The ENTICE Approach to Decompose Monolithic Services into Microservices

Alexis COUVREUR
Jérémy JUNAC
Julien LEMAIRE

Université Nice Sophia Antipolis

POLYTECH® NICE-SOPHIA

22/10/2018

Context & research challenge

Context

- Cloud computing widely used to host services
- Most are monoliths => huge VMs, large portions left unused
- Microservices help producing lightweight and independent services

The challenge

Bring a methodology for decomposing monolithic services to several microservices.

The ENTICE methodology and its weaknesses

ENTICE Project

- dEcentralized repositories
- for traNsparent
- and efficienT vIrtual maChine opErations

- IaaS backbone
- Dynamic resource allocation

ENTICE Methodology

- VMI synthesis

- VMI analysis

- Virtual Machine Management Templates (VMMTs)

ENTICE Research weaknesses

- Lack of concrete results
- Assumptions

Approach analysis

Pros

- Lighter images
- Less complex service and easier to optimize
- Starting faster

Cons

- Constraining environment
- Service provider have to use ENTICE synthesis solution
- Slower deployment