

Implementing GPI, a language for Organizational Alignment

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Implementing GPI, a language for Organizational Alignment

CONTEXTUALIZATION

OBJECTIVES

GPI PROPOSAL

GPI IMPLEMENTATION

CONCLUSIONS

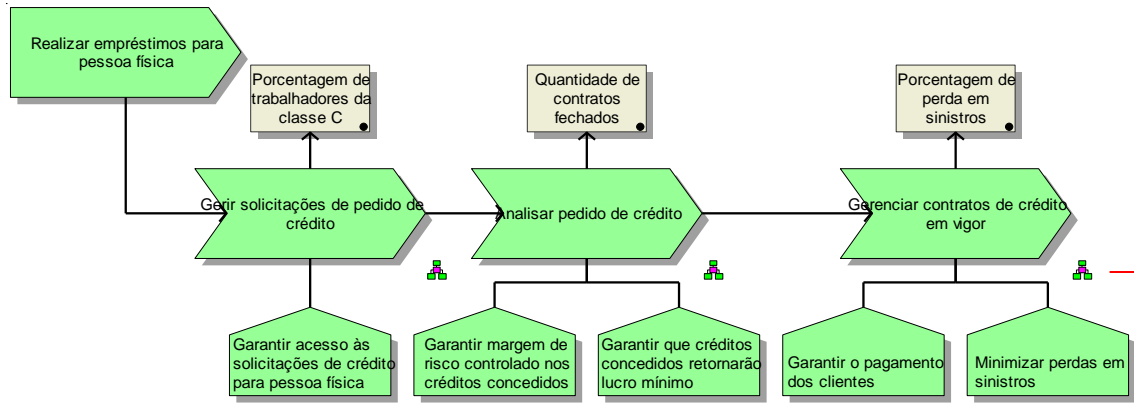
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CONTEXTUALIZATION

- ⤴ **GPI is a partial product of a on going research on Organizational Alignment.**
- ⤴ **The main goal of GPI is to reduce the gap between goal and process layers by the existent notations.**
- ⤴ **This study was motivated when a huge Brazilian enterprise try to analyze alignment using their models in the ARIS framework.**

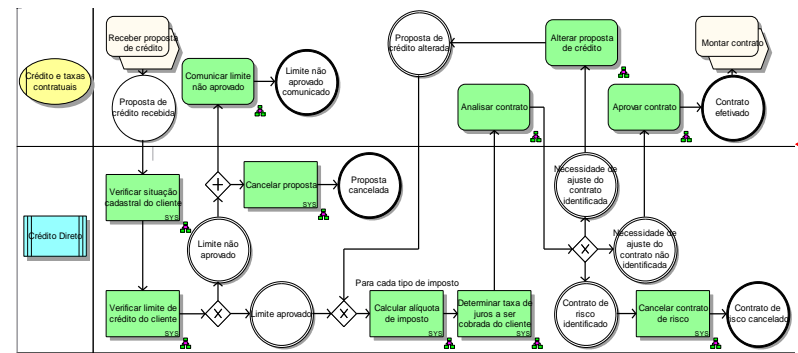
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CONTEXTUALIZATION – ARIS Architecture

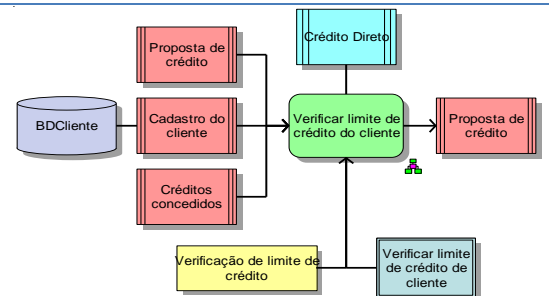


Semantic		
	Goal	Process
Goal	Belongs to	Supports
Process	Supports	N/A

Value Added Chain



Event-driven process chain



Function Allocation diagram

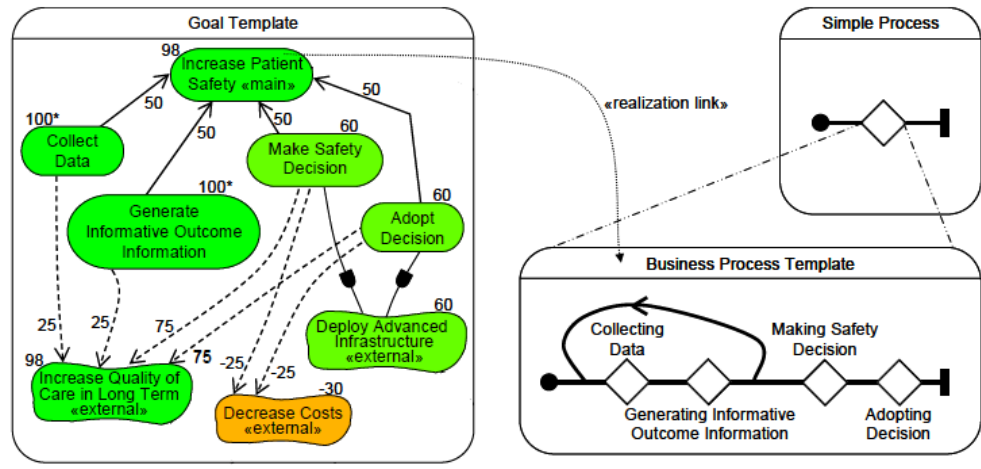
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CONTEXTUALIZATION

- ⤴ **Which goals are satisfied (or not satisfied) in the current enterprise architecture? [Cardoso12]**
- ⤴ **Given a goal or a set of goals in the goal model, which enterprise architecture elements affect the satisfaction (or non-satisfaction) of these goals? [Cardoso12]**
- ⤴ **Given enterprise architecture elements, which goal or set of goals these elements address? [Cardoso12]**
- ⤴ **Who are the key responsible roles of this goal?**
- ⤴ **When this goal is reached?**
- ⤴ **Why this role do these steps?**
- ⤴ **Changing a specific activity, what goals will be affected?**

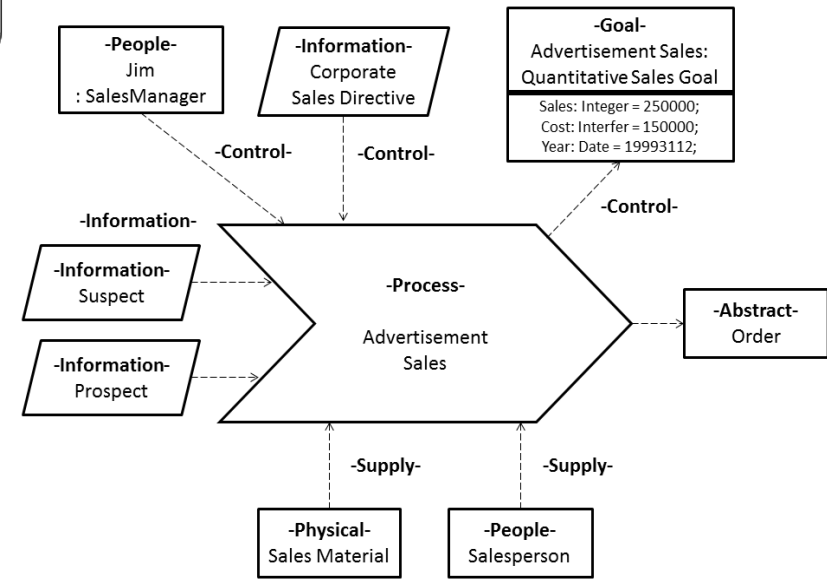
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CONTEXTUALIZATION



[Behnam10] "Towards a Pattern-Based Framework for Goal-Driven Business Process Modeling"

[Eriksson&Penker00] "Business Modeling with UML – Business Patterns at Work"



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CONTEXTUALIZATION

Difficulties:

- ⤴ **Insufficient semantic goal and process links**
- ⤴ **Insufficient capability to customize elements according to their needs (because of the closed framework)**
- ⤴ **Low level of traceability between very operational elements and high level goals**
- ⤴ **Weak possibility to measure alignment only using the models and absence of a method**
- ⤴ **Impossibility to create integrated views**

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OBJECTIVE

- ✦ Provide more resources to integrate the layers.
- ✦ Improve 5W1H answers (What, Why, Where, When, Who and How).
- ✦ Increase model analysis.
- ✦ Clearly interconnect both layers elements.
- ✦ Enable alignment identification only using the business models.
- ✦ Define a language to support **future** business alignment analysis methods.

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GPI PROPOSAL

⤴ **First decision – Not create new notation, but integrate what the best we have**

⤴ **Second decision – integrate i* and BPMN**

⤴ **Third...**

What could link i* and BPMN in a way to help traceability between layers?

What information is missing considering that in real world the link exist?

→ **We do not link high level business goals with actors reasoning...actors goals...**

→ **We do not ask actors why they do each part of process, but focus on what they do.**

→ **Before be linked to activities, business goals must be decomposed to the level of operational actors thinking.**

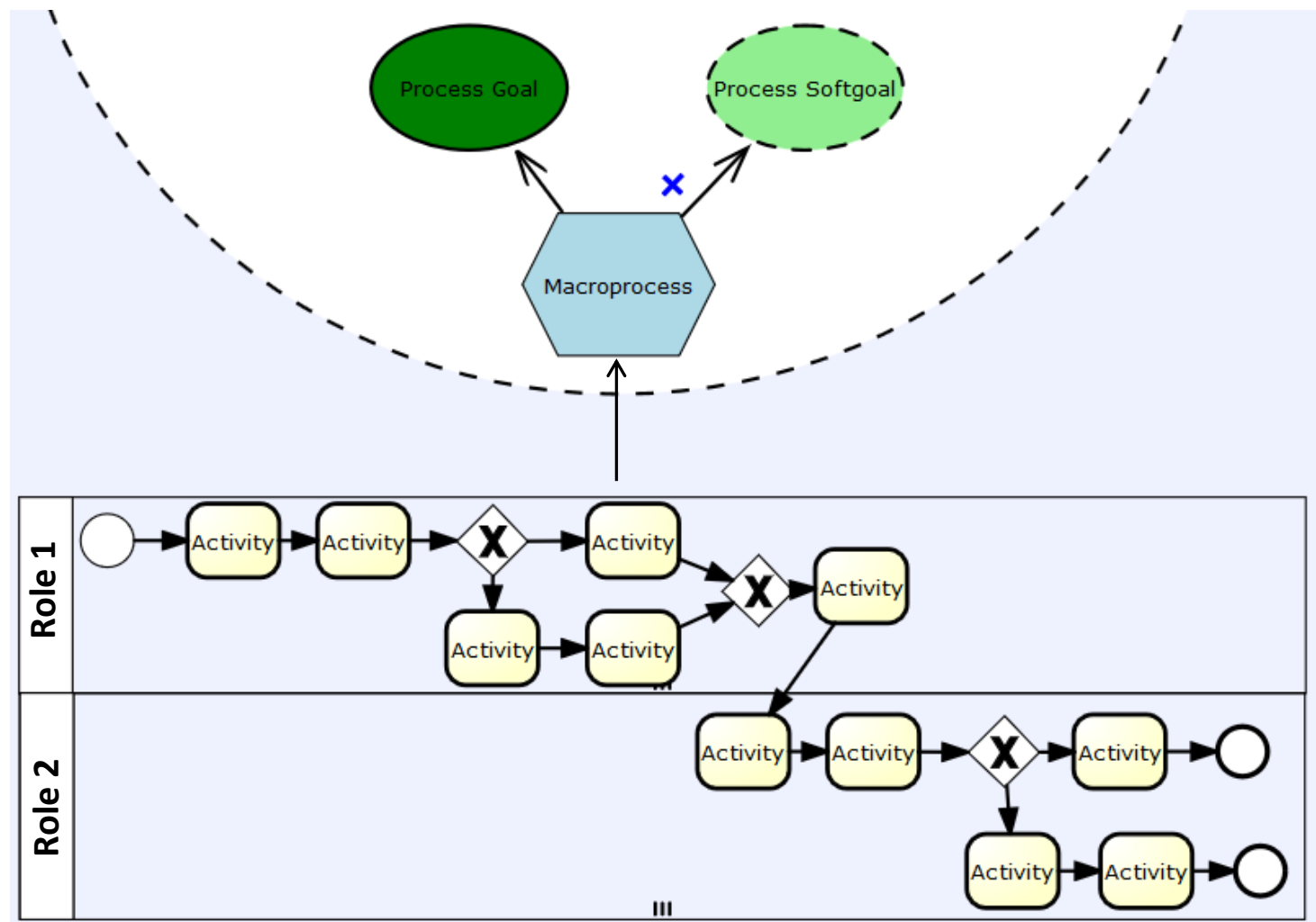
✓ **Actors must be able to answer “why” they do what they do.**

✓ **Then more information are necessary to be available in business process models**

✓ **An intermediate layer to make the connections could be used.**

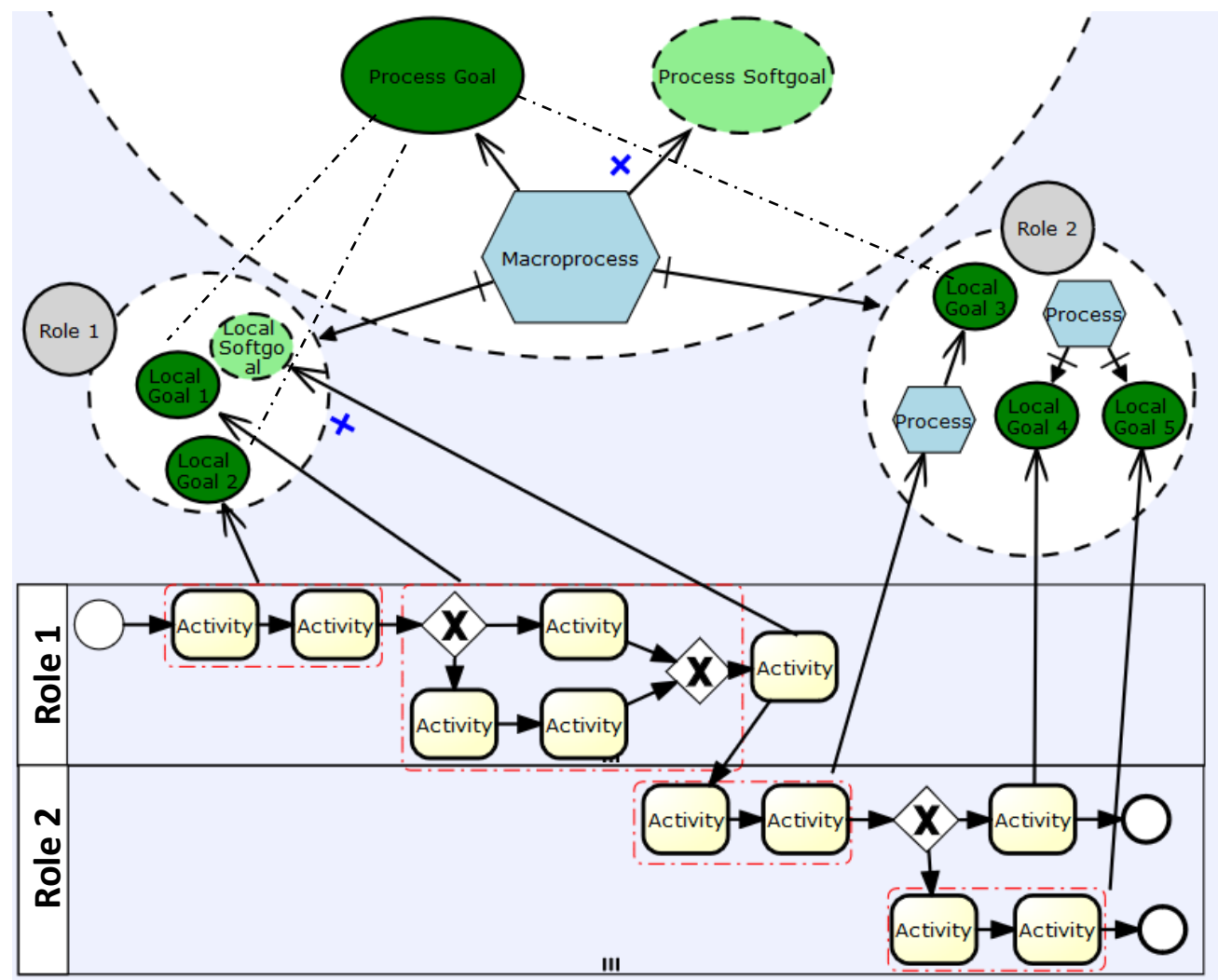
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GPI PROPOSAL



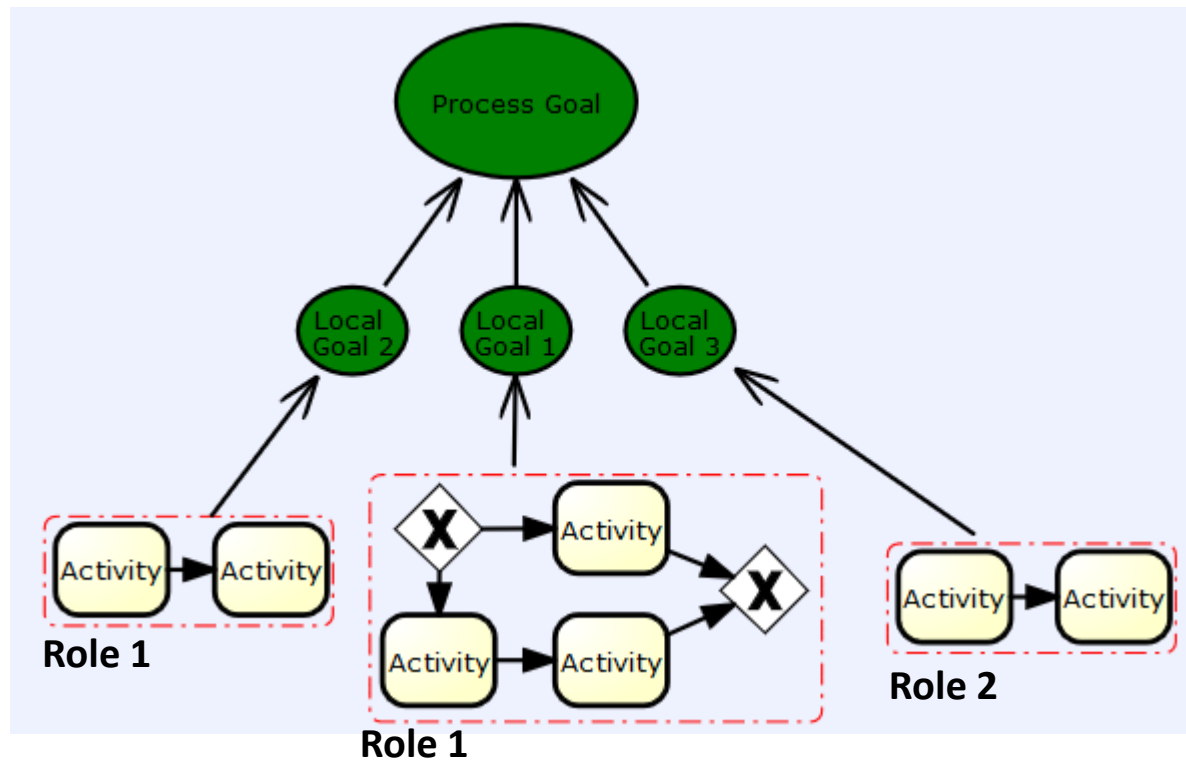
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GPI PROPOSAL



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GPI PROPOSAL



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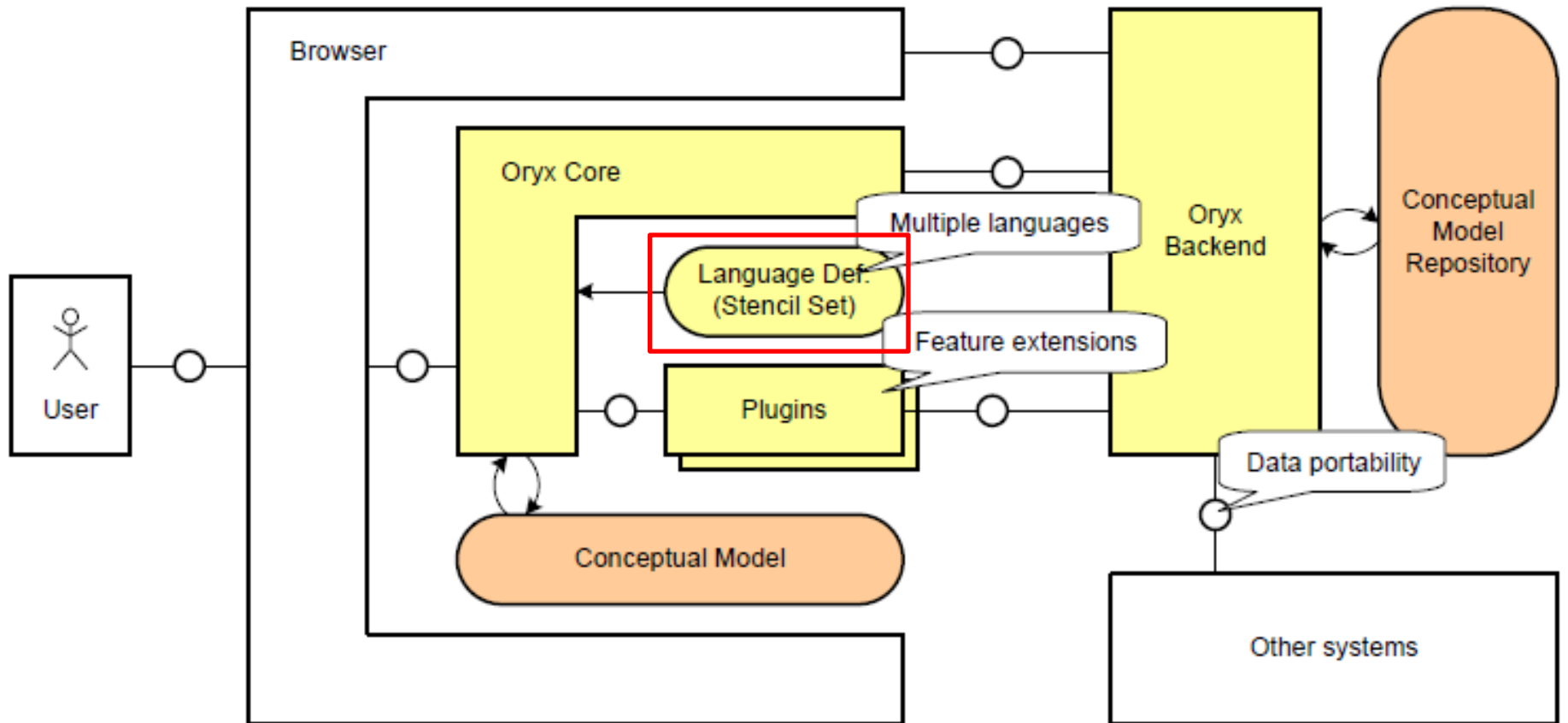
- Oryx Tool

(Hasso Plattner Institute, 2006)

- ⤴ Open Source
- ⤴ Clients access the tool from a server (client/server architecture)
- ⤴ Runs via browser (Firefox)
- ⤴ Can be customized to offer modeling elements and notations

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What is necessary?

- ✦ **Stencil set (elements and rules definition)**
- ✦ **Graphical elements in SVG format (Elements visual)**
- ✦ **Icons (to represent the elements)**

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Stencil set

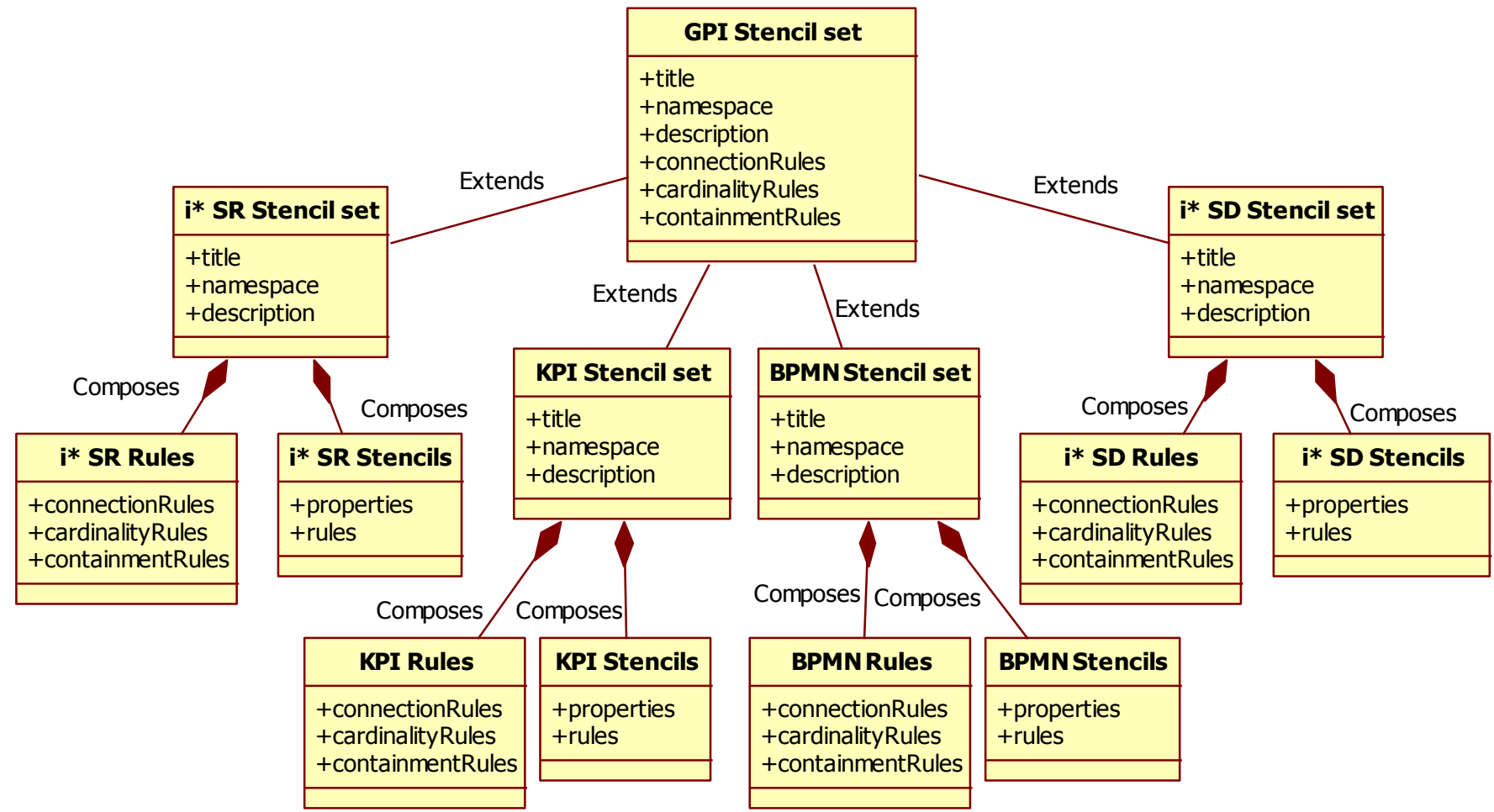
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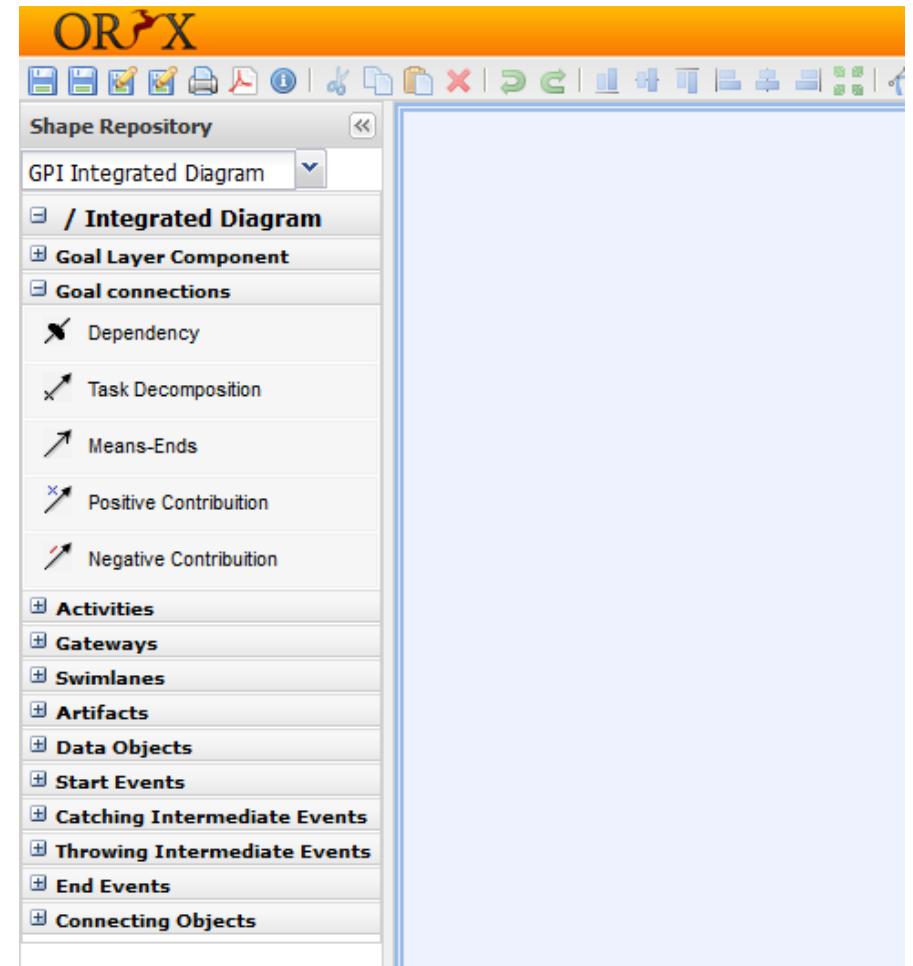
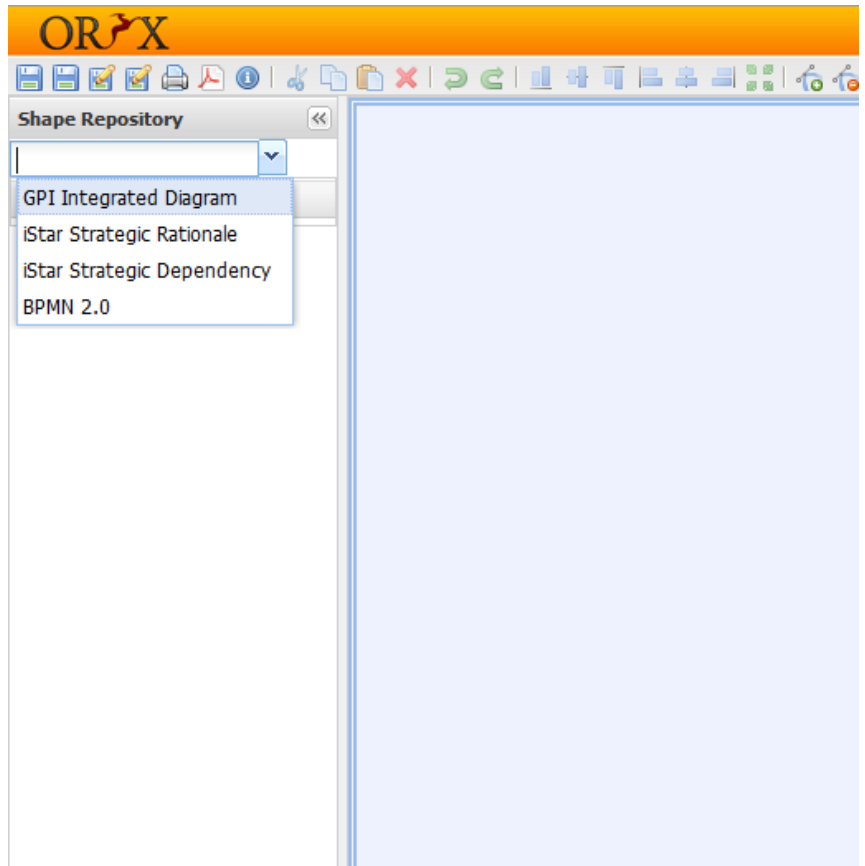

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CONCLUSIONS

⤴ Positive contributions

- **Contributes to traceability level**
- **Contributes to detail level**
- **Intermediate layer may help model using meet in the middle approach**
- **More semantic and integrated elements to model business**
- **Possibility to customize notation**

⤴ Difficulties

- **Size and complexity of an integrated model**
- **More information to detail in the modeling process**

⤴ Ongoing works

- **Study how GPI can help to verify alignment by using models**
- **Study how GPI can support alignment methods**
- **Use Oryx tool to automate alignment analysis**

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REFERENCES

[Behnam10] Behnam, S.A., Amyot, D., Mussbacher, G.; **“Towards a Pattern-Based Framework for Goal-Driven Business Process Modeling”**, 2010 Eighth ACIS International Conference on Software Engineering Research, Management and Applications, 2010.

[Cardoso12] E. C. S. Cardoso, J. P. A. ALMEIDA, and R. S. S. Guizzardi, **“Analyzing the relations between strategic and operational aspects of an enterprise: towards an ontology-based approach,”** *International Journal of Organizational Design and Engineering*, vol. 2, pp. 271-294, 2012.

[Eriksson&Penker00] Eriksson, H-E.; Penker, M.; **“Business Modeling with UML – Business Patterns at Work”**, John Wiley & Sons, (459 pages), ISBN: 0471295515, 2000.

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Thank You !!

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