

# Assumptions and accepted outcomes in TripCom



Lyndon J B Nixon & Kia Teymourian

TripCom WP2+3  
Vienna Meeting, 1 October 2007



- We thought we knew what we were doing at Month 1 of TripCom (perhaps...)
- Do we still think we know what we are doing at Month 18 of TripCom ???
- First 18 months had a lot of debate and discussion and this is a good thing
- Now we begin implementing! Then some of these discussions need to be clearly concluded!

# How many Triple Spaces?



- Originally there was **the** Triple Space and we would implement it.
- Following Scalability meeting: there will be a **Web-scale Triple Space** **but** it won't be able to support our scenarios
- So... we will have a **scenario-supporting Triple Space** too?

# Names and functionalities?



- How many Triple Space profiles do we need?
- What will we call them?
- What functionality do we define for each of them?

Triple Space DL	Triple Space Full
Triple Space Light	Triple Space Flight

# Next: streamlining the API



- With scalability in mind, WP3 met in Vienna to streamline the API
- We agreed on a **core API** for the **Web-scalable Triple Space**

```
out(Triple t, Space URL)
rd(SimpleTemplate t, Space URL, timeout ms)
```

- Everything else became „extended API“
- Operations without space URLs not in the list!

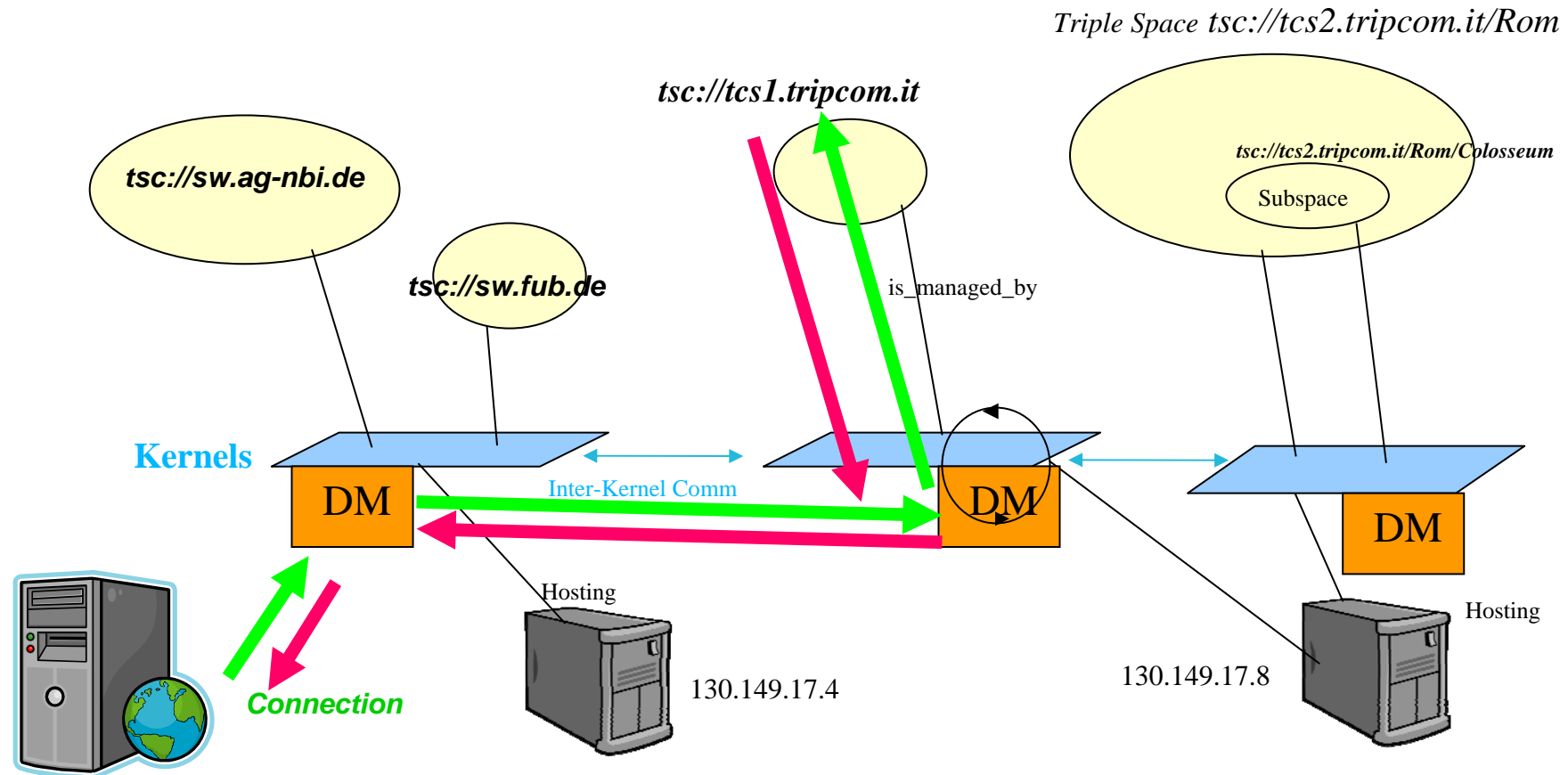
- Which operations in the „extended API“ belong to which „profile“ of Triple Space
  - out/rd multiple
  - rd with more expressive templates
  - in
  - subscribe
  - create/destroy spaces
- What about operations on the global Triple Space? (i.e. no space URL is specified)

# The distribution problem



- A Triple Space with only space URL-containing operations has no distribution problem!
- We can use the existing Web infrastructure, which already proved itself to be highly scalable!

# rd, using space URL



```
rd(SimpleTemplate t, tsc://tcs1.tripcom.it, timeout ms)
```



# Bring back global search



- If we allow rd without space URL, we have a Triple Space global search
- Distribution is back on the research agenda (hurrah)

# Global Read, rd without URL Space



From the client's view, it is a Black Box

`rd(SimpleTemplate t, timeout ms)`

*Global read, read operation without Space URL. The distribution strategy should be used to execute the global read operation*

# Bring in clustering



- If we allow an out without space URL, the system can cluster „public knowledge“ globally
- If we allow spaces to be distributed across kernels, we can let data self-organize to optimize retrieval

# out & dist. spaces



`out(triple t, tsc://tcs1.tripcom.it, timeout ms)`

`out(triple t, timeout ms)` → The distribution strategy should be used

- Work until now has focused on RDF as the core data model of Triple Space
- There are tasks in WP2 to consider e.g. OWL, WSML, rules representation in tuples but it was agreed this was exploratory work – implementation was probably out of scope of the project
- AFAIK the scenarios plan to provide their ontologies in WSML...
- **But** taking WSML-to-RDF conversions not a simple solution!
- **So** what content should be supported in the final Triple Space?

- How many Triple Space profiles? What will we call them?
- What do we define as their functionality?
  - In terms of data distribution/clustering
  - In terms of knowledge representation
- Which API operations represent the 'full functionality' of Triple Space?
  - In which profile goes which operation?
- Which distribution strategies belong to which profile?
  - Space distribution across kernels
  - Global search or global emission