

Klever - Feature #9246

Get ready rule specifications for verification of C programs

08/22/2018 04:46 PM - Evgeny Novikov

Status:	Closed	Start date:	08/22/2018
Priority:	Urgent	Due date:	
Assignee:	Evgeny Novikov	% Done:	0%
Category:	Rule specifications	Estimated time:	0.00 hour
Target version:	2.0		
Published in build:			

Description

Regarding rule specifications and their base we just kept in mind an ability to verify C programs in addition to Linux kernel loadable modules. Since Klever [2.0](#) this ability should be supported that requires some changes. Among others they are:

- Place rule specifications (they include all other specifications) into top-level directory *specifications*. Move file *rule specs.json* there and rename it to *base.json*.
- Move files *ldv-test.** from the top-level directory of the main verification job to appropriate place (likely to several jobs which need this).
- Move *generic:memory* to *linux:memory safety*. The corresponding rule specification does too Linux specific and it can not be used for anything else.
- Ditto move *sync:race* to *linux:concurrency safety*.
- Move out all Linux specifics from *verifier/**. Partially this was already done by Alexey Polushkin, but this breaks Linux stuff.
- Get rid of two redundant parameters from *job.json*, namely *rule specifications DB* and *verifier profiles DB*.
- Rename parameter *rule specifications* to *requirements*.
- Support a requirements tree within former *rule specifications.json* to arrange them nicely, e.g.:

```
"linux": {
  "decsription": "...", # Common description for all underlying requirements.
  "template": "...", # Common template for all underlying requirements.
  ...
  "concurrency safety": {...},
  ...
  "kernel": {
    ...
    "locking": {
      "mutex": {...},
      "rwlock": {...},
      "spinlock": {...}
    },
    ...
  },
  ...
  "memory safety": {...},
  ...
}
```

- Fix everything that rely upon changed things, e.g. environment model specifications, preset marks, tests and of course scripts.

If somebody has some notes, it is better to say them ASAP as starting from tomorrow everything mentioned will be implemented.

History

#1 - 08/23/2018 02:55 PM - Evgeny Novikov

Ilja Zakharov suggested to move all common directories and files like *specifications* and *verifier profiles.json* from specific preset job directories into the root preset directory. In addition, I suggest to organize preset jobs like requirements. So after all we will have something like:

```
jobs
  preset
```

```
apache
busybox
linux
  3.14
    testing environment model specs
    testing rule specs
    validation
requirements
testing verifiers
verifier profiles.json
```

#2 - 08/27/2018 04:24 PM - Ilja Zakharov

- *Status changed from New to Resolved*

Implemented in Klever 2.0 branch. As the whole branch contains dramatic changes, this feature can also somewhere be not working.

#3 - 10/25/2018 09:18 PM - Evgeny Novikov

- *Status changed from Resolved to Closed*

Branch *klever-2.0* passed all tests and I merged it to master in [72be796e3](#) marked as *v2.0rc1*.