

Klever - Feature #8595

Add a guard to restrict calling instances related to different containers at registration

11/24/2017 05:39 PM - Ilja Zakharov

Status:	Closed	Start date:	11/24/2017
Priority:	Urgent	Due date:	
Assignee:	Ilja Zakharov	% Done:	0%
Category:	Environment model	Estimated time:	0.00 hour
Target version:	2.0		
Published in build:			
Description			
There is a nondeterministic registration of all available instances at registration function models. For the first step it is necessary to add an additional guard to prevent registrations of such unrelavant callbacks.			
Related issues:			
Related to Klever - Bug #8581: Simplify generation of new threads at registra...		New	11/24/2017

History

#1 - 11/28/2017 06:37 PM - Evgeny Novikov

- File job.json added

- Status changed from New to Open

Initial implementation was done in branch *8595-add-guards*. But it turned out that it doesn't operate well with containers defined in various files. I attached an example of a job where I got the following error in Weaver caused by the incorrect environment model:

```
../vtg/drivers/tty/cyclades.ko4ba1bb20240b/linux:empty/weaver/.tmp_pty.c.aux: In function 'ldv_dispatch_insmo
d_deregister_32_2':
../vtg/drivers/tty/cyclades.ko4ba1bb20240b/linux:empty/weaver/.tmp_pty.c.aux:197:38: warning: unused variable
'cf_arg_17' [-Wunused-variable]
../vtg/drivers/tty/cyclades.ko4ba1bb20240b/linux:empty/weaver/.tmp_pty.c.aux: In function 'ldv_dispatch_regist
er_20_1':
../vtg/drivers/tty/cyclades.ko4ba1bb20240b/linux:empty/weaver/.tmp_pty.c.aux:220:31: error: 'console_fops' und
eclared (first use in this function)
Raise exception:
Traceback (most recent call last):
  File "/home/debian/klever/core/core/components.py", line 413, in run
    self.main()
  File "/home/debian/klever/core/core/components.py", line 320, in callbacks_caller
    ret = attr(*args, **kwargs)
  File "/home/debian/klever/core/core/vtg/weaver/__init__.py", line 116, in weave
    filter_func=core.vtg.utils.CIFErrorFilter())
  File "/home/debian/klever/core/core/utils.py", line 169, in execute
    raise CommandError("{} failed".format(cmd))
core.utils.CommandError: "cif" failed
```

#2 - 11/28/2017 06:37 PM - Evgeny Novikov

BTW, all branches with EMG improvements and fixes are incorporated within branch *emg-improvements*.

#3 - 12/04/2017 03:31 PM - Evgeny Novikov

The mentioned issue was fixed in [6600e2f](#). But there is another one. Namely, EMG generates incorrect guards at least for interrupt handlers. Instead of comparing argument values passed when registering corresponding interrupt handlers with those handlers, it compares them with EMG wrappers.

#4 - 12/04/2017 03:33 PM - Evgeny Novikov

Evgeny Novikov wrote:

The mentioned issue was fixed in [6600e2f](#). But there is another one. Namely, EMG generates incorrect guards at least for interrupt handlers. Instead of comparing argument values passed when registering corresponding interrupt handlers with those handlers, it compares them with EMG wrappers.

I am wondering why existing tests don't reveal this since it seems that such the guards prevent invocation of interrupt handlers at all.

#5 - 12/04/2017 04:07 PM - Evgeny Novikov

Evgeny Novikov wrote:

The mentioned issue was fixed in [6600e2f](#). But there is another one. Namely, EMG generates incorrect guards at least for interrupt handlers. Instead of comparing argument values passed when registering corresponding interrupt handlers with those handlers, it compares them with EMG wrappers.

You can find an example by checking *drivers/tty/cyclades.ko* of Linux 3.14.

#6 - 12/05/2017 01:27 PM - Evgeny Novikov

One more fix in [9e43980](#) perhaps could help to invoke interrupt handlers. But unfortunately it sometimes even prevents invocation of *pci_driver* callbacks and perhaps callbacks of some other categories. For instance, this is the case for already mentioned module *drivers/tty/cyclades.ko* of Linux 3.14.

It seems that now EMG generates too many redundant aliases even for particular known callbacks defined and referred just in corresponding C files.

#7 - 12/05/2017 04:08 PM - Evgeny Novikov

- *Status changed from Open to Resolved*

Looks like all issues, some of which were caused by imprecise analysis by CPAchecker, were fixed in [98ae53a](#).

#8 - 12/10/2017 03:52 PM - Evgeny Novikov

- File *job.json* added
- File *cyclades.json* added
- Status changed from *Resolved* to *Open*

It seems that the suggested implementation does not support forbidding invoking callbacks. For instance, for the attached files I got the following error:

```
Raise exception:
Traceback (most recent call last):
  File "/home/debian/klever/core/core/components.py", line 413, in run
    self.main()
  File "/home/debian/klever/core/core/components.py", line 320, in callbacks_caller
    ret = attr(*args, **kwargs)
  File "/home/debian/klever/core/core/vtg/emg/__init__.py", line 113, in generate_environment
    generated_code)
  File "/home/debian/klever/core/core/vtg/emg/translator/__init__.py", line 38, in translate_intermediate_mode
1
    instance_maps, generated_code)
  File "/home/debian/klever/core/core/vtg/emg/translator/instances.py", line 71, in yield_instances
    processes = _fulfill_label_maps(logger, conf, analysis, [process], process, instance_maps, instances_left)
  File "/home/debian/klever/core/core/vtg/emg/translator/instances.py", line 185, in _fulfill_label_maps
    cached_map)
  File "/home/debian/klever/core/core/vtg/emg/translator/instances.py", line 440, in _split_into_instances
    instance_map[expression][interface] = value_to_implementation[smap[expression][interface]]
KeyError: 'ldv_emg_alias_tty_ldiscs_seq_ops_2'
```

#9 - 12/14/2017 02:09 PM - Evgeny Novikov

- Status changed from *Open* to *Resolved*

Eventually fixed in branch *emg-improvements*.

#10 - 12/26/2017 06:25 PM - Evgeny Novikov

- Parent task deleted (#8581)

#11 - 12/26/2017 06:25 PM - Evgeny Novikov

- Related to Bug #8581: Simplify generation of new threads at registrations for instances added

#12 - 03/05/2018 12:33 PM - Ilja Zakharov

Moved to 8066-abstract-translator.

#13 - 10/25/2018 09:17 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*.

Files

job.json	969 Bytes	11/28/2017	Evgeny Novikov
job.json	19 KB	12/10/2017	Evgeny Novikov
cyclades.json	30.5 KB	12/10/2017	Evgeny Novikov