LEVERAGING CONFORMANCE CHECKING TECHNIQUES FOR MULTI-CLOUD SLA COMPLIANCE

TELECOM SudParis
IP PARIS

s@movar

Institut Mines-Télécom

Authors

Jeremy MECHOUCHE
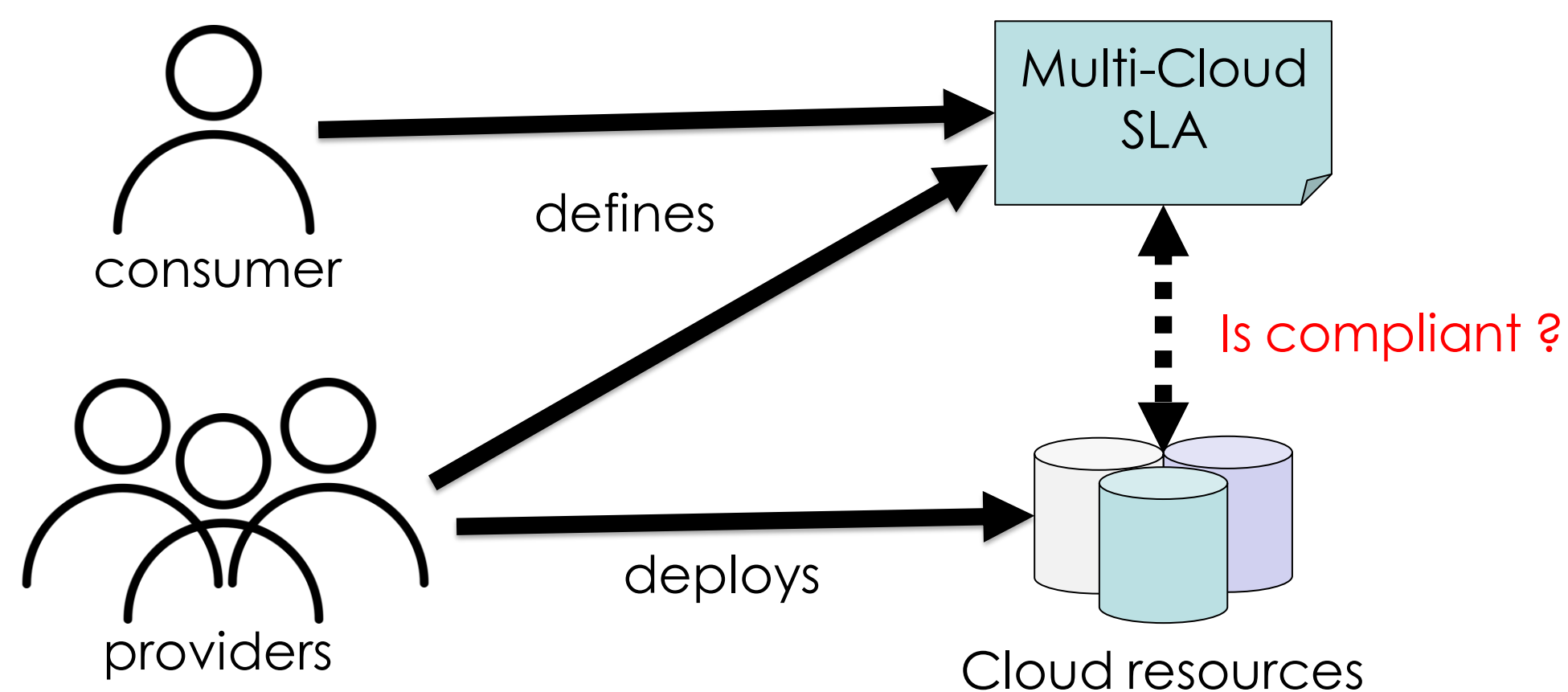
Roua Touihri

Mohamed SELLAMI

Walid GAALOUL

Partners

devoteam

## CONTEXT & PROBLEMS

ENRICHED MULTI-CLOUD SLA

- Managing SLAs in a Multi-Cloud Context

- Ensuring that SLOs and associated elasticity mechanisms are compliant

- Verifying compliance is complex due to :
  - Heterogeneous Providers/Services
  - Scattered event log data sources

PROPOSED METHOD

AN APPLICATION OF PROCESS MINING

- Proposing to use Conformance Checking process mining technique to compare process model and event logs
- Preprocessing event logs to create a comparable model
- Comparing and making event logs comparable for use in our context
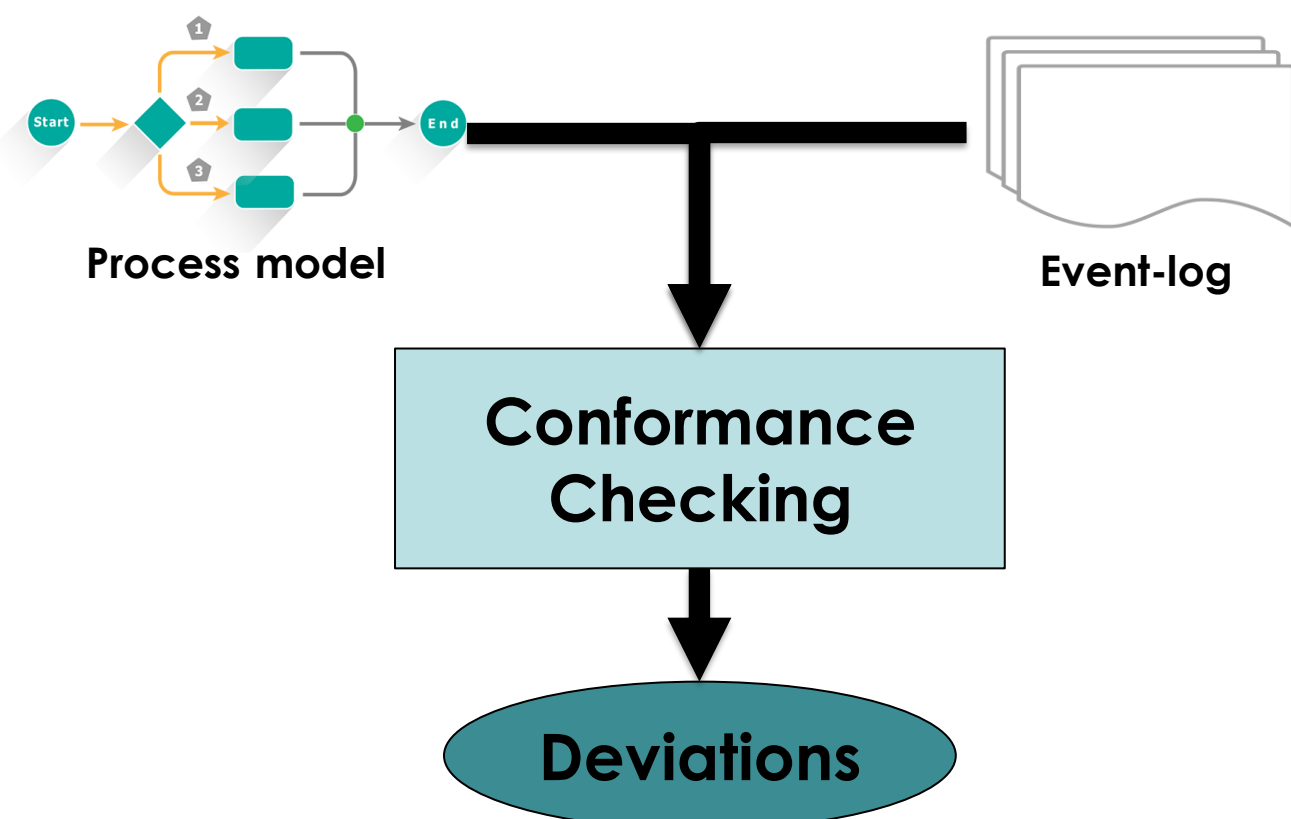
PROPOSED APPROACH

LOG PREPARATION

The approach consists of three elements:

1. **Annotation** :
   Annotate the **event-log** with model references using **Domain-Knowledge**

2. **Abstraction** :
   Identify a model that describes the execution of a process depicted in an annotated event log based on **patterns** that we define

3. **Checker** :
   Compare the identified model in annotated logs to the defined model for **Multi-Cloud SLA** based on a conformance checking technique to identify deviations.
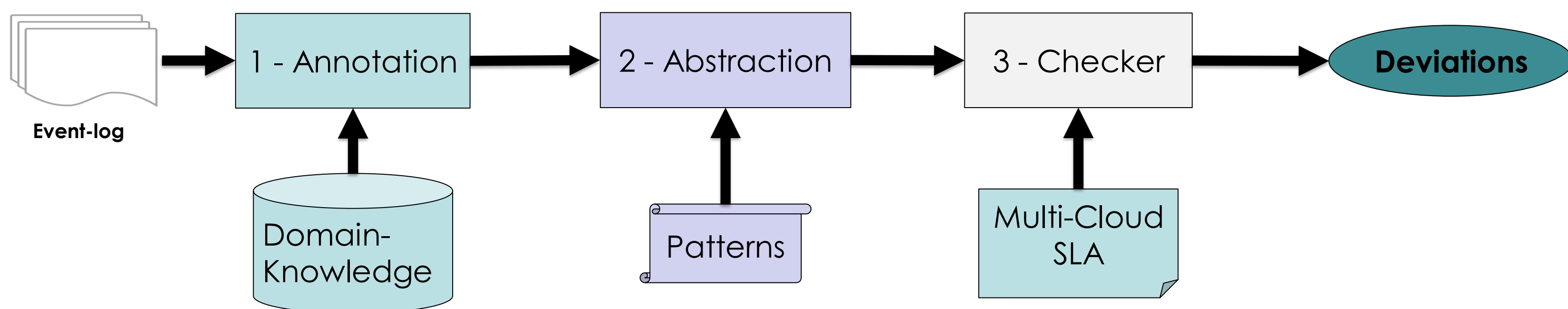
DEVIATION EXAMPLE

- Deviation discovered such as 2 undefined instances deployed

Defined	Discovered
S1 {instances = 2}	S1 {instances = 2}
>>	T1 {E={cpu>=80%,60s}, A={scale-out,2}}
>>	S2 {instances = 4}

FUTURE WORKS

- Integrate process enhancement approach to propose correction to identified deviations

- Study the synchronization of elasticity mechanisms across multiple cloud providers

- Extend the conformance checking approach to real-time scenarios for operational support

Journée Doctorans Samovar

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