

Approach Based Patterns for System-of-Systems Reconfiguration

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Plan

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- SoS Engineering Process
- SoSADL
- Context

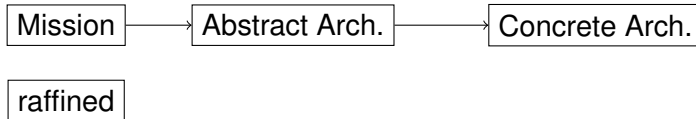
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- Motivation
- Approach

3

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SoS Engineering Process

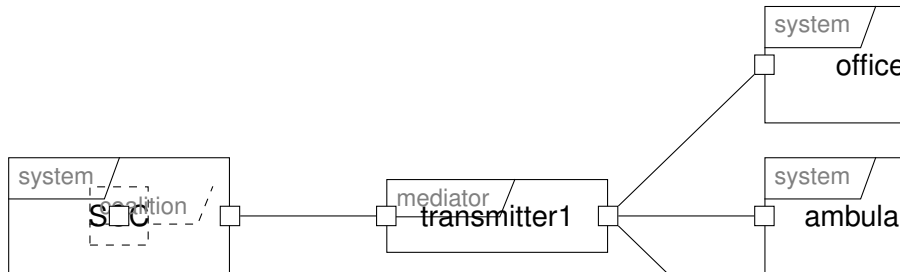


Architecture description language : SoSADL

- Constituent System (CS)** : have their own managerial and operational independence while contributing to the global mission of the SoS
- Mediator** : controlled by the SoS. They belong to the SoS. Mediateur are communicating element that specify, coordinate the interaction between CSs and SoS control over them.
- Coalition** : a set of constraints about the CSs and mediator required to accomplish a emergent behavior.

Emergency service SoS

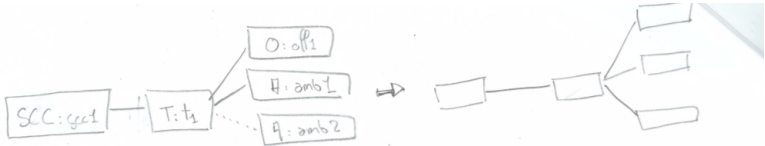
Mission : preserve human life and material



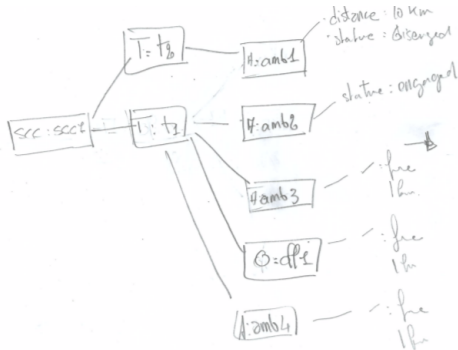
Architectural pattern



Maintain architectural patterns



Architectural pattern evolutions



Patterns for reconfiguration

Approach :

- use pattern approach to formalize a set of best practice to assist reconfiguration
- based on dedicated language (SoSADL), describe SoS architecture pattern architectural taking into account SoS characteristics
- express a set of reconfiguration operations associate to this architectural pattern which can express for instance :when, how, for which to add a new CS.

- the choice of reconfiguration' operations in order to instantiate or reinstanciate the architectural pattern

Challenge and Futur Work

Challenge :

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Futur Work :

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