

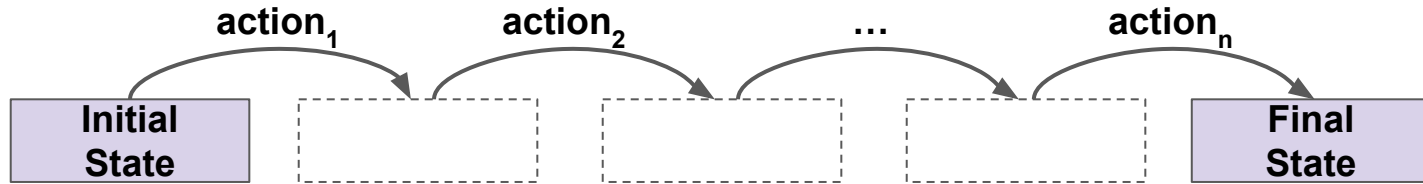
Session SyLA: Systèmes Logiciels Adaptables

Journées d'équipe LMV

Jolan Philippe, Mohamed Haady Tiemtore, Oliva Proust



Systèmes Logiciels Adaptables & Reconfiguration



Including :

- Languages
- Engines
- Systems

Challenges :

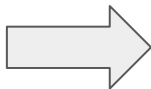
- Efficiency
- Decentralization
- Safety



Contexte : SyLA au GDR GPL



GT YODA



GT SyLA



**trustworthY and Optimal
Dynamic Adaptation**



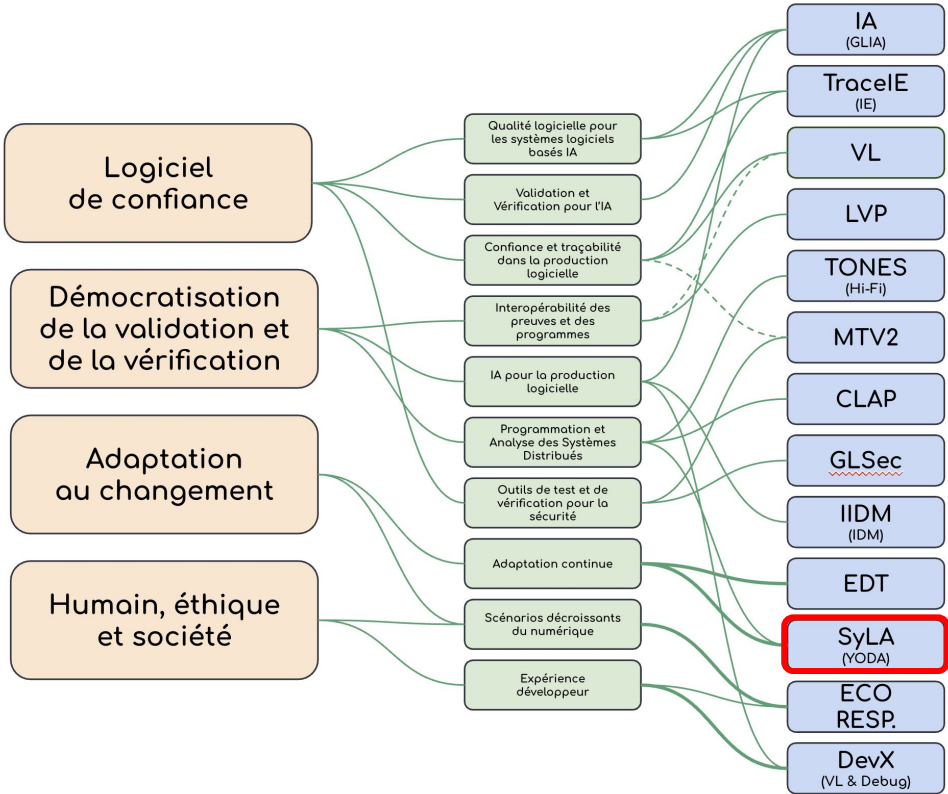
Donner des garanties
de reconfiguration

**Systèmes Logiciels
Adaptatifs**



Notamment sur des
systèmes autonomes

Renouvellement du GDR pour 2026-2030



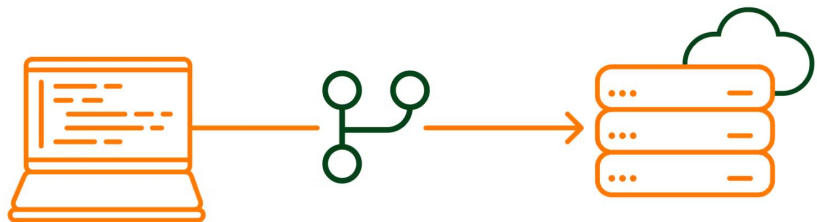
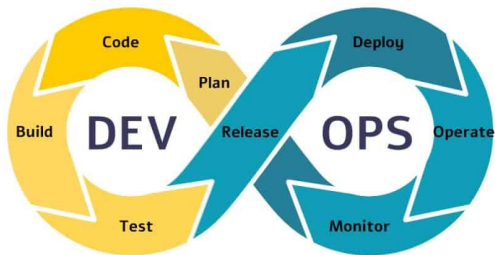
Infrastructure-as-code

Infrastructure

- Infrastructure refers to the software, platform, or hardware that delivers or deploys applications

Infrastructure-as-code

- Infrastructure deployment and management as programs or codes



Infrastructure-as-code

Infrastructure Provisioning

- Network infrastructure
- Physical nodes
- Virtual Machines
- Credentials and Security

App installation & Configuration management

- Node and machine setup
- Install apps and deps
- Configure apps
- Integrate apps

Orchestration & Lifecycle management

- Upgrades
- Backup and recovery
- Monitoring and observing
- Scaling

Dans un restaurant

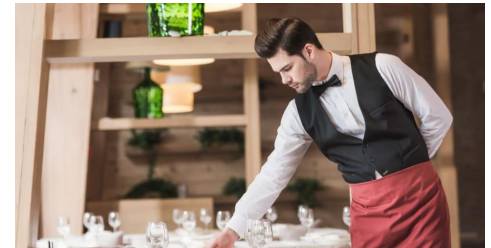
Infrastructure Provisioning



App installation & Configuration management



Orchestration & Lifecycle management



Exemple d'outils

Infrastructure Provisioning



CloudFormation



Google Cloud Platform



HEAT



openTOSCA



JUJU



Pulumi



HashiCorp

Terraform

App installation & Configuration management



ANSIBLE



CHEF



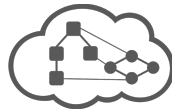
puppet



CFEngine



JUJU



openTOSCA

Orchestration & Lifecycle management



JUJU



kubernetes



HashiCorp

Nomad



openTOSCA

Exemple d'outils

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JUJU



kubernetes



HashiCorp
Nomad



openTOSCA

Programme de la session

- Présentation session et contexte sur la reconfiguration et les systèmes adaptables;
- Formalization a Subset of the Configuration Language Puppet - **Mohamed Haady Tiemtore**
- Verifying reconfiguration: ongoing and future work - **Jolan Philippe**
- ANR ForCoala - **Frédéric Loulergue**
- Présentation - **Olivia Proust**
- Discussion