**Infrastructure of Cooperative and Incremental Verification Systems**

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**Motivation**

Running verification tools in the local environment poses several challenges:

- conflicting operating systems
- missing packages
- incompatible system configuration

$: Requirement: Decouple tool and local environment.

Modern workflows enable automatic building and testing. With a decoupled approach integration of software verification is the next step.


**Concept: CoVeriTeam Service**

CoVeriTeam Service [2] is a web service building on CoVeriTeam [1]. It provides a **decoupled** and **machine friendly** interface to formal methods tools.

**Building on top of CoVeriTeam Service**

CoVeriTeam Service serves as building block for applications incorporating formal verification.

**Incremental Verification**

**Service for IV**

- get stored information
- prepare arguments
- call CoVeriTeam Service
- store result information

**CoVeriTeam Service**

- download incremental verifier
- execute verifier

**Service for IV**

- prepare incremental verification task
- call incremental service instance
- parse service output

**CI**

- call CoVeriTeam Service
- use CPAchecker

**Example Workflow within a CI Pipeline**

**Current Project: Policies**

- formalize policies
- extend resource control in CoVeriTeam and Service
- automatically accept or reject execution plans

**Explore!**

**References**
