



# Ubiquitous Semantic Spaces

Reto Kruppenacher, University Innsbruck  
reto.kruppenacher@uibk.ac.at

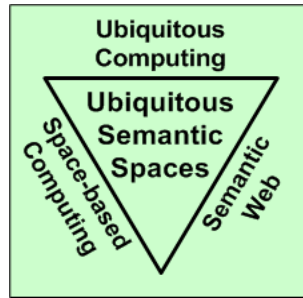
## The underlying trihedral

### Space-based Computing:

- Shared space for cooperation
- Few synchronous links
- Contractless communication

### Semantic Web:

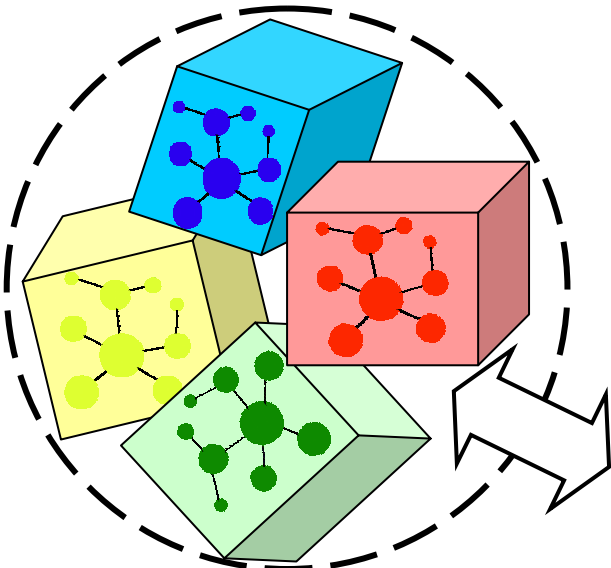
- Inference of knowledge from given facts
- Interpretation of the semantics of data
- Interaction on machine-to-machine level



### Ubiquitous Computing:

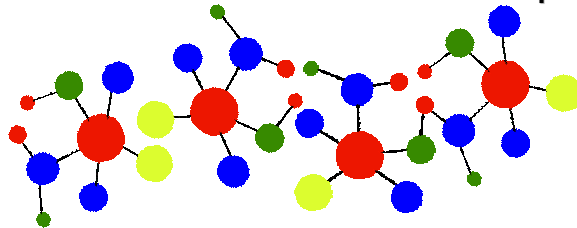
- No federated database
- Mobility and weak connectivity
- Prefetching and smart updates

## The combined framework



### Ubiquitous Semantic Spaces:

- Asynchronous and anonymous communication
- Consolidation of semantic data from heterogeneous sources
- Coordination of applications in weakly connected and computation poor environments
- Improvement of data availability
- Distribution of the space infrastructure
- Flexible integration of devices, sensors and services
- Automated and scalable service composition



## The application field

