

Enterprise Monitoring Ontology

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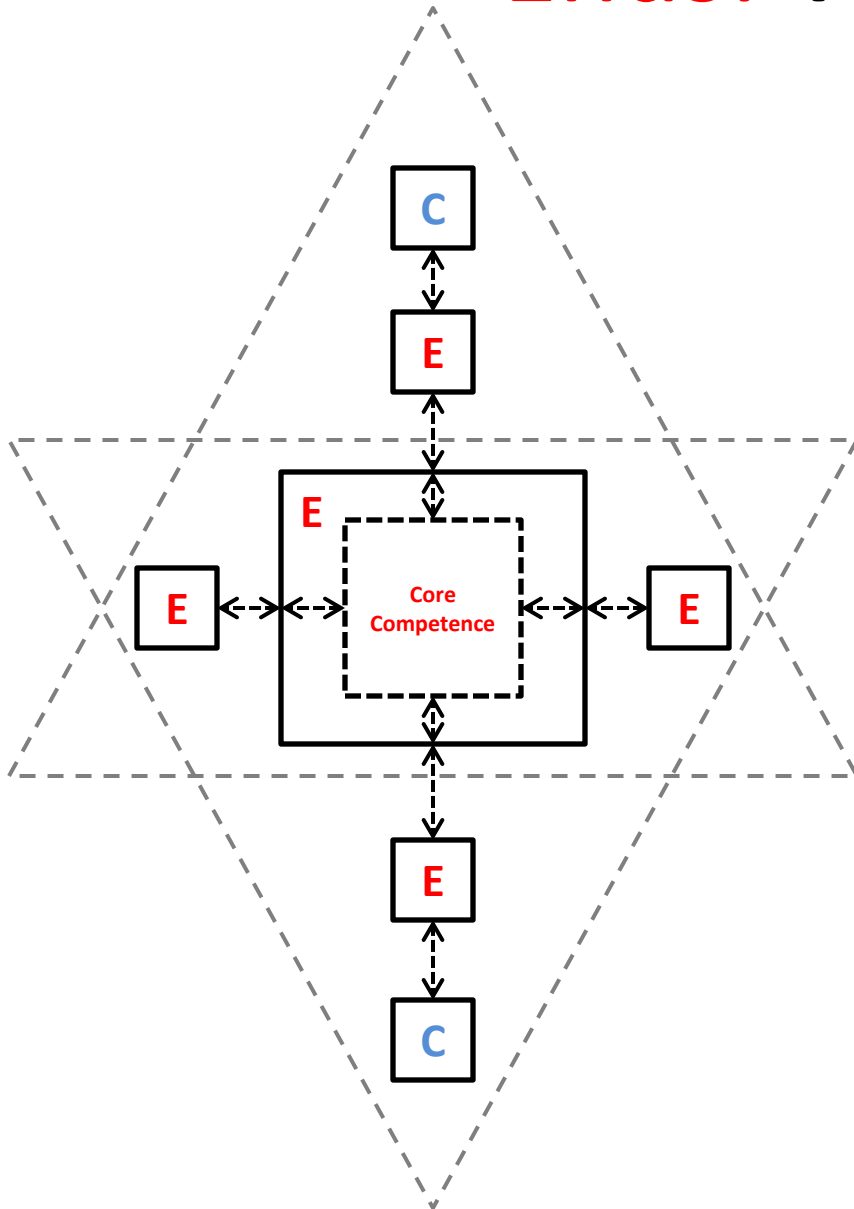
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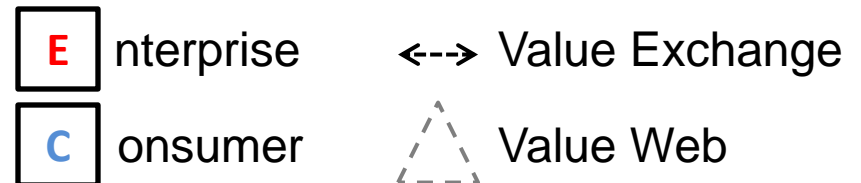
Flashbackward

- **Ends:** Monitoring Value Webs
- **Facts:** Monitoring Electricity Markets
- **Means:** Enterprise Monitoring Ontology
- **Grounds:** Enterprise Ontology
- **Begins:** Research Question

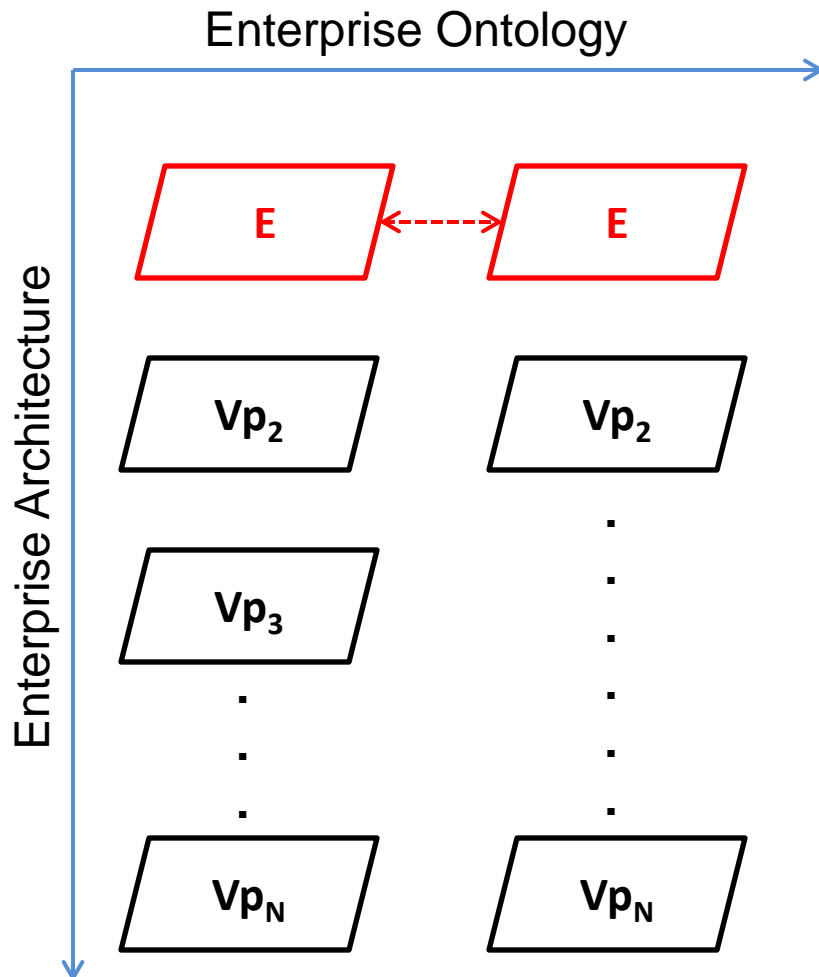
Ends: Value Webs



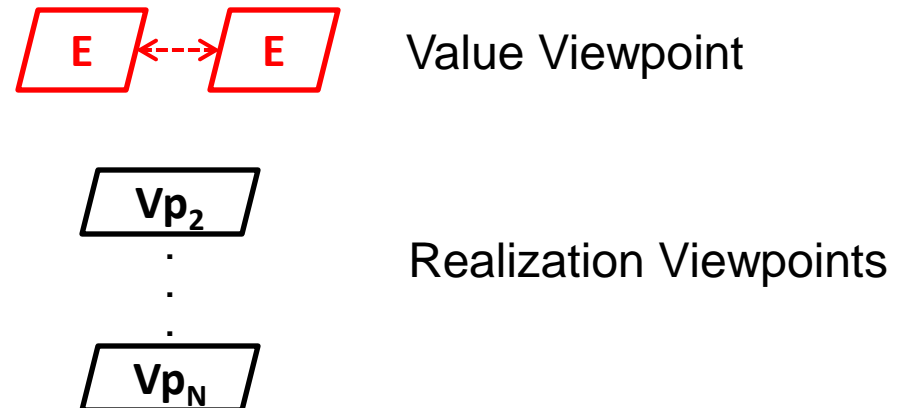
- **Evolution** of value chains
- **Consumer's** needs-driven
- Focus on **core** business competencies
- Refuge for medium/small-scale enterprises
- Business **survival** and resilience



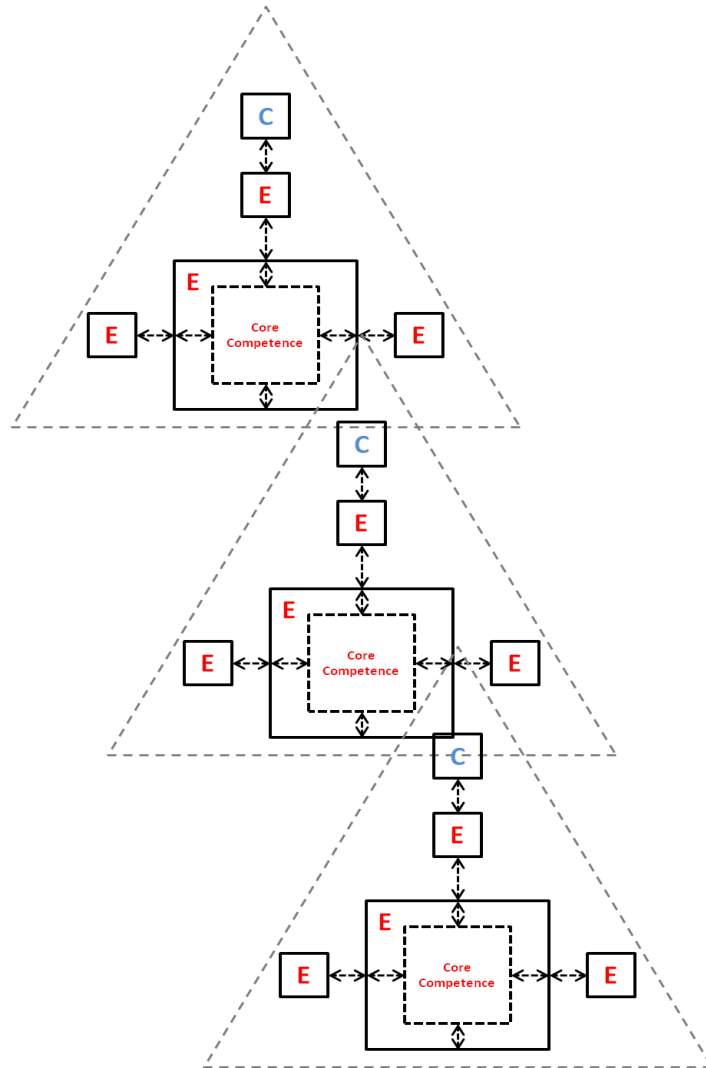
Ends: Value Webs



- Web **sustainability** as common interest
- **Profitability** over social responsibility
- Value modeling: business strategy information layer



Ends: Monitoring Value Webs



- Decentralized Management
- Monitorability:
local \rightarrow global behavior
- Monitoring value webs *using* value webs
- Logic: **fractal** design
- Target: **bus. analysts**
- Soundness: real cases
- Complexity: Simple

Facts: Monitoring Electricity Markets

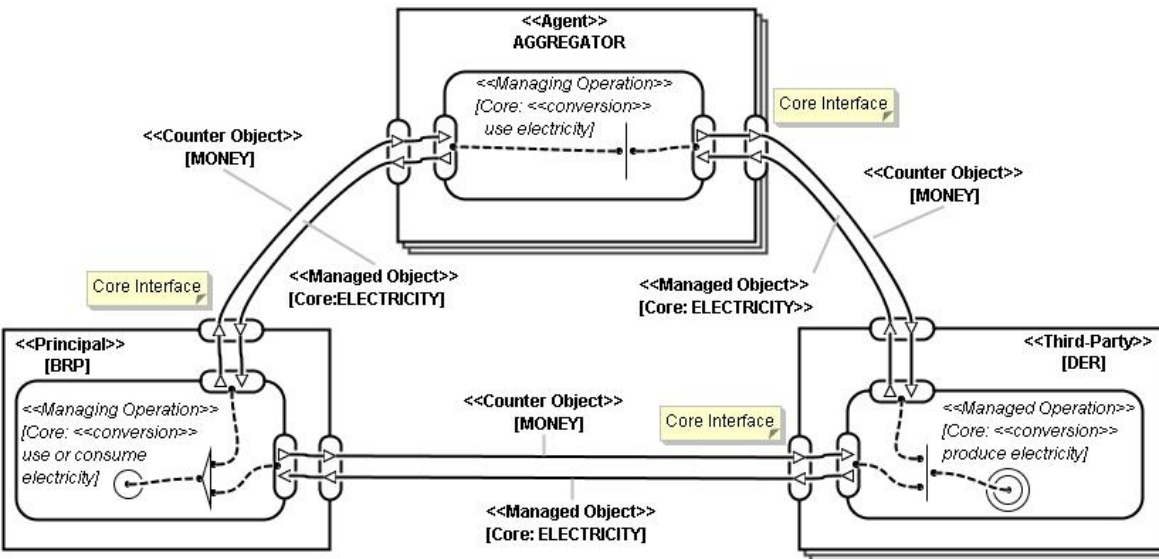
- Business Roles:

- **BRP**: Balance Responsible Party

- Wind turbines, solar panels, biomass, etc.

- **DER**: Distributed Energy Resource

- **Aggregators**



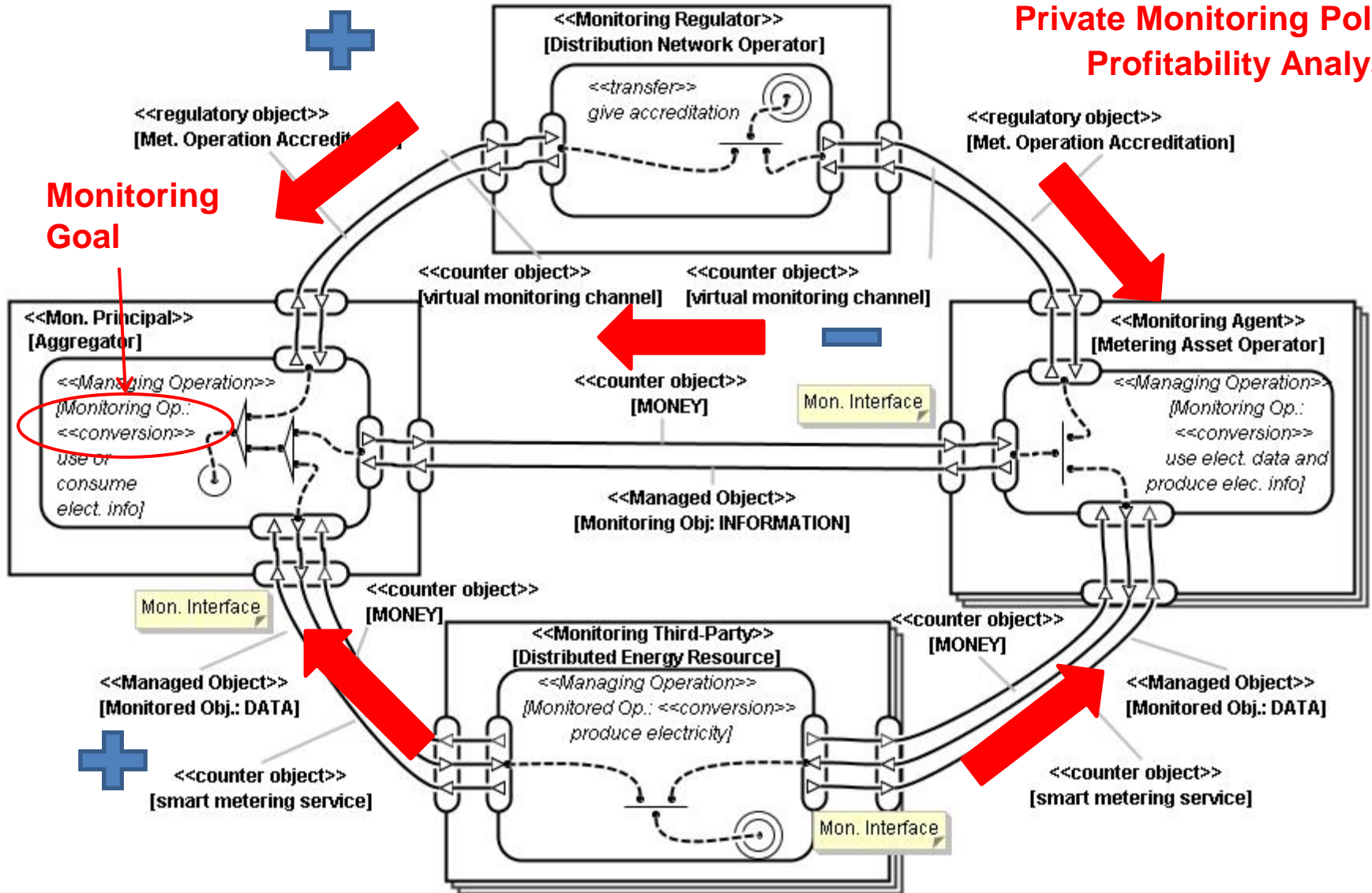
Actor	Value interface	Value port	Value Transfer	AND element	OR element	Explosion element
Market segment	Activity	Consumer need	Connect element	Boundary element	Value object	

- Renewables → Risk

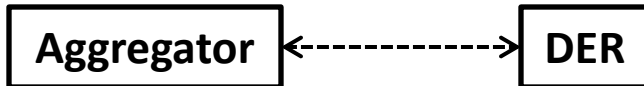
- Case Question: *How to monitor an electricity balancing web?*

Facts: Monitoring Electricity Markets

Public Monitoring Policy
Private Monitoring Policy
Profitability Analysis

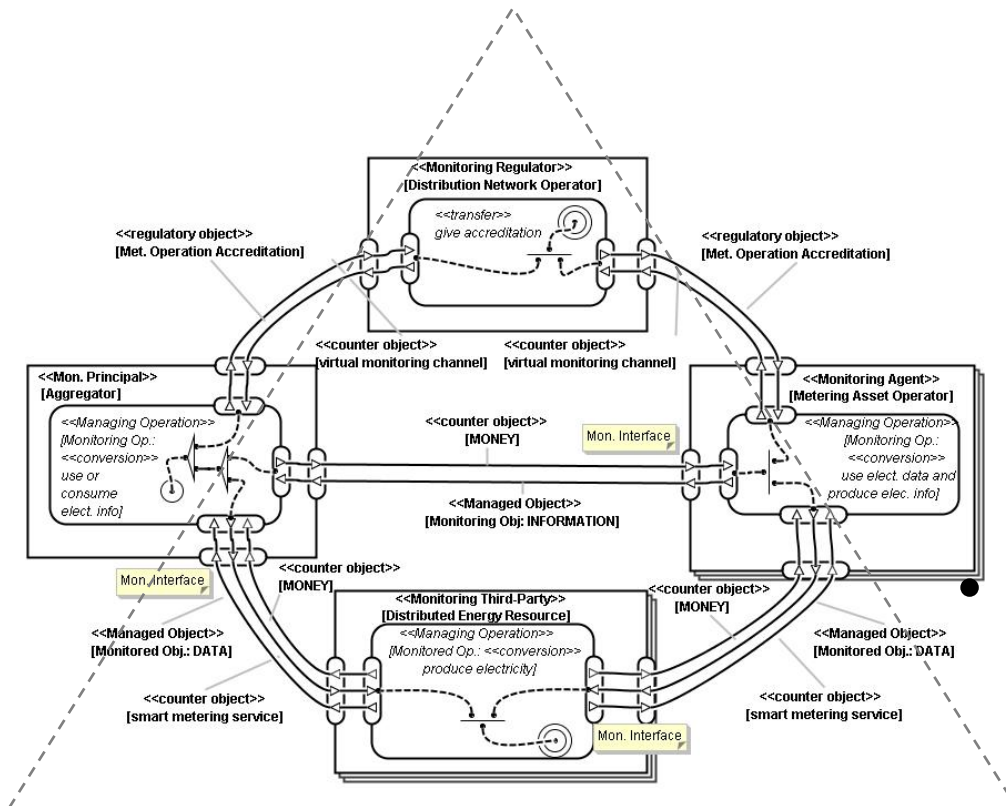


Facts: Monitoring Electricity Markets



- Monitoring System State

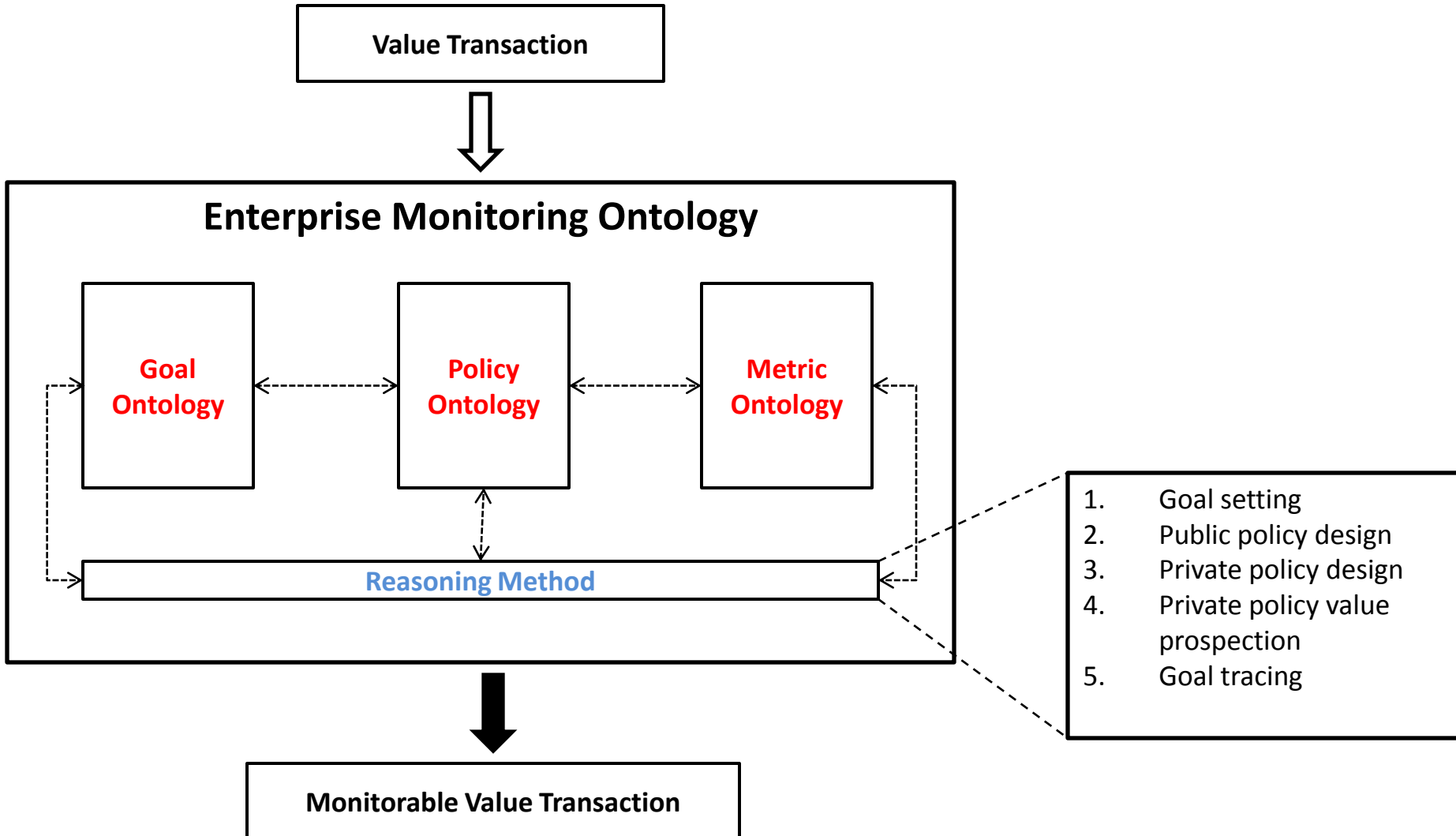
- Actors (**Core** Concept)
- Operations (**Core**)
- Objects (**Core**)
- Goals (**Mgt.** Concept)
- Policies (**Mgt.**)
- Metrics (**Mgt.**)



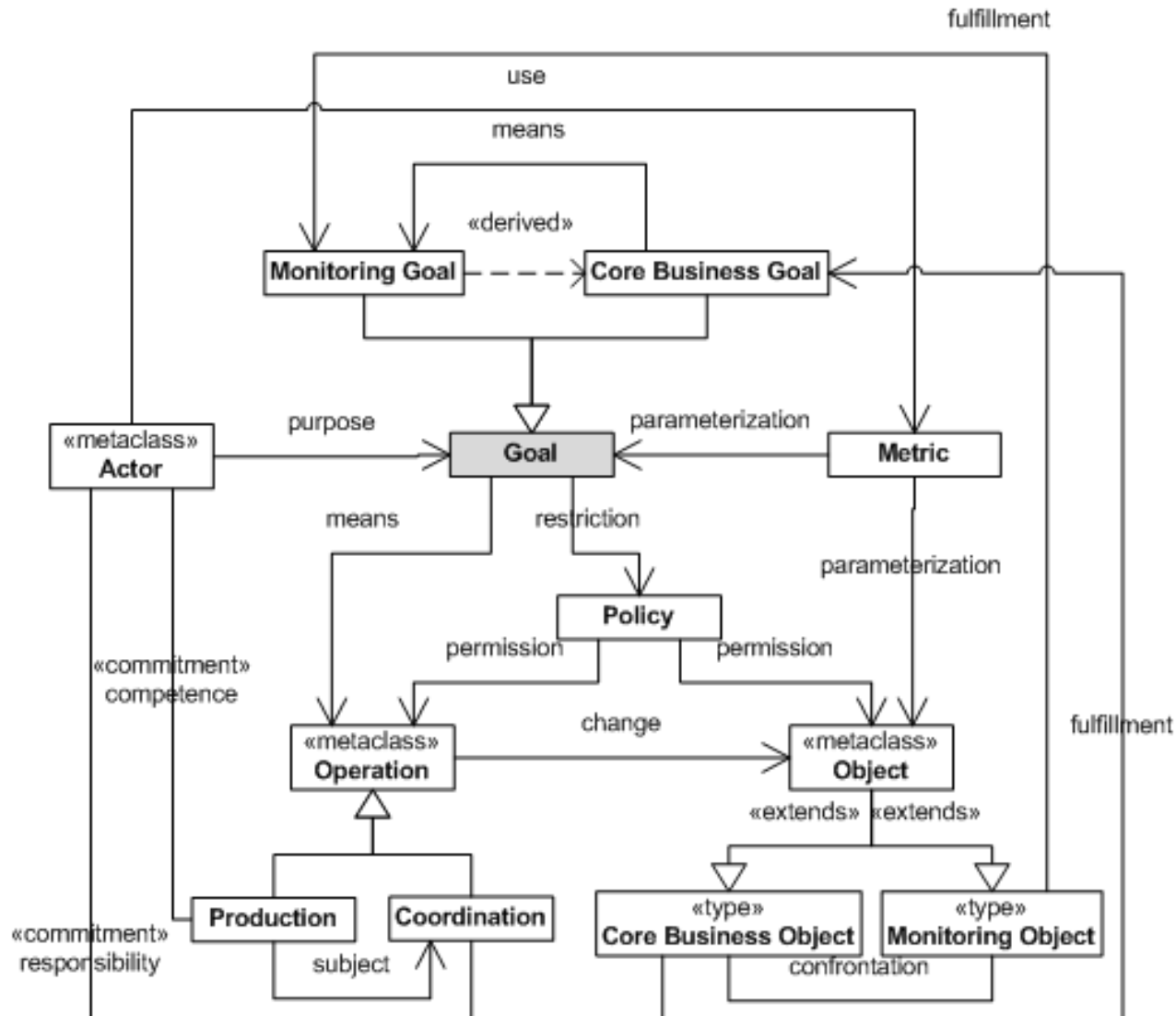
Monitoring System Dynamics

- Reasoning Method

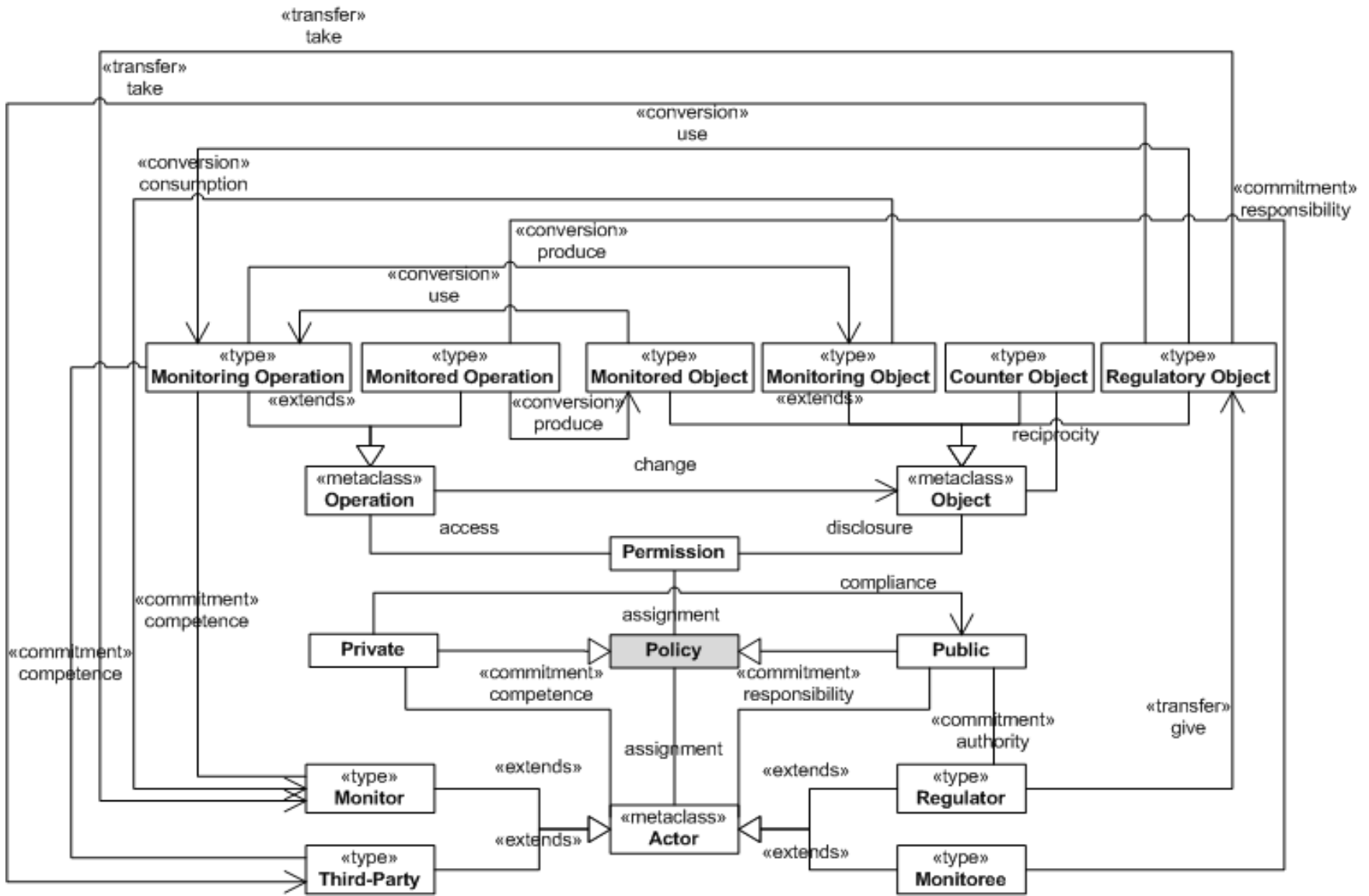
Means: Enterprise Monitoring Ontology



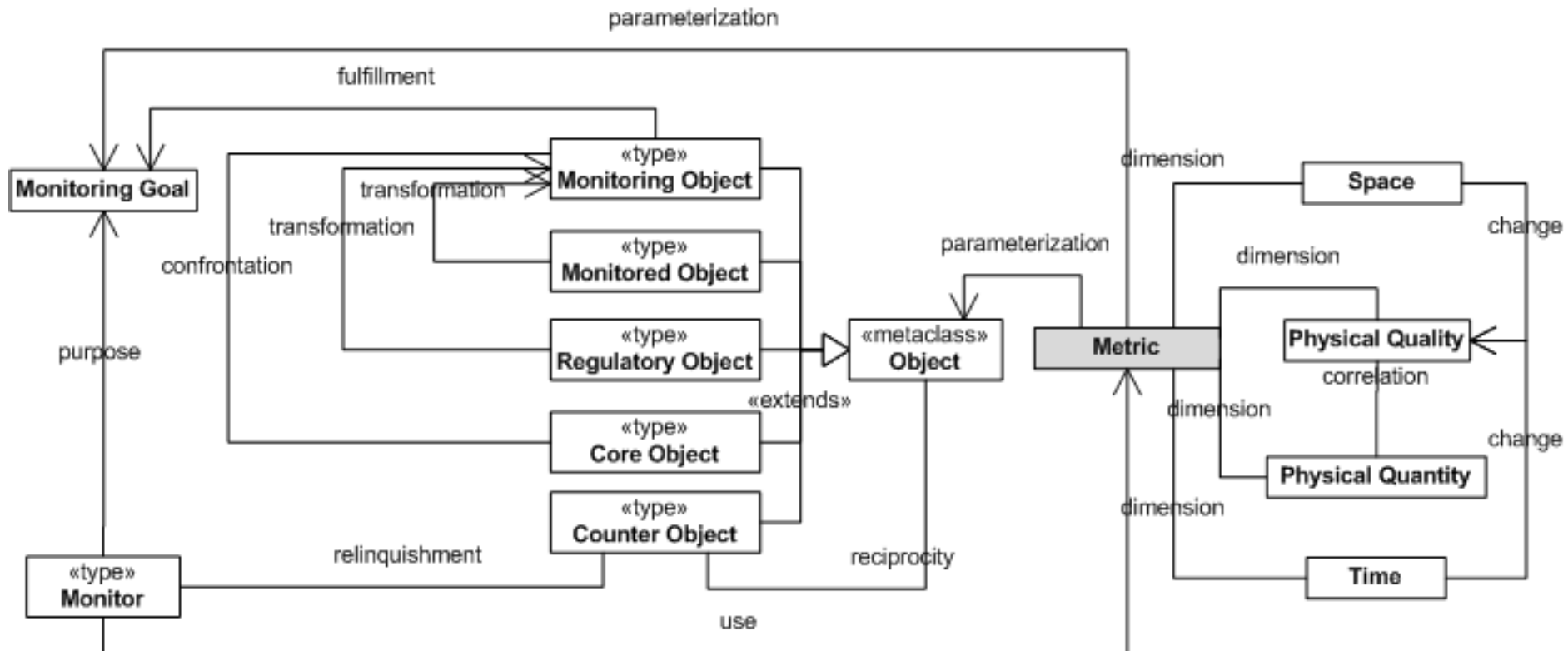
Enterprise Goal Ontology



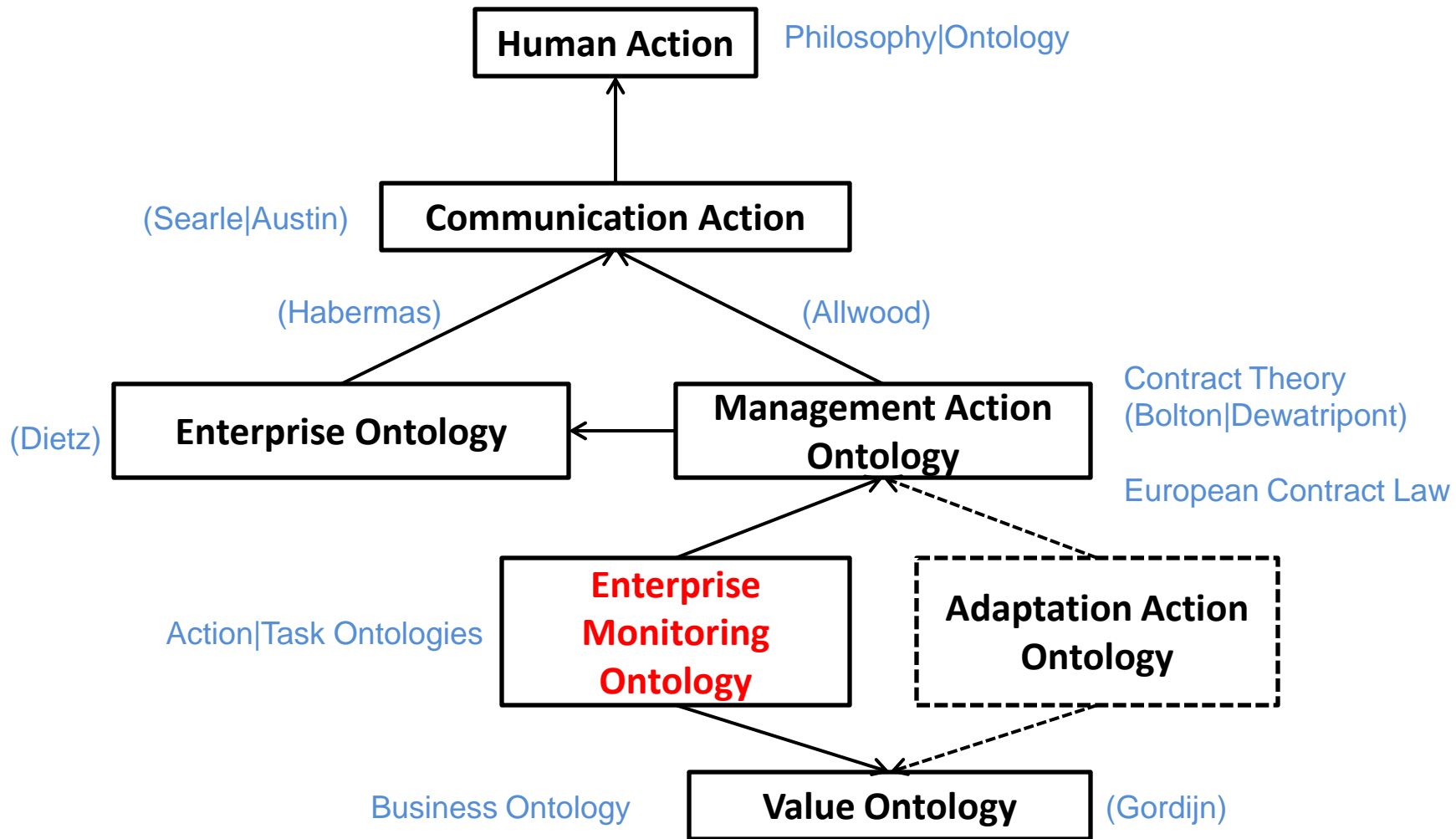
Enterprise Policy Ontology



Enterprise Metric Ontology



Grounds: Enterprise Ontology



Research Question

- How to manage a value web?
 - How to monitor?
 - The **why** – monitoring sustainability
 - The **what** – monitoring accountability and traceability
 - The **who** – monitoring organization
 - The **how** – monitoring strategy (fractal design)
 - How to adapt?
 - Future research

Flashforward

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 - How to monitor a value web?
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