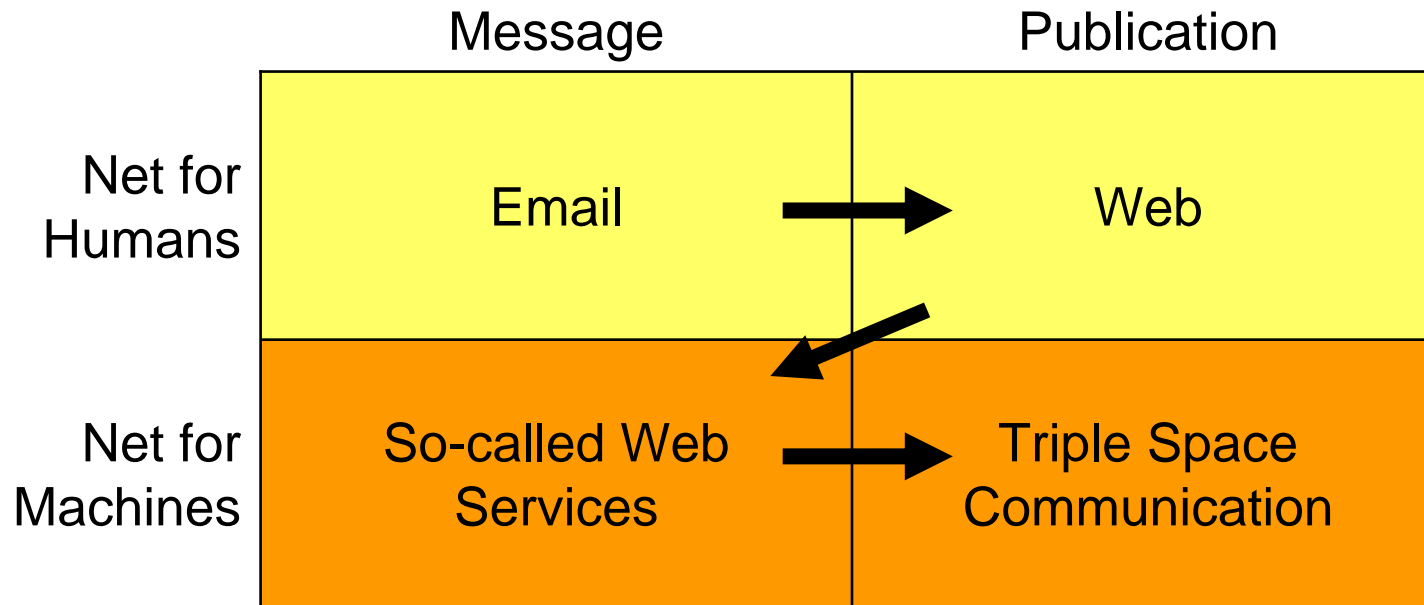


# S&T Progress and Coordination



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"Triple Space may become the Web for machines as the web based on HTML became the Web for humans"

- Semantic Web/Web services
  - Promising industrial commitment
    - Standardization efforts led by international bodies
    - First products by well-known vendors (Semantic Web)
    - Broadly accepted by industry (Web services)
  - Need for a communication middleware for anonymous, asynchronous data exchange
  
- Space-based computing (SBC)
  - Web-compliant communication middleware based on persistent publication and simple interaction
  - No open definition
  - Prototypical implementations
  - Poor integration with other standards
  
- Semantics-aware space-based computing
  - First isolated investigations and findings available
  - **Unified approach needed for a real progress in the field**

- Realize a global communication and coordination infrastructure for machines to exchange semantic data based on the Web principles of persistent publication and simple interaction

- Full support for Semantic Web representation languages and Semantic Web services

WPs 1-6

- Instruments to deal with security, distribution, scalability

- Provide prototypes in the EAI and eHealth fields to demonstrate the added value

WPs  
7,8a/b

- Enhance EAI with semantics and coordination
- Enable the infrastructure necessary to support a European Patient Summary

- Contribute to the development of reference architectures, technological roadmaps and standards

WP 9

- Realize (WPs 1-6)
  - Specification for the storage of semantic data
  - Definition of the structure of the Triple Space and triples of the API
  - Publication of an open source initial prototype
  - Definition of the TripCom reference architecture and of the processes for the integration of TripCom components
  - Architectural integration of triplespaces and Web services infrastructures
  - Identification of security requirements for TripCom
- Demonstrate added value (WPs 7 and 8a/b)
  - Specification of the use cases, including an analysis and ontologization of relevant EDIFACT subsets
- Impact
  - [spacebasecomputing.org](http://spacebasecomputing.org) has been launched

- **Realize (WPs 1-6)**
  - Distribution and replication
  - More semantics
    - Ontology-based triplespace management
    - Semantic matching
  - Specification of Triple Space-based Web service communication
  - Definition of mechanisms necessary for using TripCom as a Web service registry
  - Design of the foundations of authentication and access control for the TS security manager
  - Refinement and extension of the architecture and the prototype
- **Demonstrate added value (WPs 7 and 8a/b)**
  - Realization of the use cases, including the finalization of the EDIFACT ontologization
- **Impact**

- The WPs work efficiently with good progress
- Deliverables and tasks are accomplished in time
- Quality assurance procedure works properly
- First publications are available

- Proper attention is paid to interdependencies and collaboration
  - Various joint meetings and phone conferences on a regular basis
    - Technical work packages
    - Technical work packages and use cases
  - Plenary meetings on dedicated topics of general interest
    - Architecture (June 2006)
    - Use cases (October 2006)
    - Security (January 2007)
  
- Flexible when issues/problems arise
  - No major changes in the description of work
  - Reporting procedure for internal task changes established



## ■ TSC

- TripCom uses the experiences gained in TSC in particular with respect to the design and realization of an RDF triplespace.

## ■ COCOON

- TripCom uses the experiences gained in COCOON with respect to the usage of Semantic Web services in eHealth.

## ■ Knowledge Web

- Alignment to the unified framework for semantics-aware space-based computing produced in Knowledge Web.

## ■ SUPER

- TripCom reuses ontologies developed in the SUPER project in the Digital Asset Management use case.

## ■ Sense

- Sense will use the prototype to implement a semantic system for product design and thus provide a new use case for TripCom.

## ■ WSMO

- TripCom complements WSMO with an underlying communication infrastructure which integrates with Semantic Web services more naturally than the current grounding technologies based on traditional Web services technologies.