Adding Reliability Properties to Services' Coordinations Using A-Policies *

HADAS
HETEROGENEOUS AUTONOMOUS DISTRIBUTED DATA SERVICES

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PROBLEM STATEMENT

Current solutions address reliability properties by *weaving the code* implementing the properties with the code of the services coordination.

❖ Evolution and maintenance of coordinations are complex!
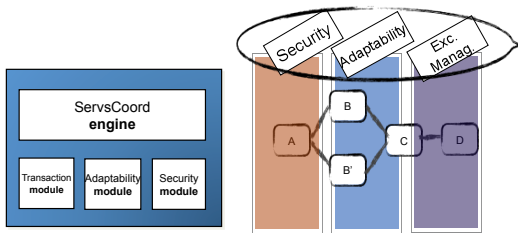
OBJECTIVE OF THE WORK

1. Express reliability properties independently of a services' coordination.

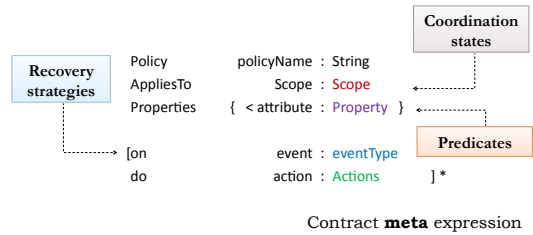2. Verify and ensures these properties during the execution of the coordination (*separation of concerns*)
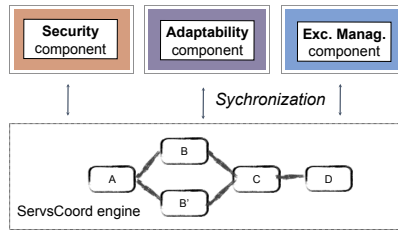
APPROACH BASED ON A-POLICIES

An A-Policy adds a *reliability property* to a coordination by monitoring its behavior and executing strategies when a set of conditions are verified.
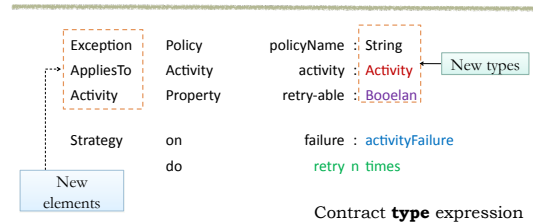

Property violation
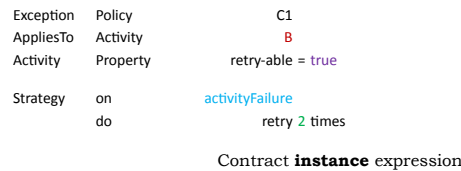
Contract recovery strategy
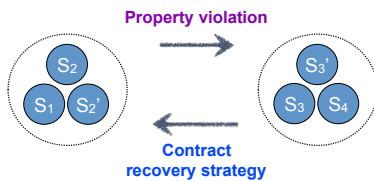
A-POLICY EVALUATOR

A-POLICY LANGUAGE

A-Policy specialization

Contract **meta** expression

Contract **type** expression

```
Exception    Policy       C1
AppliesTo     Activity      B
Activity      Property      retry-able = true

Strategy      on           activityFailure
              do              retry 2 times
```

Contract **instance** expression
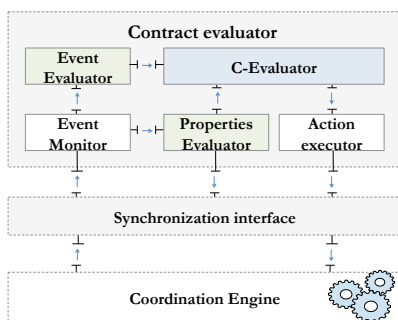
PUBLICATIONS

o Adding non-functional properties to applications based on services using contracts. **PhD Workshop of ENC'08**

o Securely coordinating services using contracts. **SyMoS Workshop of ENC'09**

o Unmarrying Non-Functional Properties and Services Coordination Using Contracts. **MOSE Workshop of CIKM'09**

o Construire des applications fiables à base de services mobiles. **UBIMOB'08**

o Non-Functional Properties and Services Coordination Using Contracts. **IDEAS'09**

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