

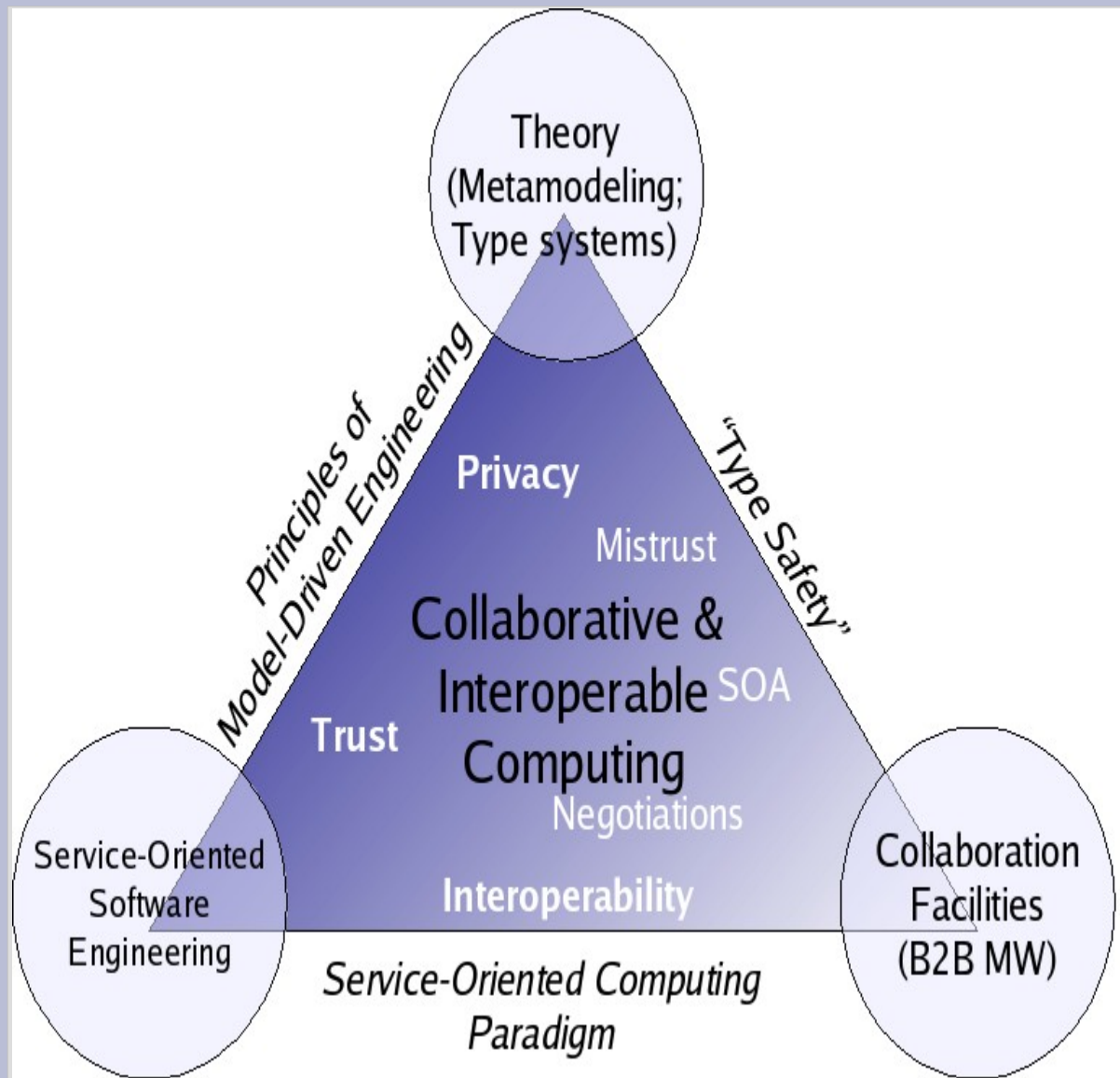
Model information in eContracting

Research Colloquium 2007

19.01.2006

Toni Ruokolainen

CINCO: Collaborative and INteroperable COmputing

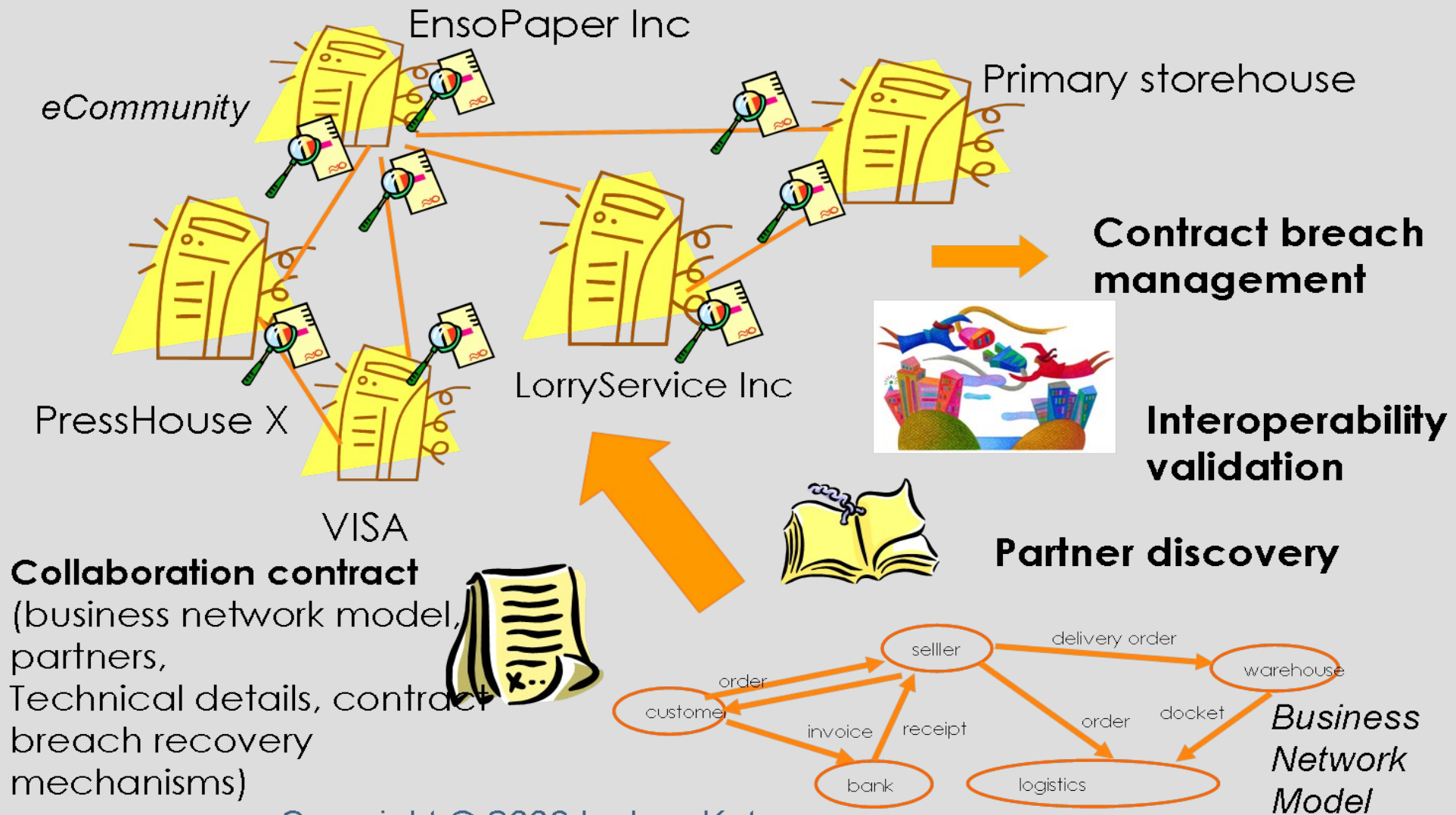


- *Challenge:* establishing inter-operable collaborations in open distributed environments
- *Positioning:* middleware, business integration, software engineering, service-oriented computing, multi-agent systems
- *Themes:* Modeling & metamodels; Trust, security & privacy; Validation of interoperability; B2B middleware

CINCO: The group

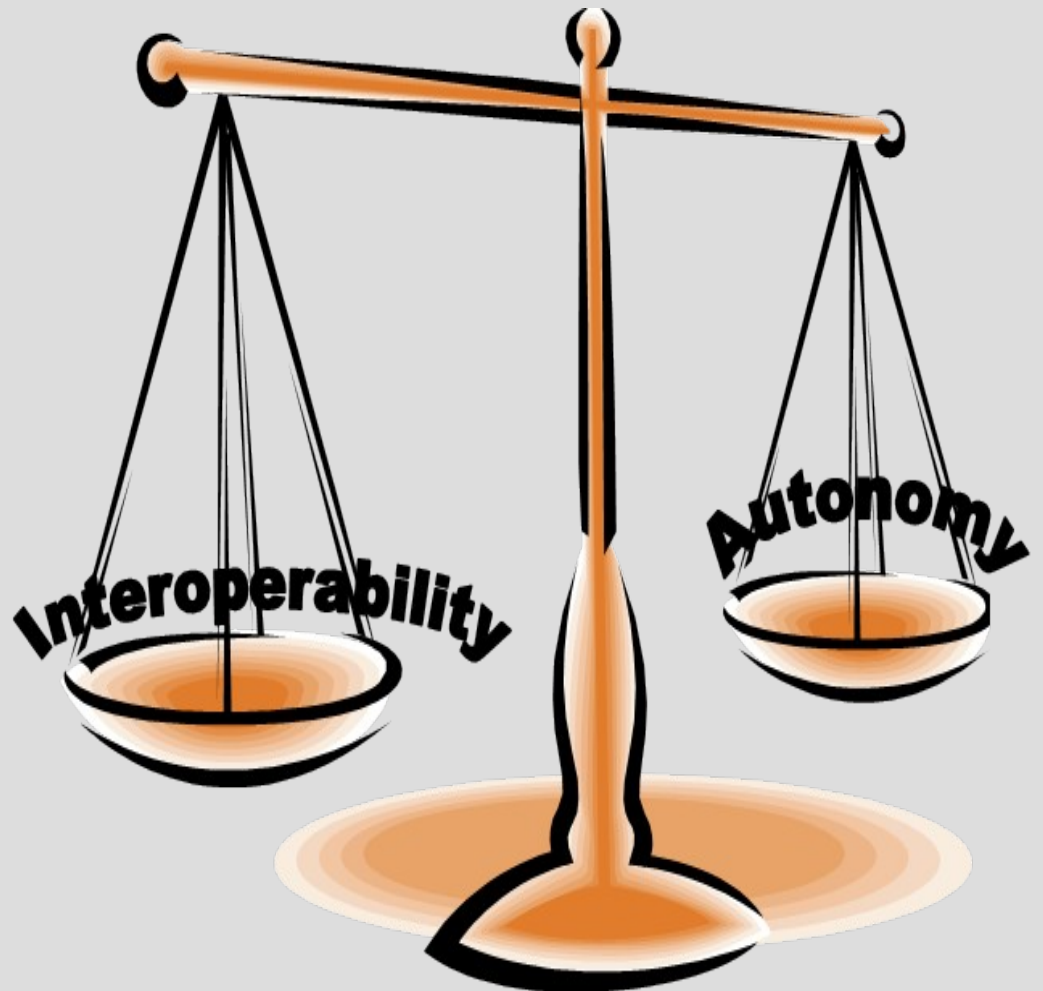
- Leader: Lea Kutvonen (Professor, docent)
- Post-docs:
 - Pirjo Moen (PhD, University lecturer): Privacy
 - Alex Norta (PhD (pending)): eSourcing (as of February 1st 2007)
- PhD students & topics
 - Janne Metso (MSc): “*Computer supported contract negotiations*”
 - Jyrki Haajanen (MSc): “*SOA emergence in enterprise architecture*”
 - Sini Ruohomaa (MSc): “*Trust and reputation*”
 - Toni Ruokolainen (MSc): “*Type-based validation of interoperability*”
 - Lea Viljanen (MSc): “*Mistrust*”

Collaborative computing & eContracting



eContracting Challenges

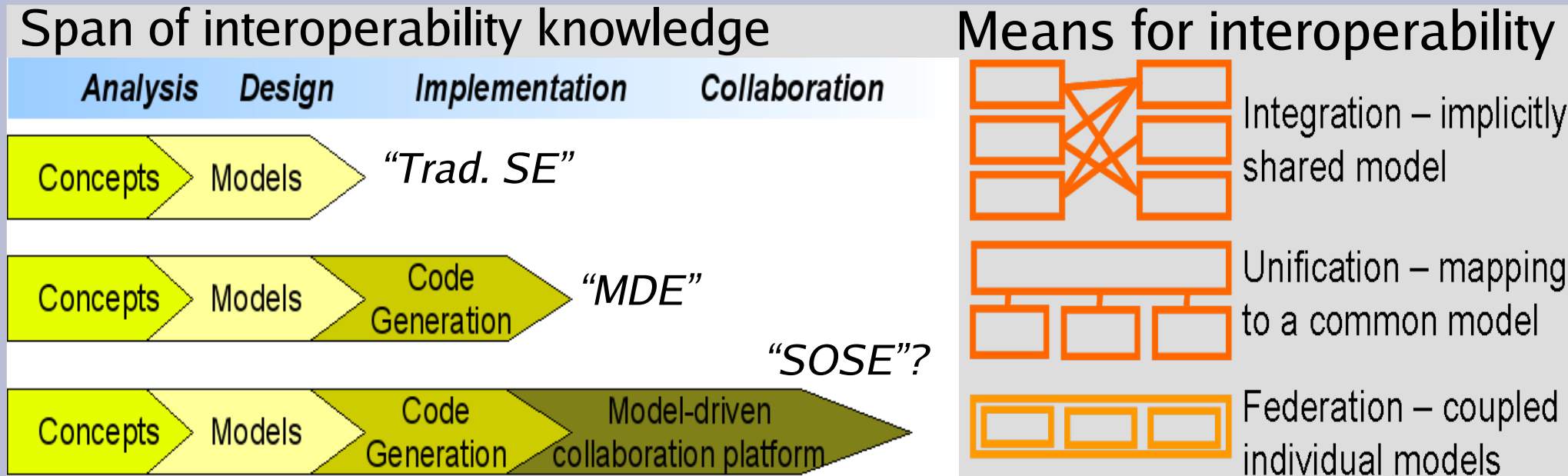
- Main problem
 - Achieving interoperability
- Autonomy
 - Freedom of design, maintenance, willingness to collaborate
- Heterogeneity & dynamism
- How to address all these issues?!



Federated collaboration establishment & management

- Federation = “loosely-coupled co-work between autonomous entities”
- Models are used to describe collaboration scenarios, available services, and partners
- Based on the models, collaborations are established dynamically
 - Population: discovery & selection of potential partners
 - Negotiation: refinement of models to *eContracts*
- The *eContract* is used for regulating and monitoring the operation of the community

The role of models is changing

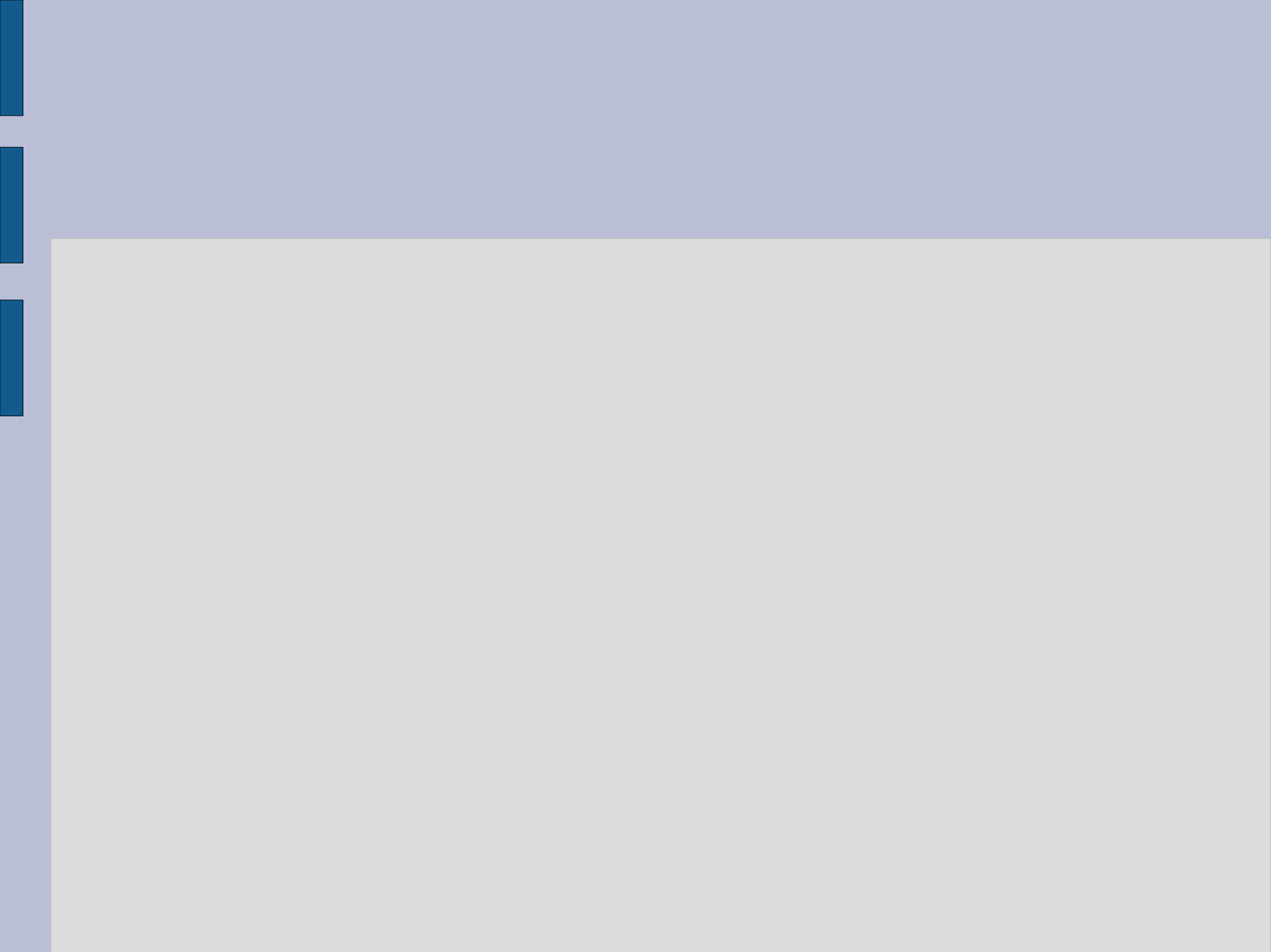


- Extending the span of explicit interoperability knowledge
 - From documentary artifacts to automated code generation to collaboration facilitating meta-information
- From statically established models to dynamically negotiated collaboration models
- From proprietary solutions to generated solutions to configurable solutions

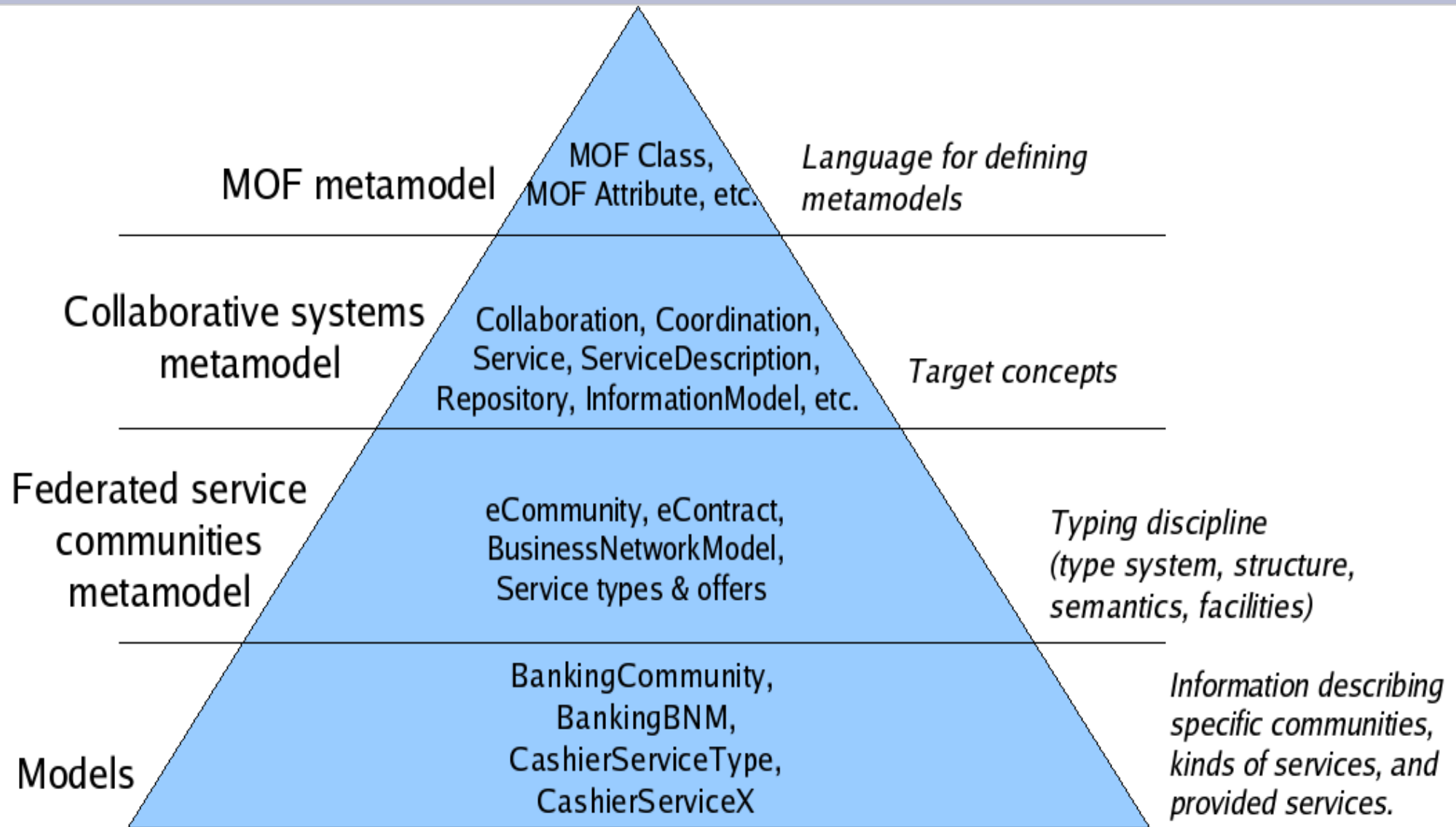
CINCO Research Profile

(<http://cinco.cs.helsinki.fi>)

- “Model-driven collaboration management facilities”
 - B2B middleware services: meta-information repositories, network management agents, populators
- “Meta-models and typing disciplines for collaborative software systems”
 - “Theory of interoperability”
 - Session typing, coordination typing, business process semantics
 - Refinement of concepts for NFA, SOA, SOC...
- Future topics
 - Tool-chain for SOSE
 - Aspect-Oriented Modeling & Model-Weaving
 - Application of the approach to other types of collaborative systems: MAS, Grid,... ?
 - Theory & practise of metamodelling



Models and meta-information



Meta-information usage

