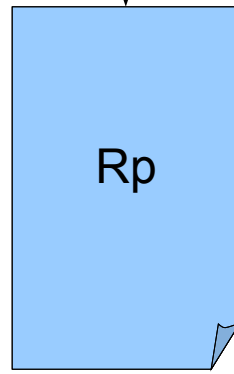
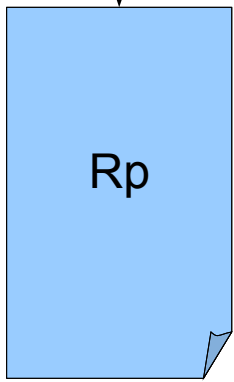
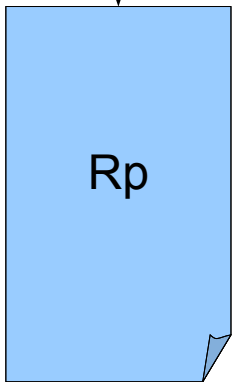


Individual representations of a resource aren't necessarily "complete"

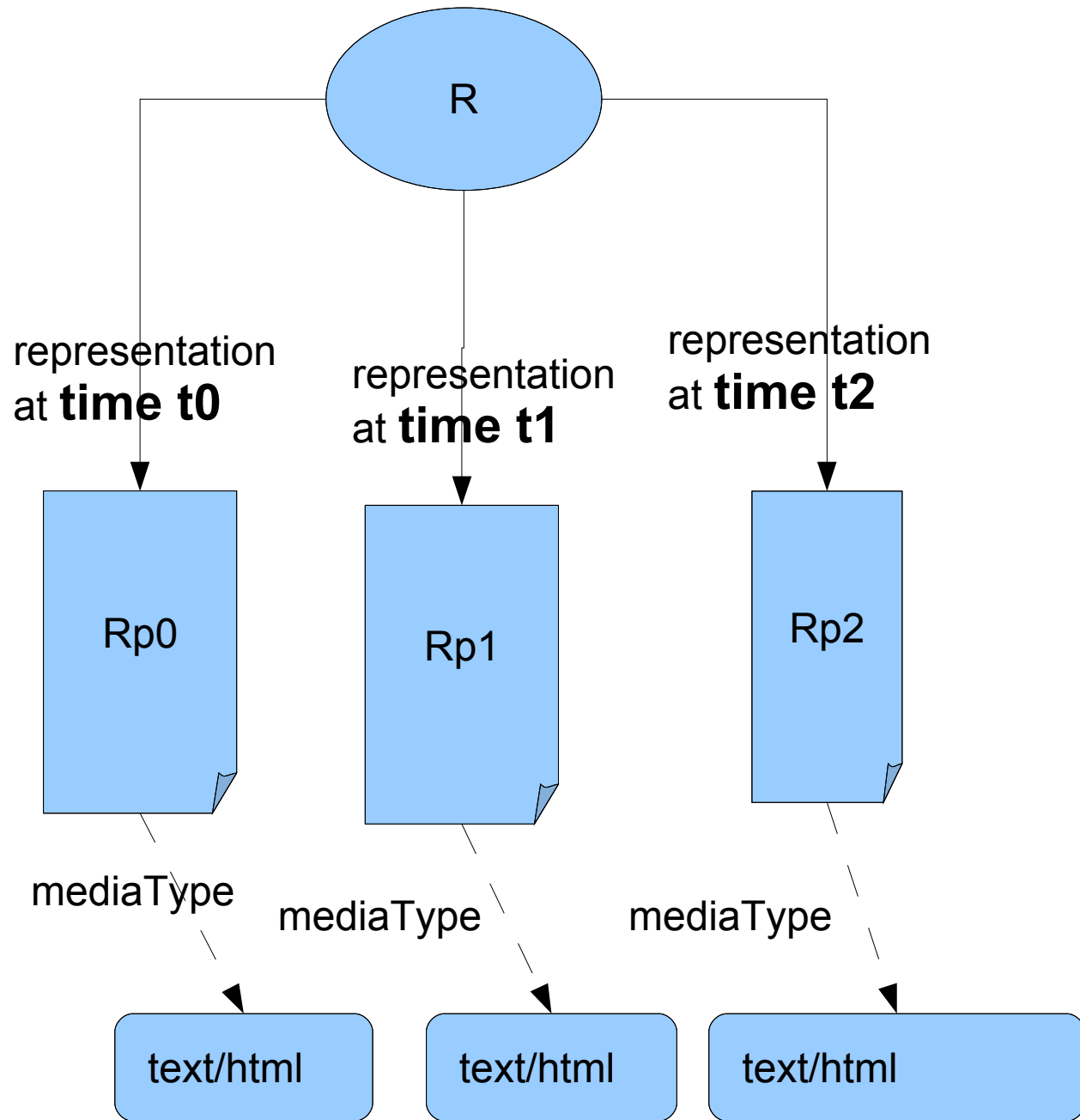
representation

representation

representation



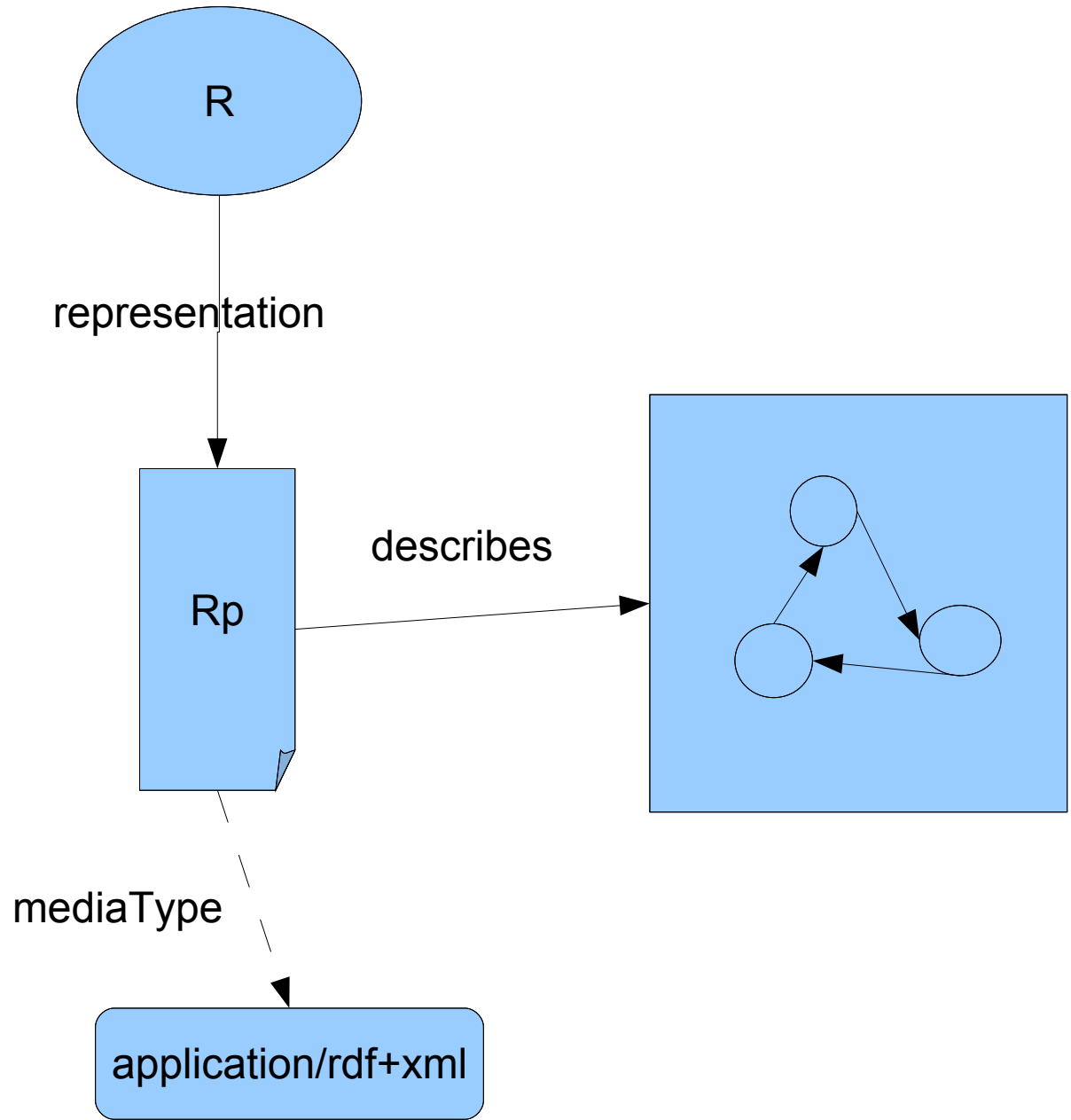
Representations may change over time

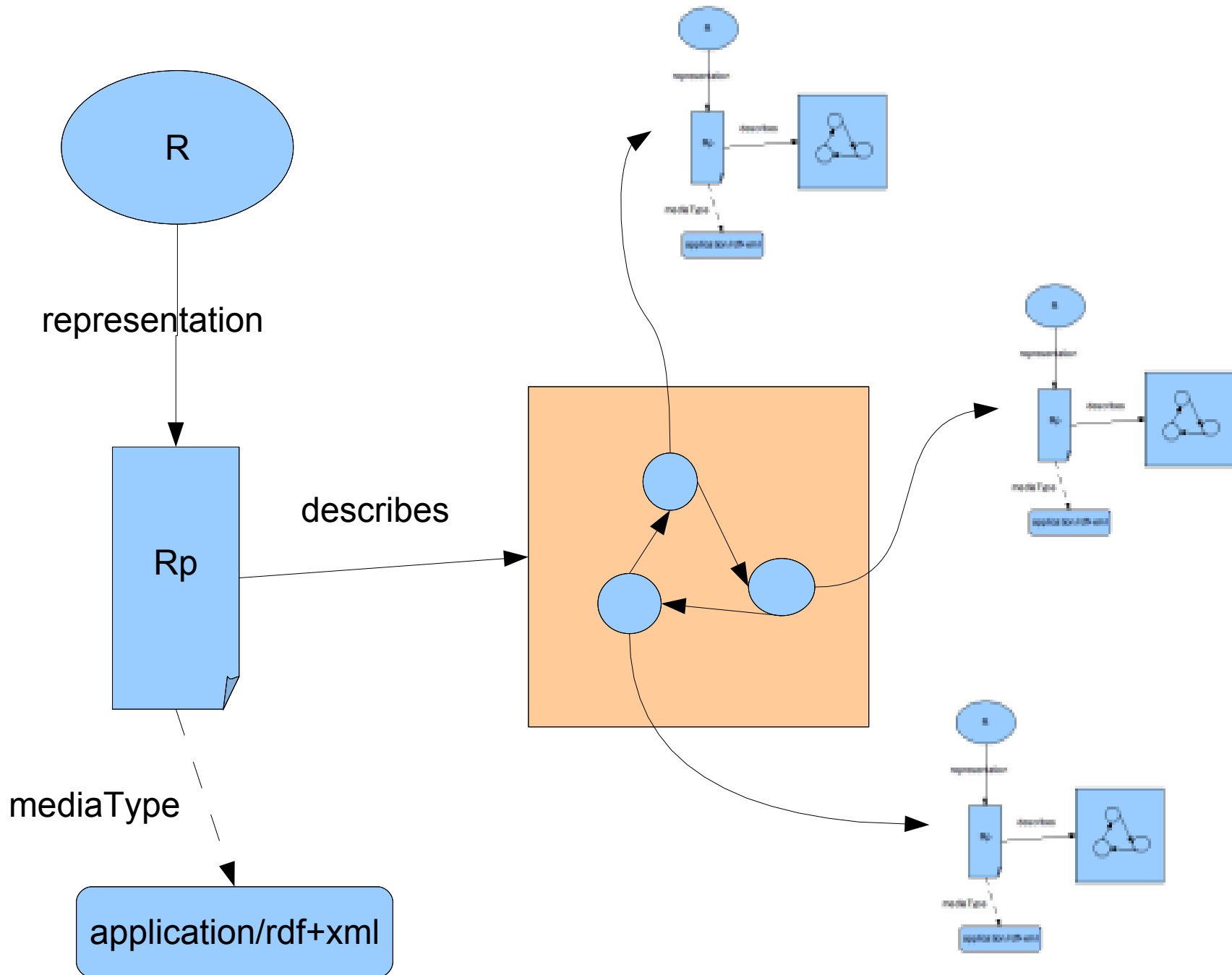


**<http://example.org/resourceA>  
<http://www.w3.org/2000/01/rdf-schema#seeAlso>  
<http://example.org/resourceB>**

**.**

One or more of the Representations may describe a Graph [RDF]







Friskies

Deli' Bon

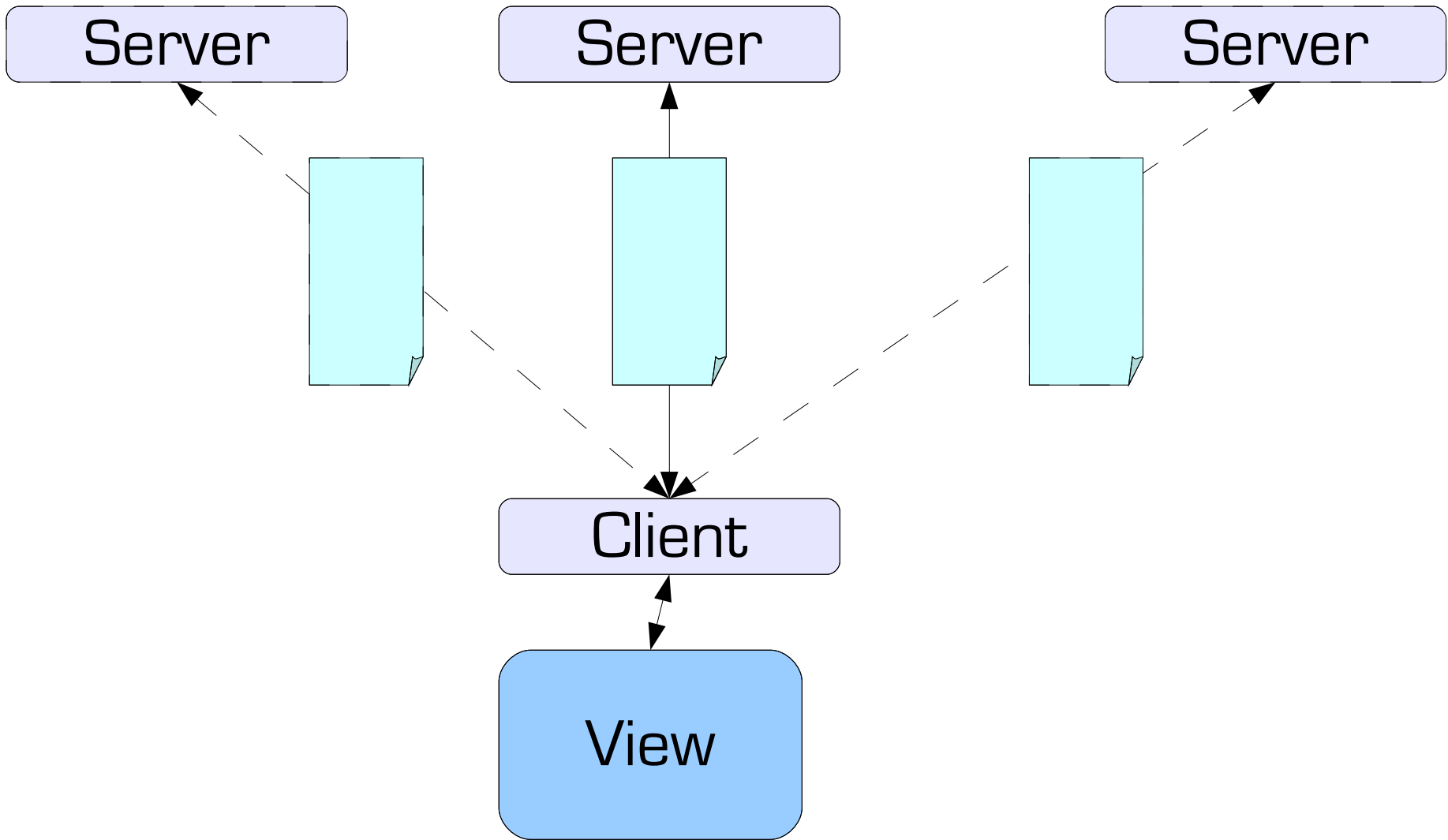
Deliziose golosita  
con carni

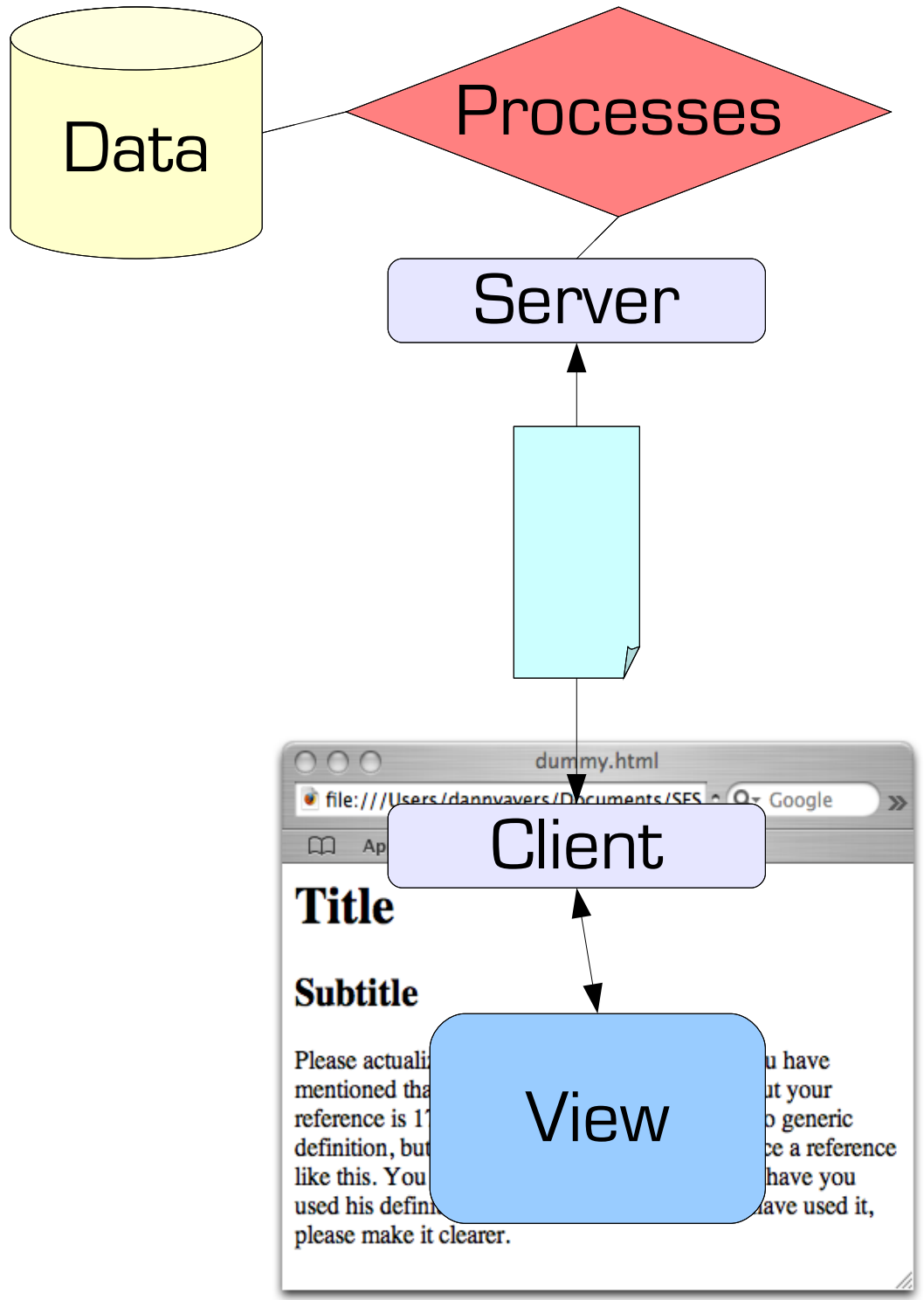
Deliziosas golosinas  
con carne

Απορρυπαντικός  
Αιχουδιές με κρέας

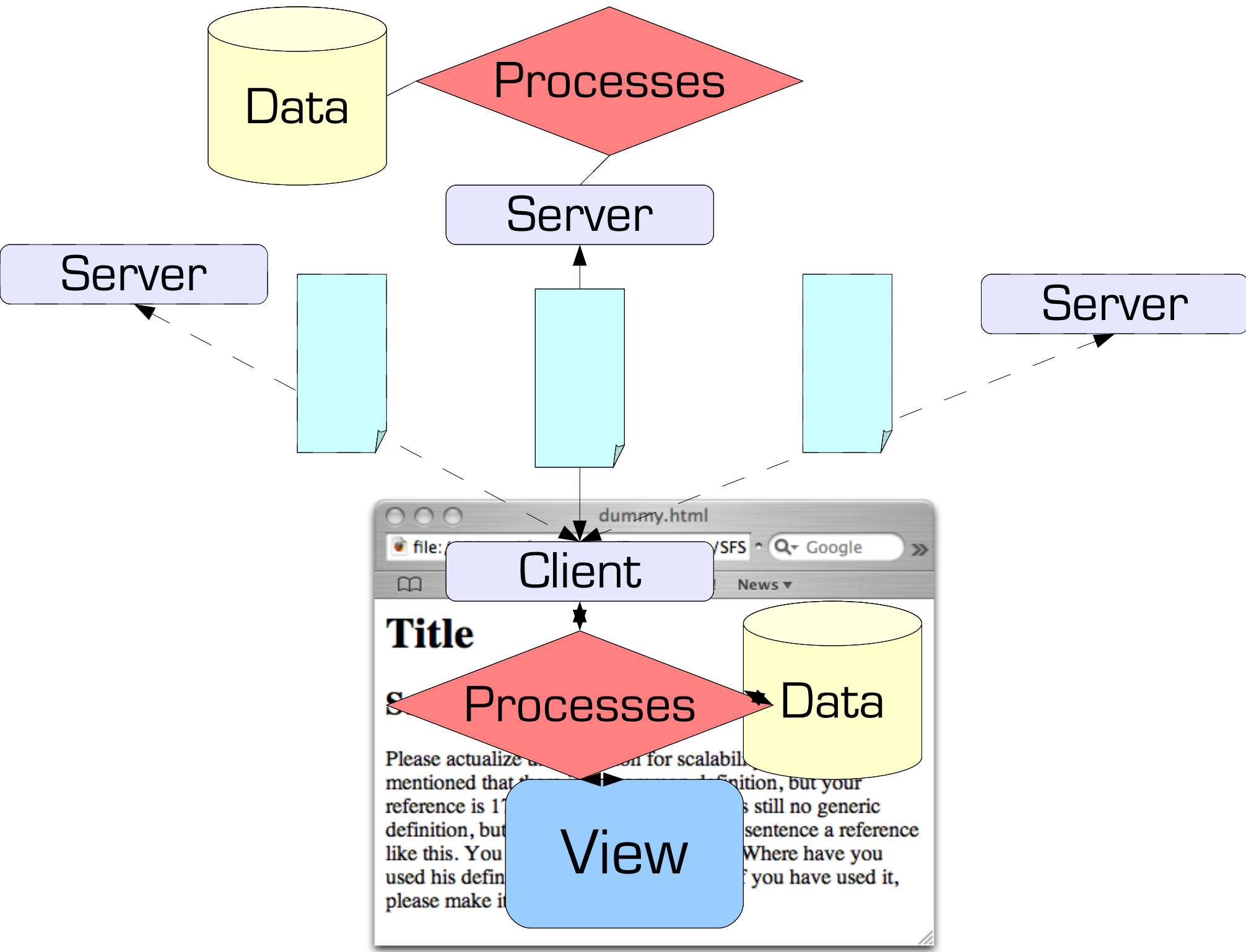
CON SEIVAGGINA • CON CAZA • ME KYNHIT







**Web 2.0?**





Friskies

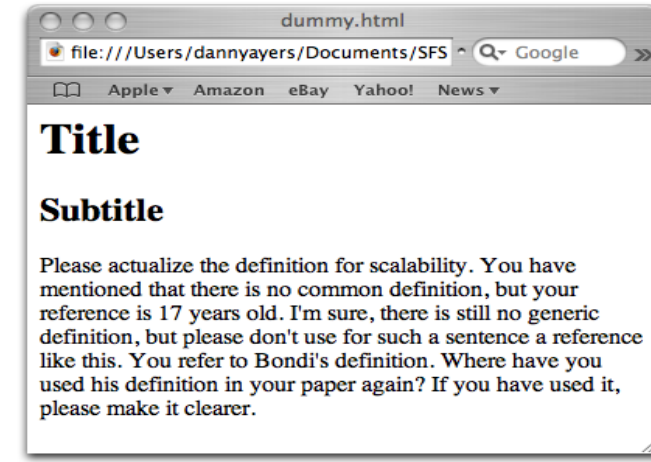
Deli' Bon

Delizose golasita  
con carni

Delicious golasitas  
con carne

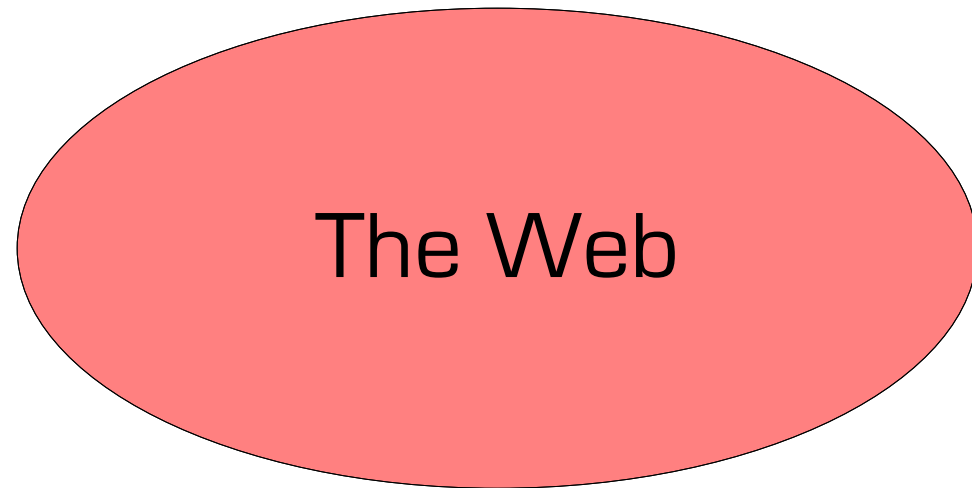
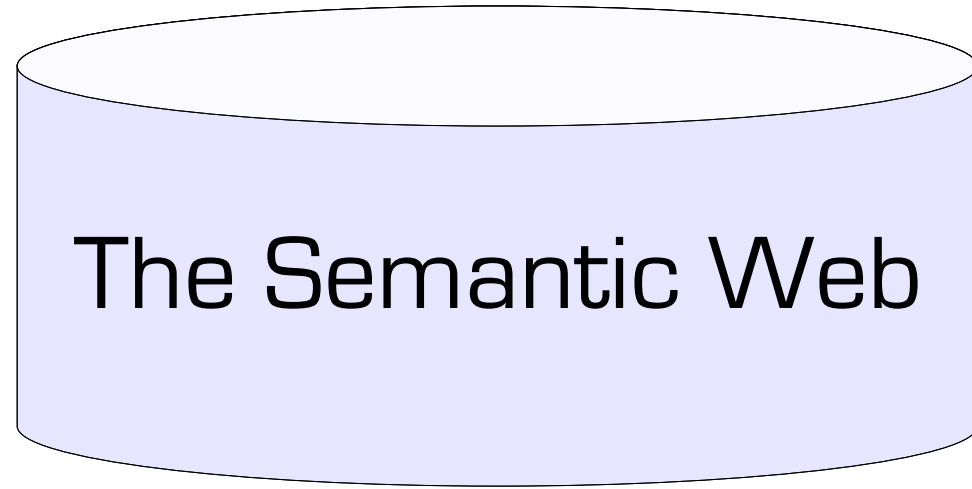
ΑΠΟΡΡΥΘΜΙΚΕΣ  
ΓΙΚΟΥΔΙΕΣ ΜΕ ΚΡΕΜΟΣ

CON SEIVAGGINA • CON CAZA • ME KYNHIT



# Tyranny of the Browser

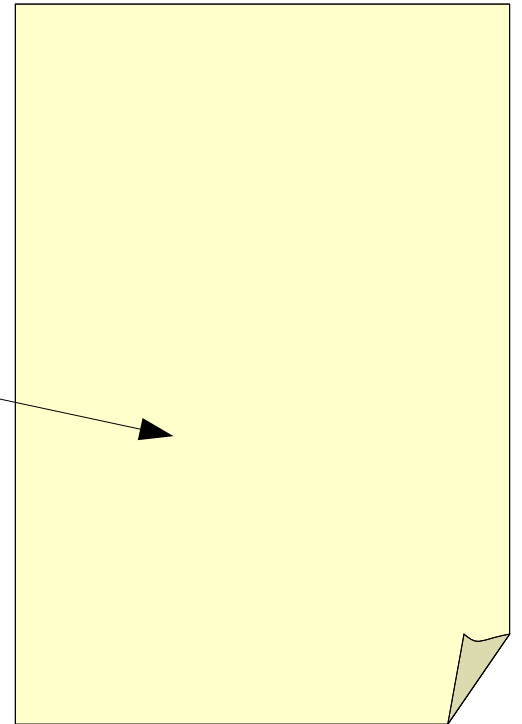




documentA.html

```
<a href="documentB.html">Another Doc</a>
```

documentB.html

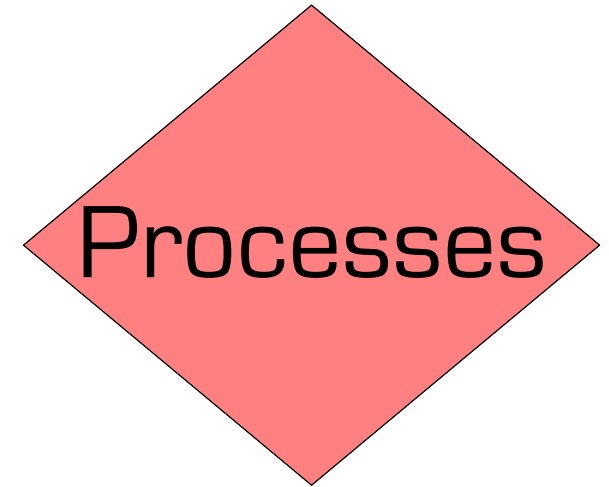
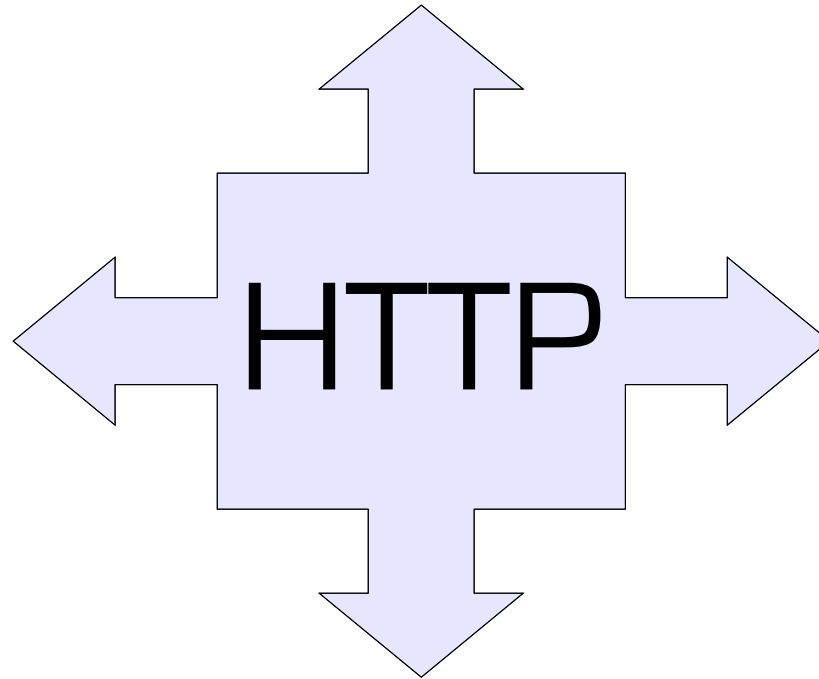
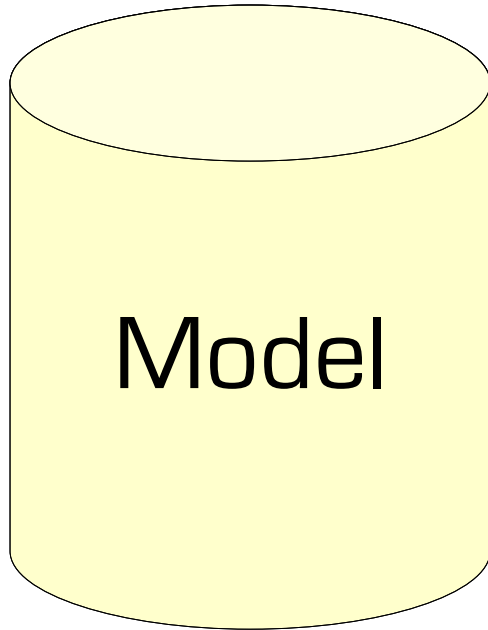


```
html:href a rdf:Property .
```

```
documentA.html html:href documentB.html .
```



Resources

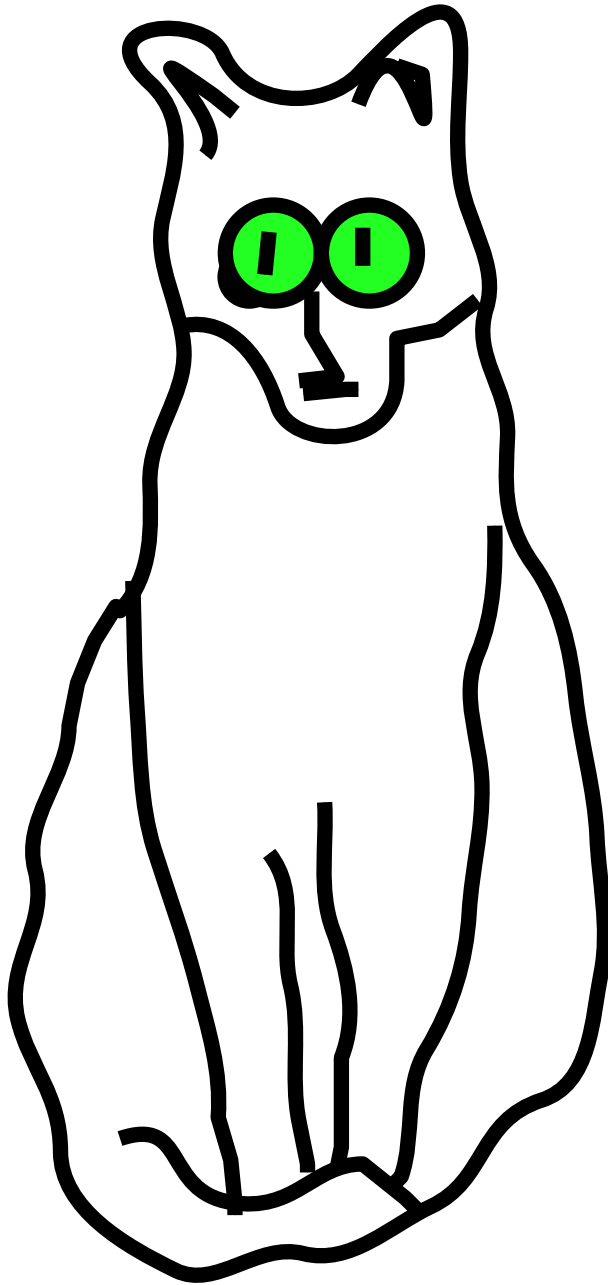


Representations

“So where are the agents?”

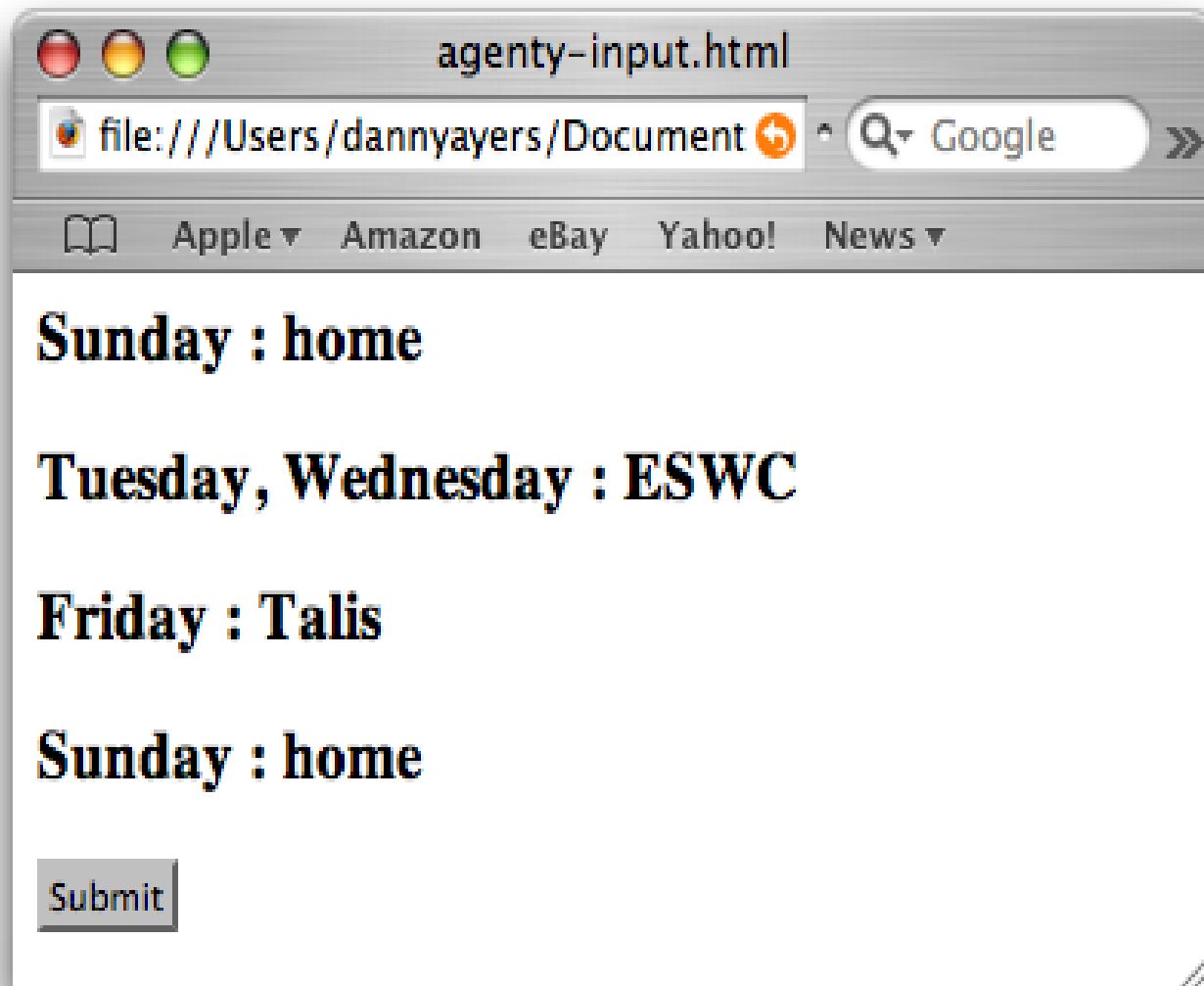
- Jim Hendler

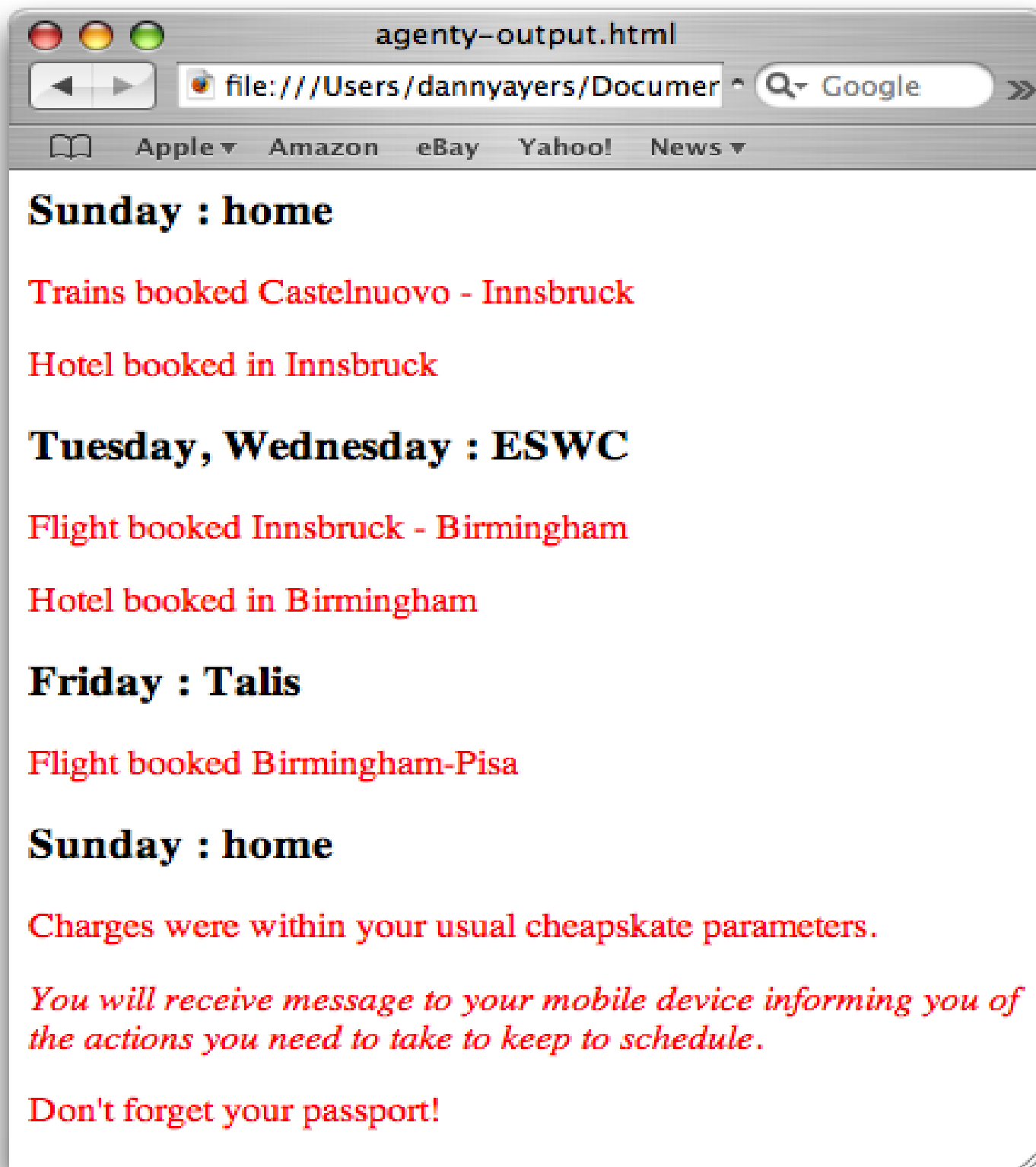
9th  
Life



# Things that look like they work in virtual worlds

- \* Commerce  
(supports micropayments)
- \* Intellectual Property  
(everyone owns what they build)
- \* Open Source  
(between participants)





## **Sunday : home**

Trains booked Castelnuovo - Innsbruck

Hotel booked in Innsbruck

## **Tuesday, Wednesday : ESWC**

Flight booked Innsbruck - Birmingham

Hotel booked in Birmingham

## **Friday : Talis**

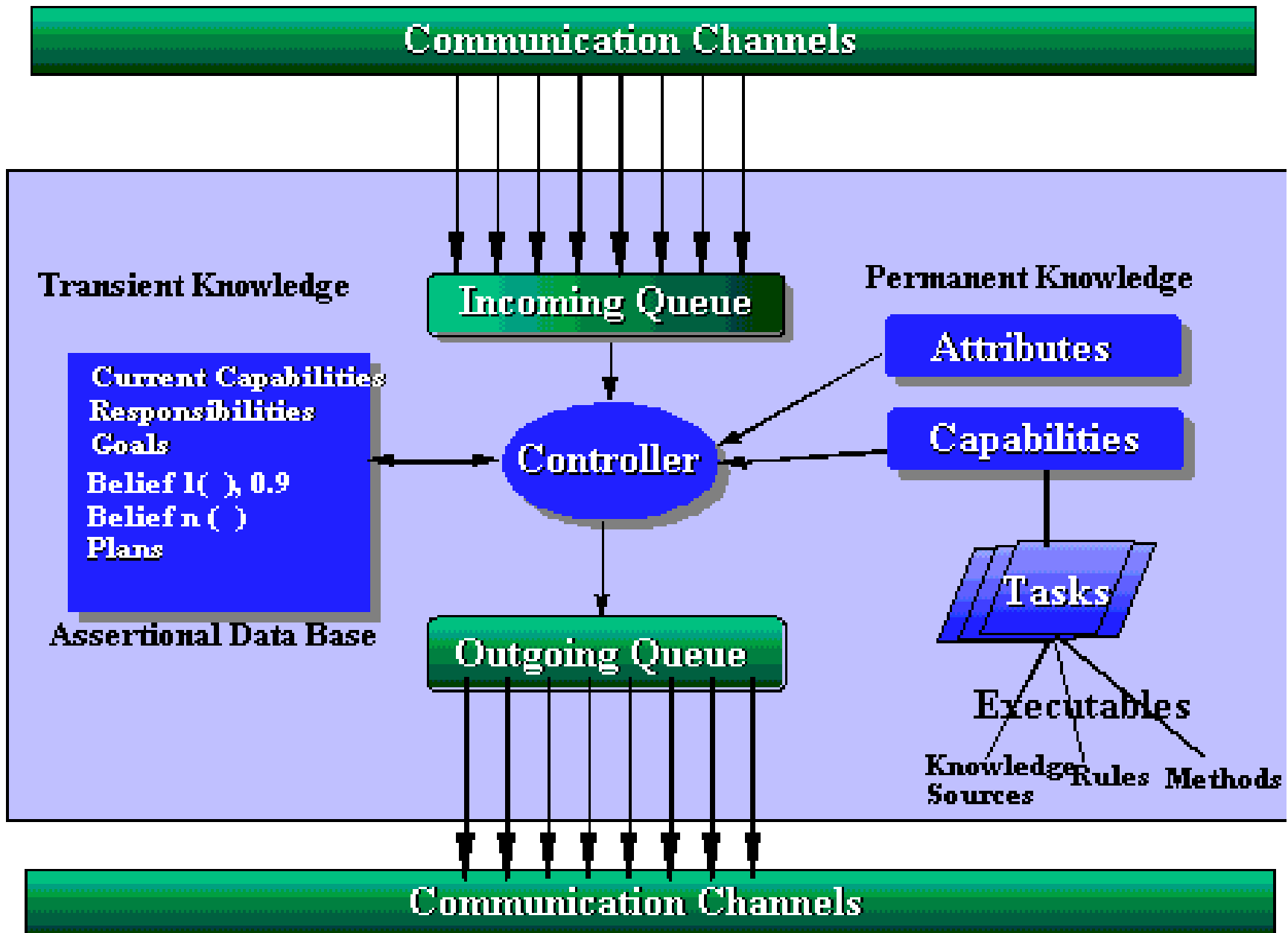
Flight booked Birmingham-Pisa

## **Sunday : home**

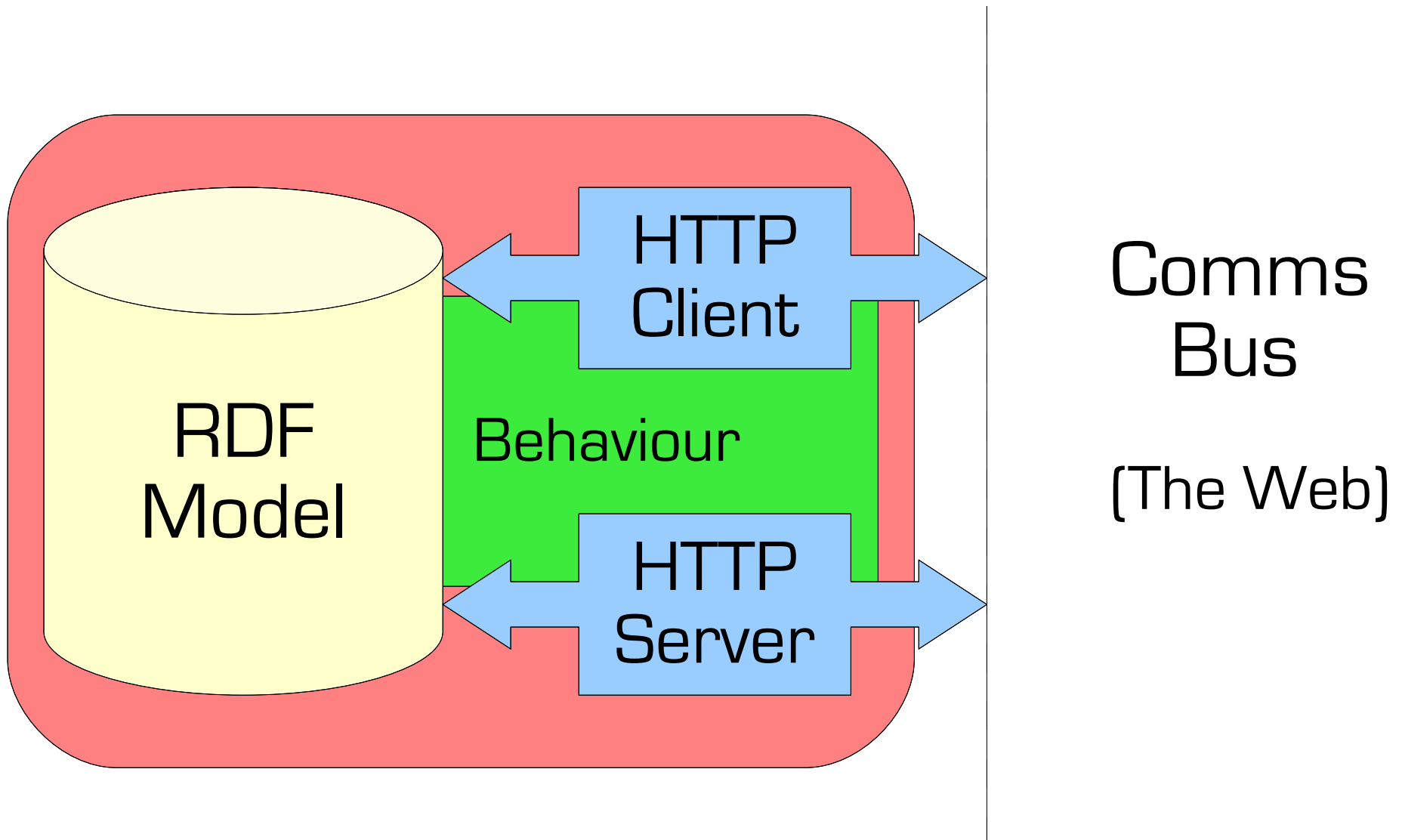
Charges were within your usual cheapskate parameters.

*You will receive message to your mobile device informing you of the actions you need to take to keep to schedule.*

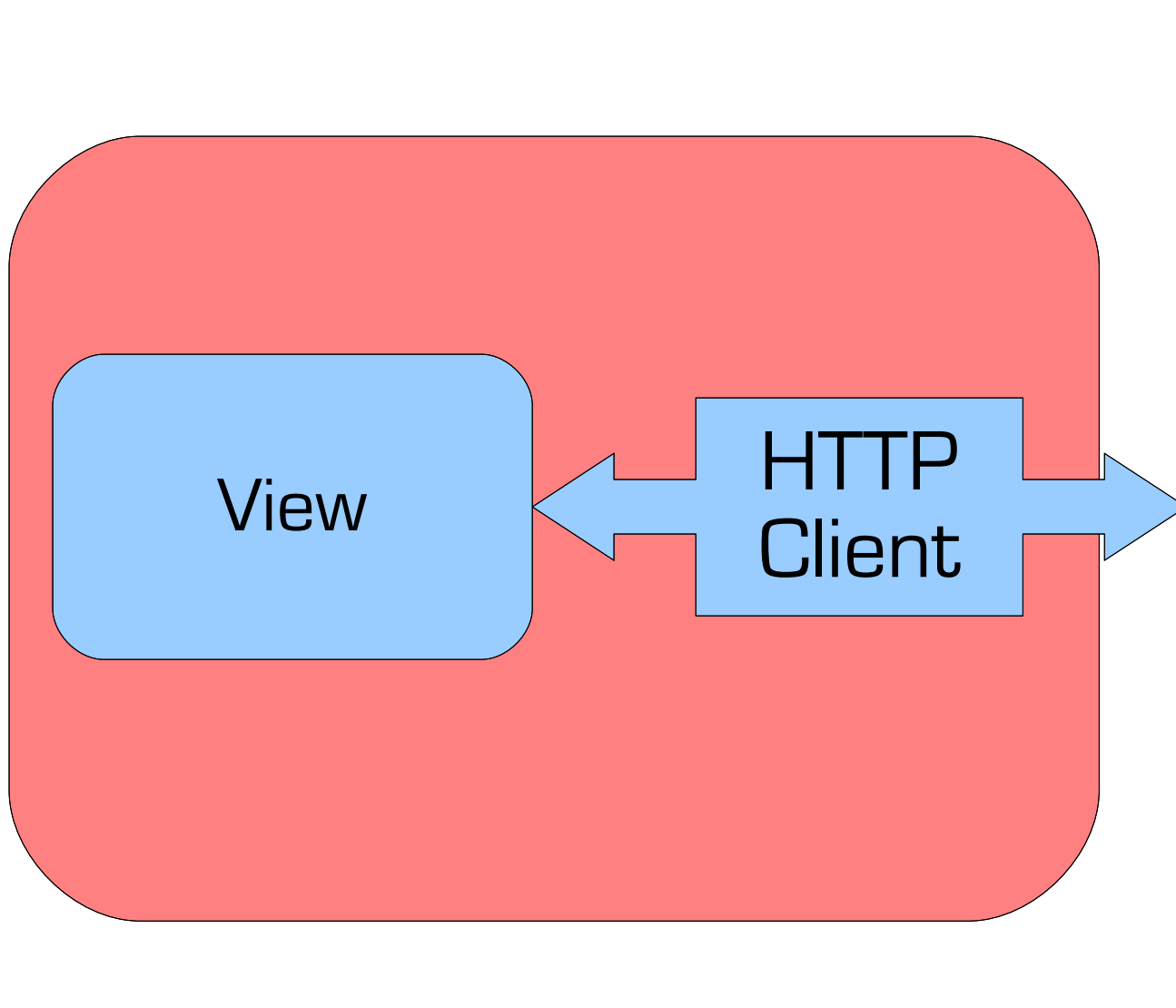
Don't forget your passport!



Source: [http://home1.gte.net/pfingar/doc\\_mag2\\_f4.gif](http://home1.gte.net/pfingar/doc_mag2_f4.gif) via Google Images







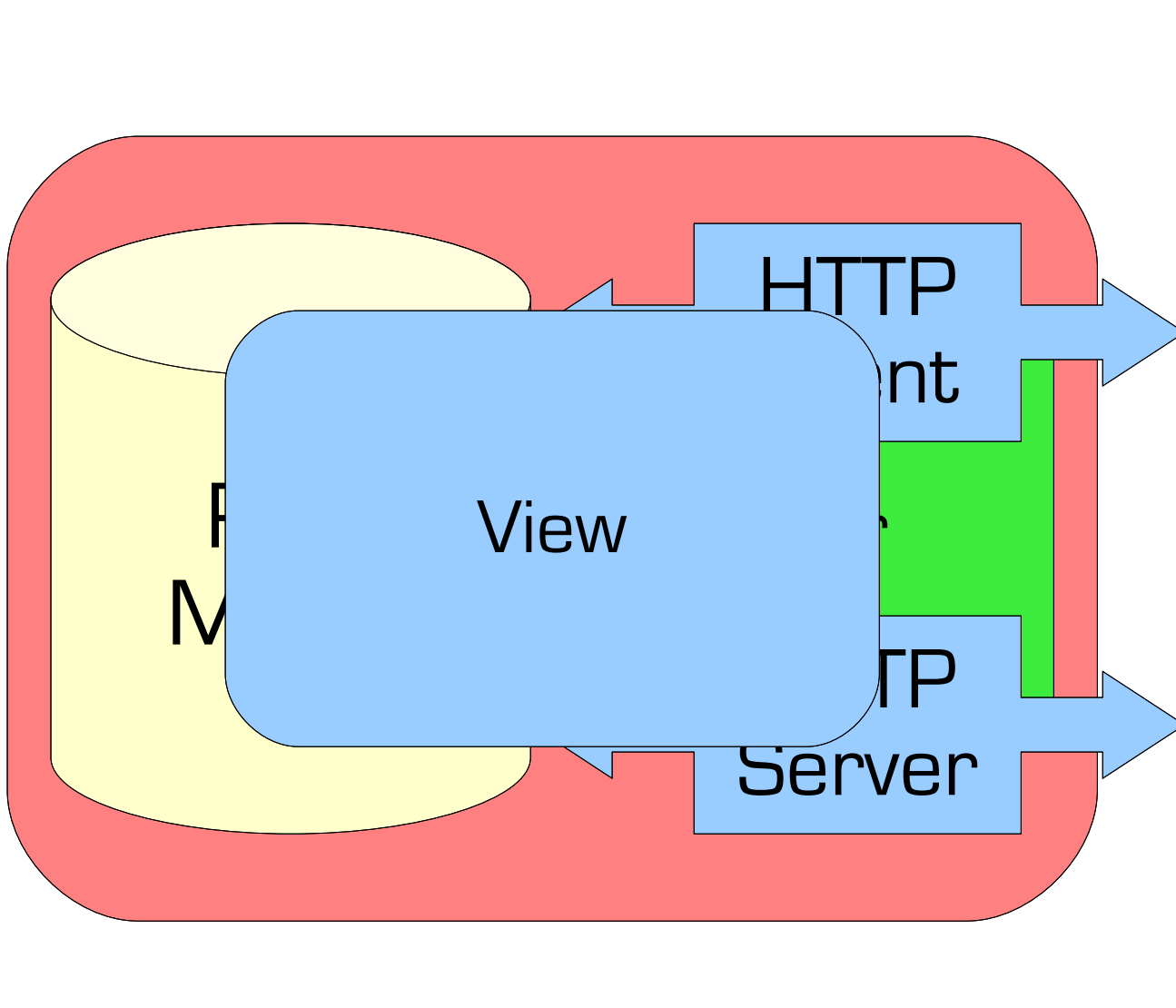
Comms  
Bus  
(The Web)

GET /index.html HTTP/1.1

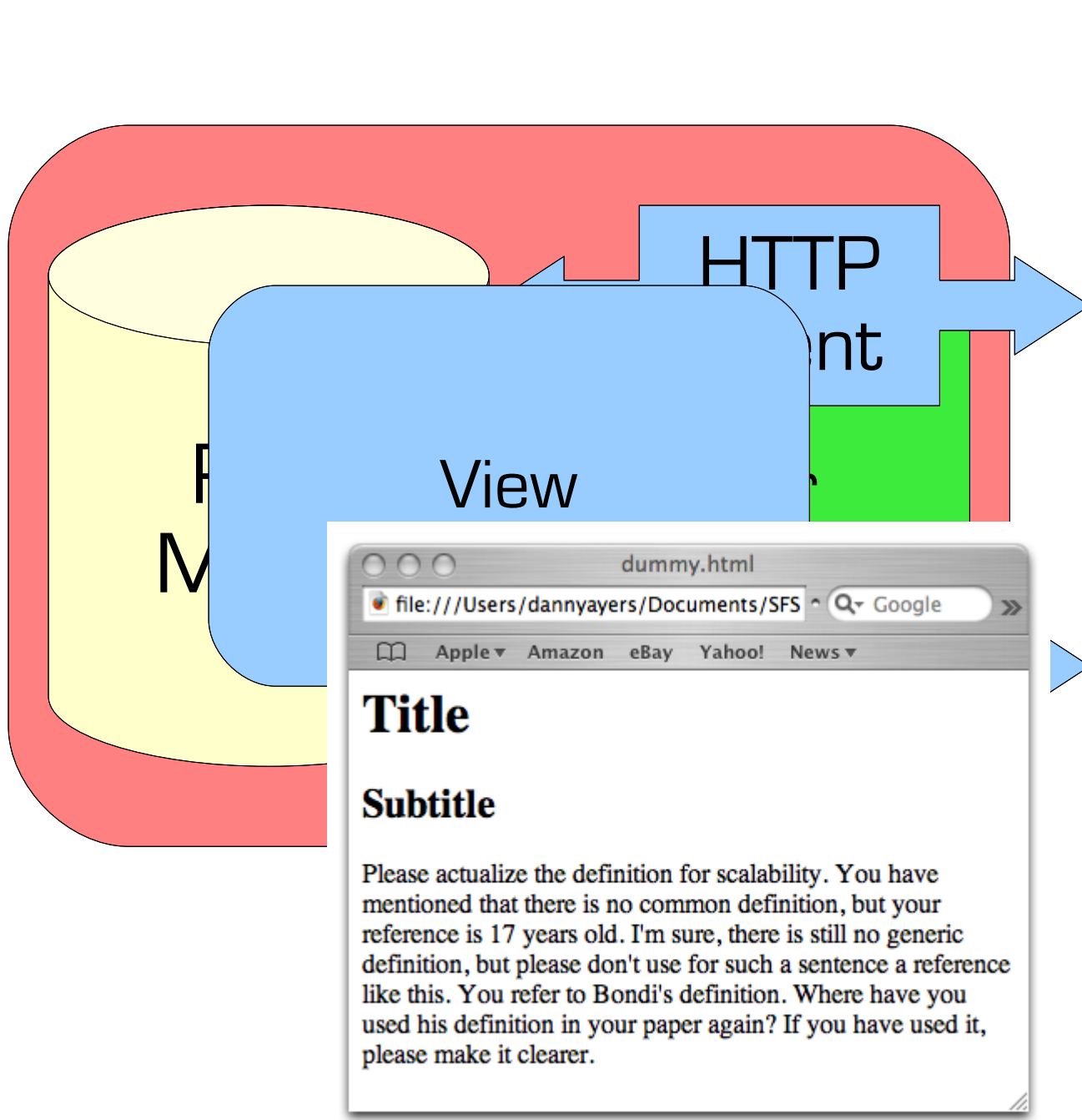
Host: elsewhere.org

**Link: <http://mysite.org/foaf.rdf>; rel="foaf"**

```
<http://mysite.org/foaf.rdf#me> a :Person ;  
  
:holdsAccount [  
  a :OnlineAccount ;  
  :accountServiceHomepage <http://openid.net> ;  
  openid:server <http://www.myopenid.com/server> ;  
  openid.delegate <http://me.myopenid.com/">  
] .
```

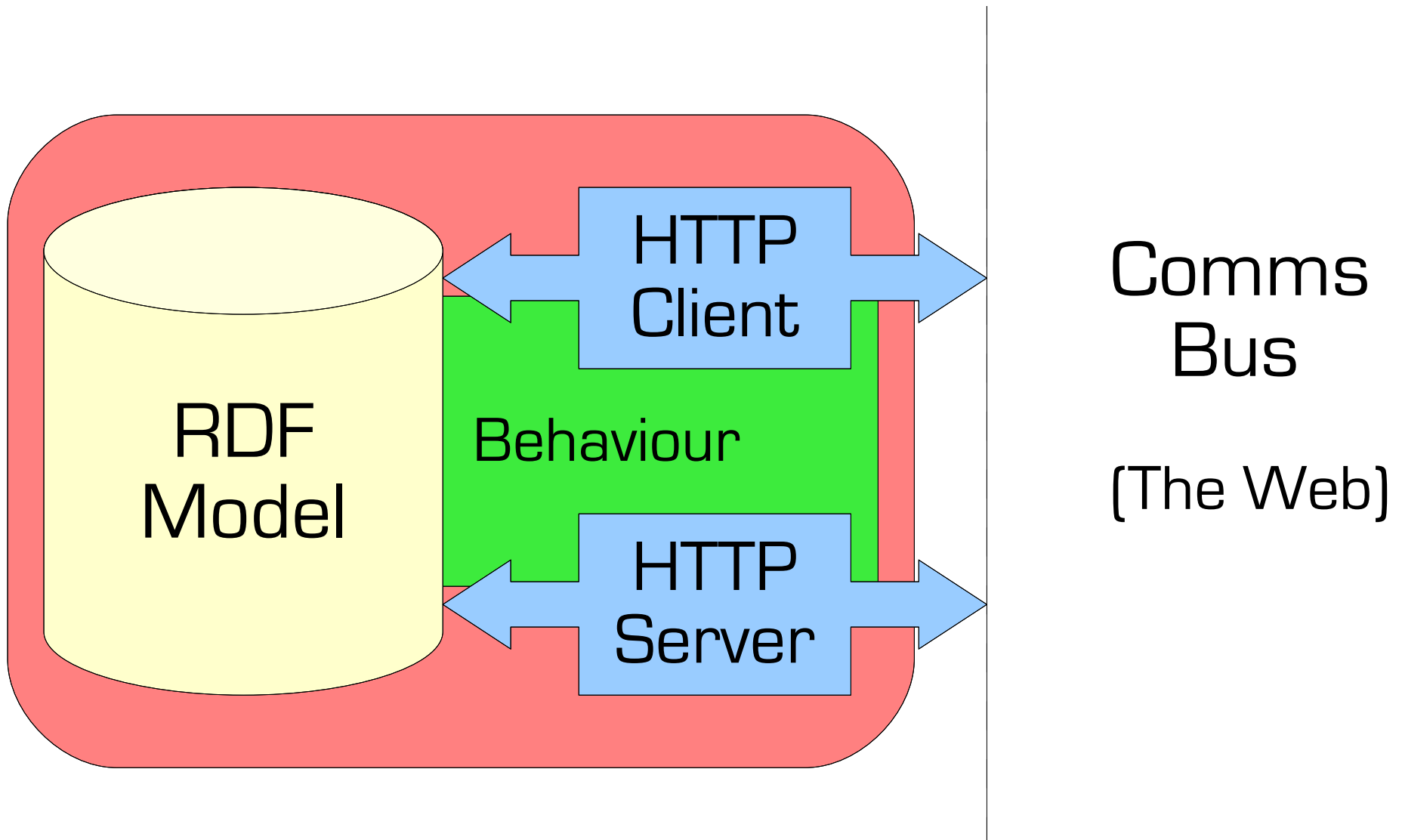


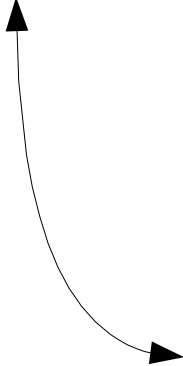
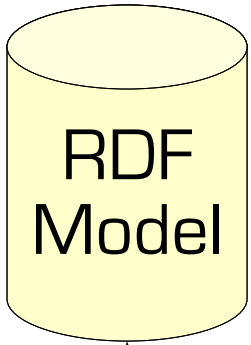
Comms  
Bus  
(The Web)



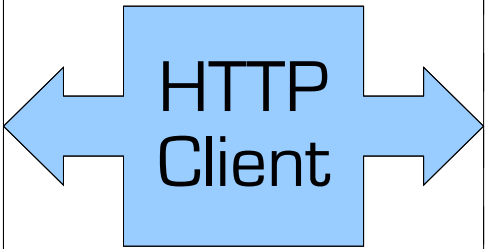
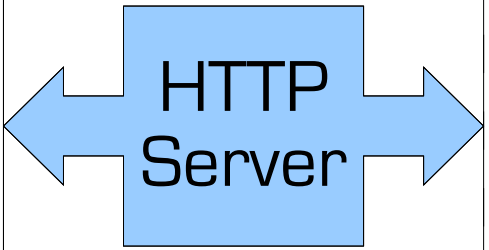
Comms  
Bus  
(The Web)

What does  
any of this  
have to do with  
scripting?!





```
handle(request) {  
    data = model.query(request)  
    if(data != null){  
        return format(data)  
    }else {  
        other_source  
            = model.lookup(request)  
        data =  
            get(other_source, request)  
    }  
    return format(data)  
}
```





# Possible Issues

- \* need for async behaviour within request/response cycle
- \* system-level concurrency is unreliable?
- \* does messaging over HTTP even make sense?

\* need for async behaviour within request/response cycle

- threads, **message queues!**  
**tools are available, e.g. Quartz**

\* system-level concurrency is unreliable?

- **the system is the Web**  
**live with unreliability!**

# Does messaging over HTTP make sense?

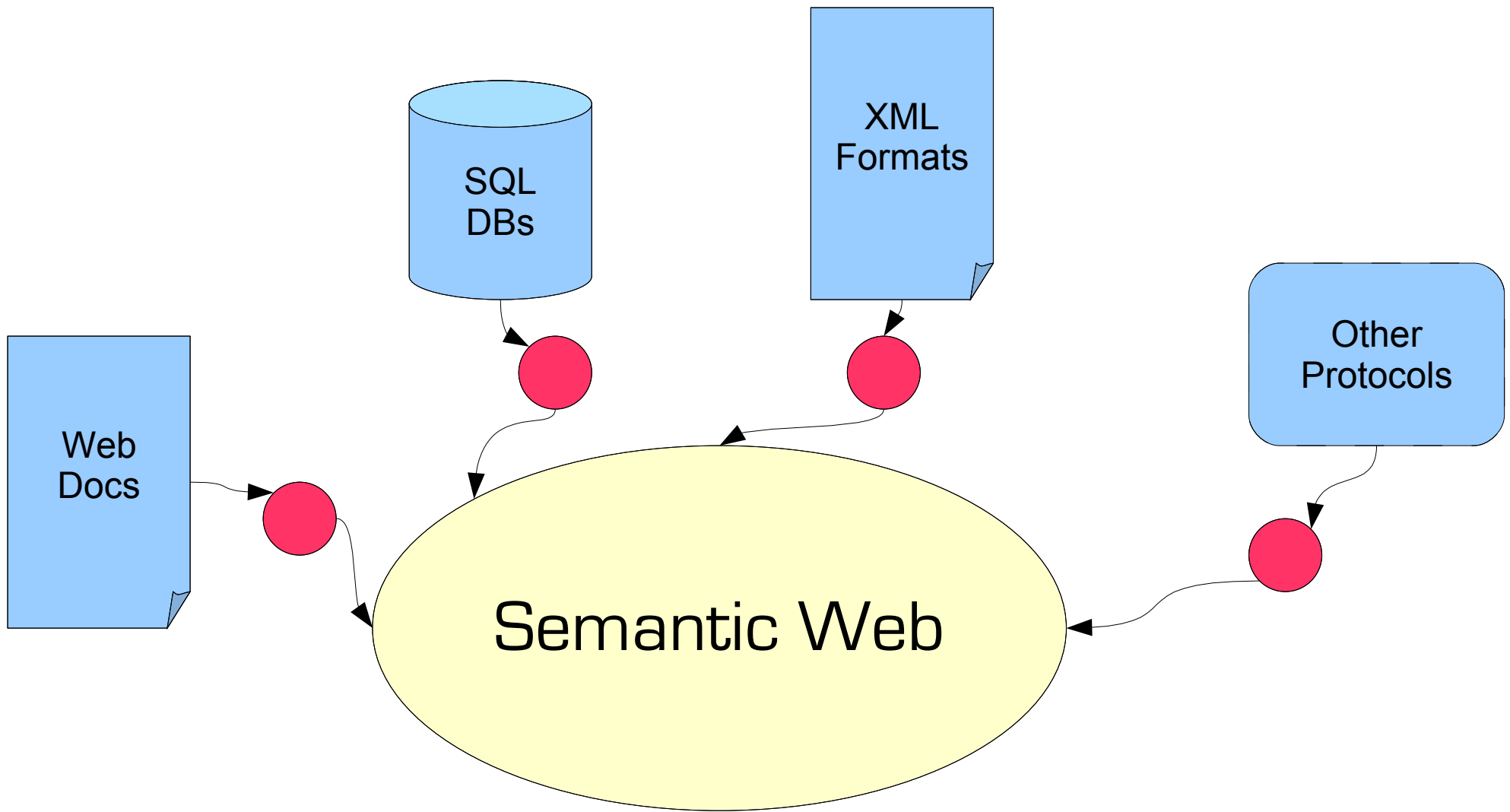
does RPC/SOAP?

- occasionally (when you control both ends of the wire)

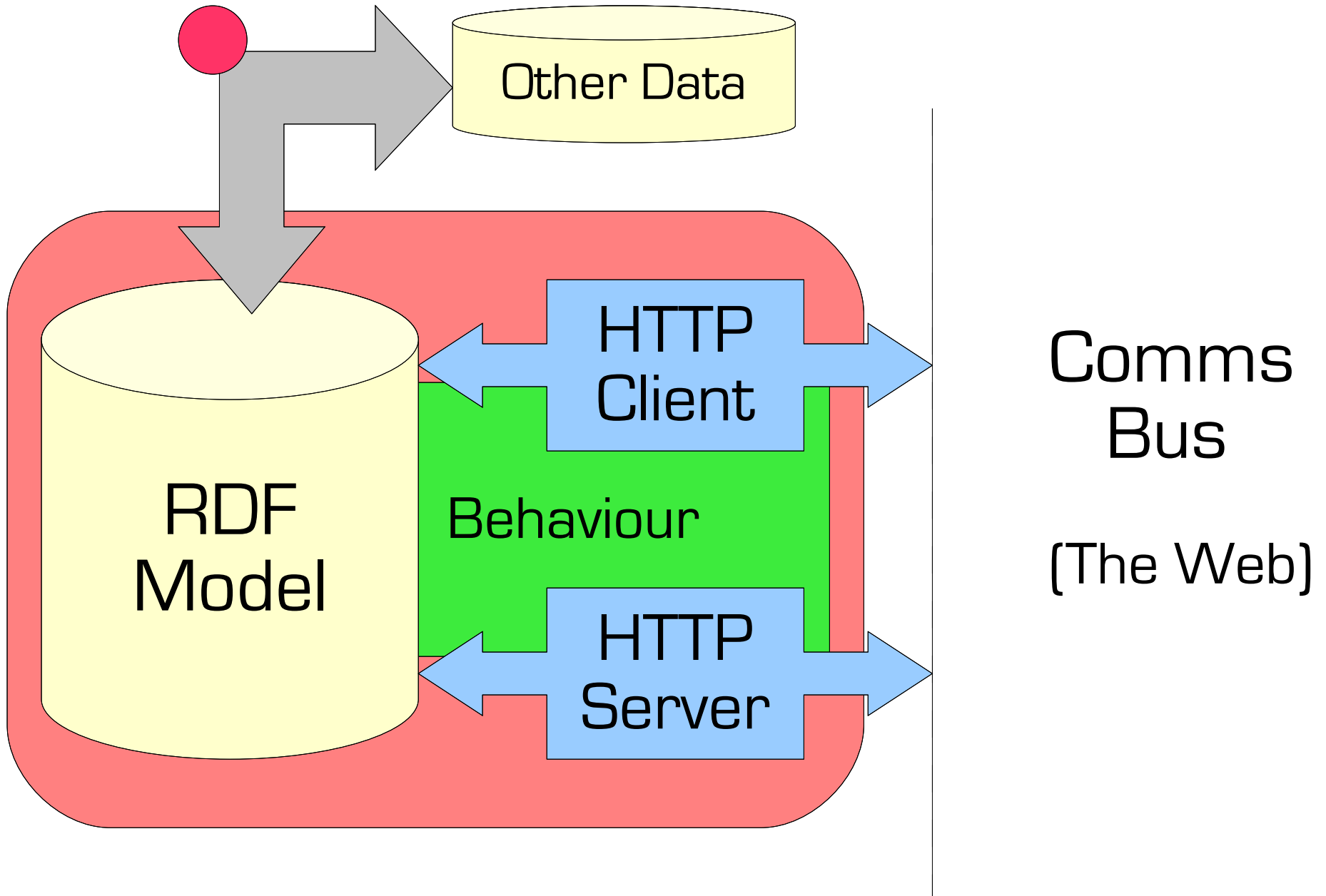
does RSS/Atom syndication?

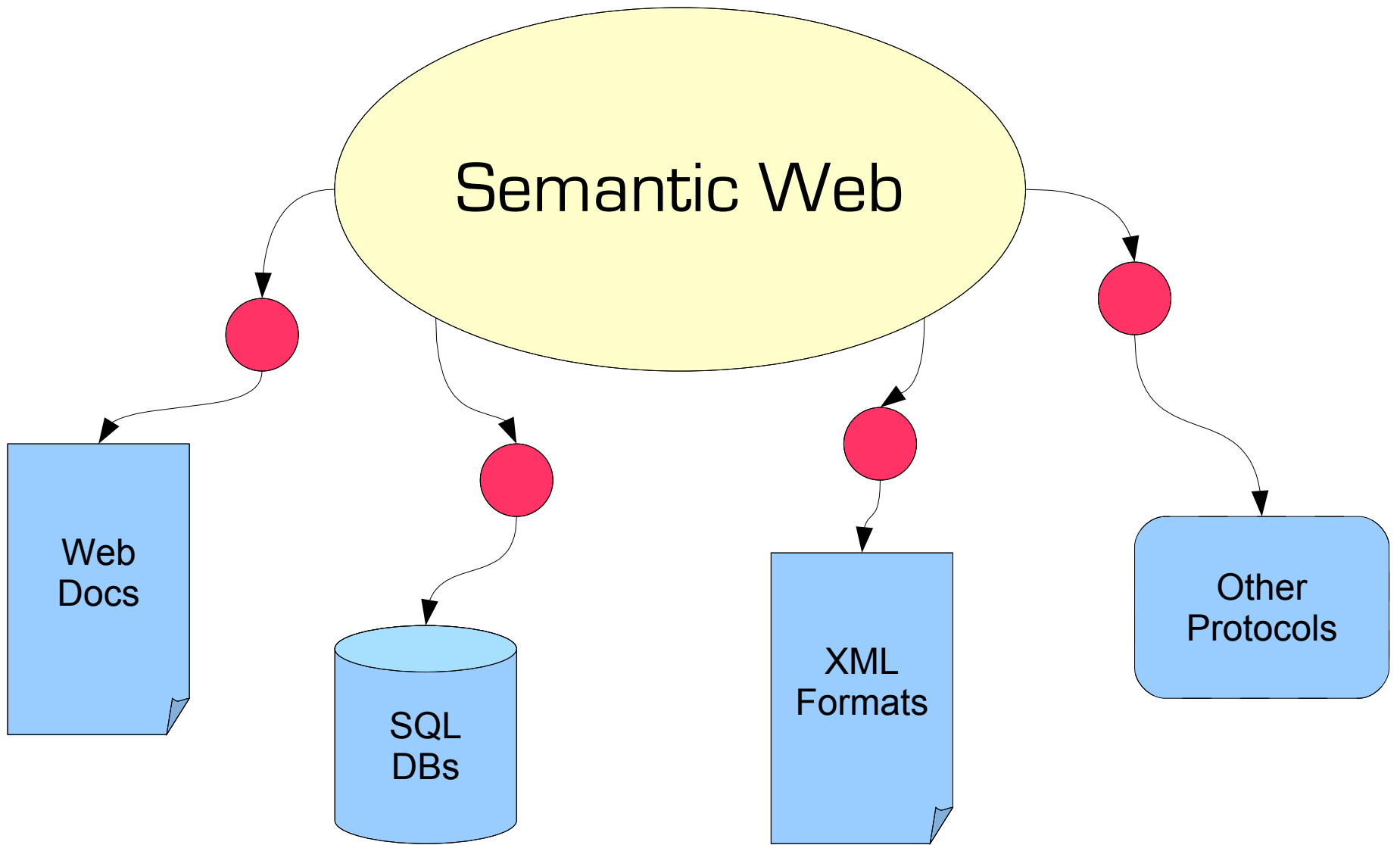
- server push can be simulated through polling

Reliable messaging **can** be done, e.g. HTTPLR



● = ConverterToRdf



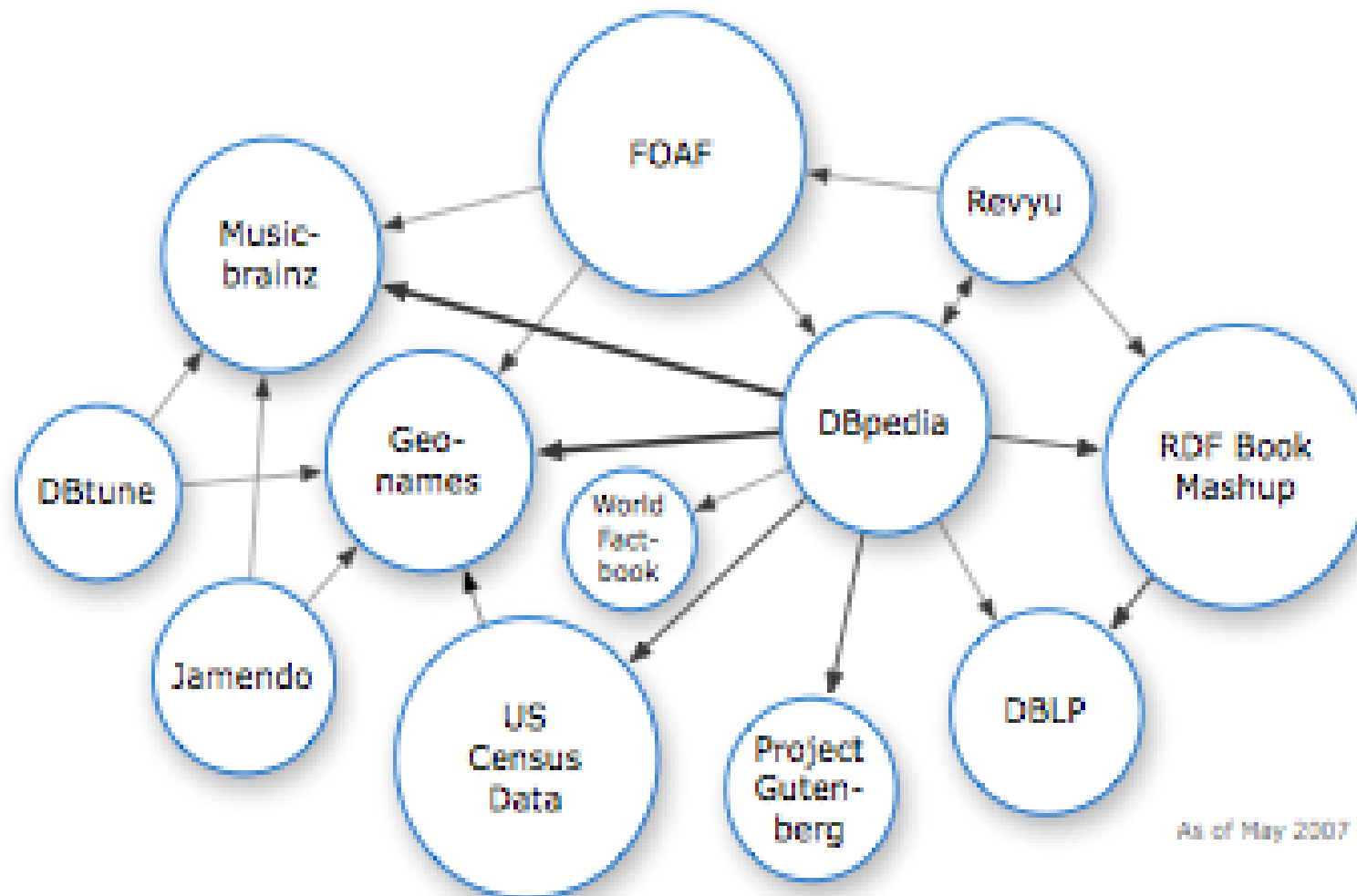


● = ConverterFromRdf



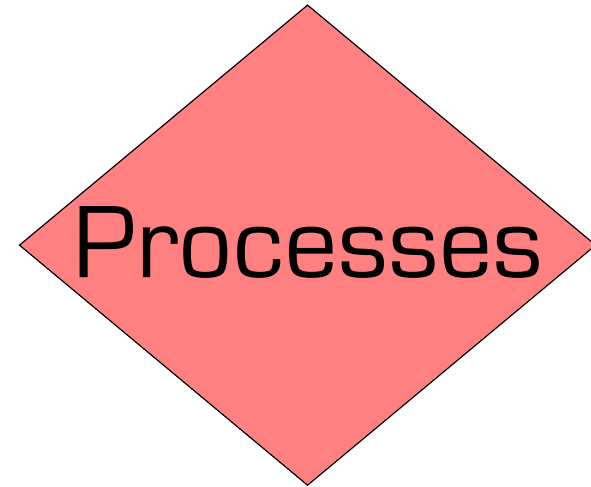
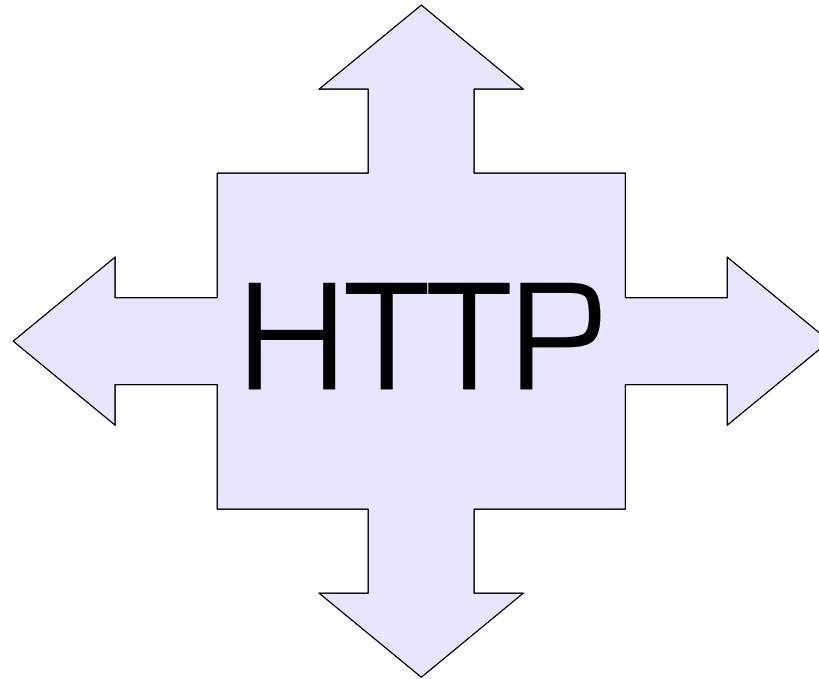
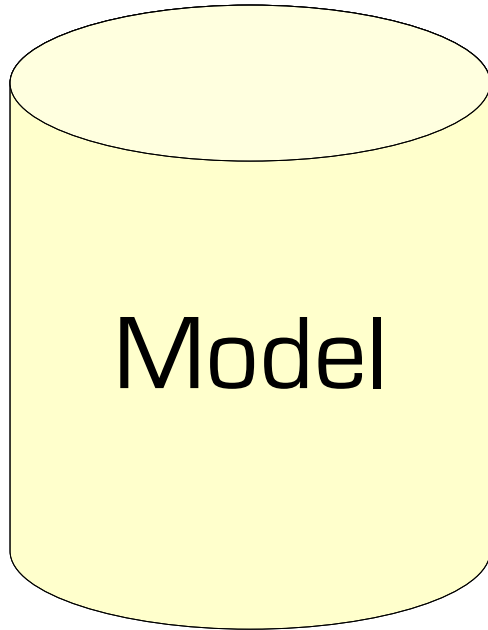
# LINKING OPENDATA

W3C SWEO Community Project



As of May 2007

Resources



Representations



## The Linked Data Principles

1. Use URIs as names for things
2. Use HTTP URIs so that people can look up those names
3. When someone looks up a URI, provide useful RDF information
4. Include RDF statements that link to other URIs so that they can discover related things



**One  
Web!**



Semantic Web  
Application Platform

<http://talis.com>

# Thank you!



These slides online :

<http://dannyyayers.com/sfsw2007/slides>