TOWARDS A SELF-FORENSICS PROPERTY IN THE ASSL TOOLSET

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BACKGROUND

Autonomic Computing (AC)

- applies the principles of self-regulation and complexity hiding to software and hardware;
- emphasizes the reduction of the workload needed to maintain complex systems by transforming them into self-managing autonomic systems.

ASSL Toolset

- A collection of tools to compile ASSL specifications into a framework
- General Intensional Programming System (GIPSY)
- To compile and evaluate JOOIP and Forensic Lucid
- GEER Pool
- ASSL Toolset comprises

GEER

- Forensic
- Encoder

SEARCH

- Tracing

BACKGROUND

Evaluation and
crimes

- System
- GEER PRISM

SYSTEM

- ASSL Language

ASSL SELF-FORENSICS EXAMPLE MODEL

Implement the self-forensics autonomic property for autonomic software systems for self-management and evidence gathering, analysis, reaction, and event reconstruction of incident handling.

ASSL Tiers

- AS tier - forms a general and global AS perspective, where we define the general system rules in terms of service-level objectives (SLO) and self-management policies, architecture topology, and global actions, events, and metrics applied in these rules.
- AS Interaction Protocol (ASIP) tier - forms a communication protocol perspective, where we define the means of communication between AEs.
- AE Interaction Protocol (AEIP) tier - forms a unit-level perspective, where we define interacting sets of individual AEs with their own behavior.