

RE: Question about TASTE concurrency view

Miguel Muñoz Arancón

mar 21/05/2019 10:23

Para: Pierre Dissaux <pierre.dissaux@ellidiss.com>; Maxime.Perrotin@esa.int <Maxime.Perrotin@esa.int>;
Cc: thanassis.tsiodras@esa.int <thanassis.tsiodras@esa.int>; Miguel Muñoz Arancón <mmunoz@gmv.com>;

Dear Maxime and Pierre,

Thanks for your quick assessment of this issue. We don't need the issue to be fixed, I was just looking at the CV functionality as a possible point to discuss in the ESROCOS workshop that we have next week in ESTEC as part of ASTRA 2019.

Best regards,
Miguel

From: Pierre Dissaux [mailto:pierre.dissaux@ellidiss.com]
Sent: 21 May 2019 10:20
To: Maxime.Perrotin@esa.int
Cc: Miguel Muñoz Arancón <mmunoz@gmv.com>; thanassis.tsiodras@esa.int
Subject: Re: Question about TASTE concurrency view

Hi Maxime,

This highlights once again that the lack documentation of the VT rules becomes a real issue. It would be the first step before going further in terms of timing analysis of CV models. I am ready to contribute to that but don't have all the keys.

Miguel,
if you have an short term need for that, we can check how what we did for ERGO can help

Pierre

From: Maxime.Perrotin@esa.int
Sent: Tuesday, May 21, 2019 8:45 AM
To: Pierre Dissaux
Cc: Miguel Muñoz Arancón ; thanassis.tsiodras@esa.int
Subject: Re: Question about TASTE concurrency view

Dear both,

During VT, there is a processing that replaces the WCET of an interface with the highest WCET of all interfaces of that function (Pi and Ris). This seems buggy to me, but since I am not the author of this part of the VT I need to check a bit more in details. The 10 ms comes from a RI that is added during the VT for internal processing. This value of 10 ms seems random to me. Unless that's urgent that will be fixed in the upcoming replacement tool for Buildsupport, within a few months. Note that we made very few tests with Cheddar/Marzhin and this feature should in any case be considered as proof-of-concept only.

Kind regards
Maxime

ESA - European Space Agency

Maxime Perrotin

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From: Pierre Dissaux <pierre.dissaux@ellidiss.com>
To: Miguel Muñoz Arancón <mmunoz@gmv.com>, <Maxime.Perrotin@esa.int>
Cc: <thanassis.tsiodras@esa.int>
Date: 20/05/2019 19:06
Subject: Re: Question about TASTE concurrency view

Hi Miguel,

Yes, indeed there is a problem with the generated concurrency view.
In the interface view, the WCET is well saved:

```
SUBPROGRAM IMPLEMENTATION PI_step.others
PROPERTIES
  Compute_Execution_Time => 0 ms .. 5 ms;
END PI_step.others;
```

However in the cv generated by build support, we have:

```
THREAD IMPLEMENTATION a_a.others
PROPERTIES
  Initialize_Entrypoint_Source_Text => "a_wrappers.C_Init_a";
  Compute_Entrypoint_Source_Text => "a_wrappers.step";
  Dispatch_Protocol      => Periodic;
  Period                 => 10 ms;
  Dispatch_Offset        => 0 ms;
  Compute_Execution_Time => 0 ms .. 10 ms;
  Stack_Size             => 100 KByte;
  Priority                => 10;
END a_a.others;
```

If you use the alternate CV generator we did for ERGO, it works.

So, Maxime, I believe the ball is in your court.

Best regards

Pierre

From: Maxime.Perrotin@esa.int
Sent: Monday, May 20, 2019 5:44 PM
To: Miguel Muñoz Arancón
Cc: thanassis.tsiodras@esa.int; Pierre Dissaux
Subject: Re: Question about TASTE concurrency view

Dear Miguel,

I am sorry I fear I cannot be of much help on this one. I put Pierre in CC, he is the one who can explain to you how to use the Cheddar/Marzhin technology in TASTE.

Pierre could you please have a look at the questions from Miguel and advise?

Many thanks!

Kind regards
Maxime

ESA - European Space Agency**Maxime Perrotin**

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From: Miguel Muñoz Arancón <mmunoz@gmv.com>
To: "Maxime.Perrotin@esa.int" <Maxime.Perrotin@esa.int>
Cc: "thanassis.tsiodras@esa.int" <thanassis.tsiodras@esa.int>, Miguel Muñoz Arancón <mmunoz@gmv.com>
Date: 20/05/2019 17:21
Subject: Question about TASTE concurrency view

Dear Maxime,

I'm trying a simple example in TASTE to play with the Concurrency View, and I don't get the expected behaviour. I define a single function A with a cyclic interface with period 10ms and WCET 5ms. But when I simulate the execution, in some instance the execution time is longer than the configured WCET. Do you know what I could be missing?

Interface view:

Deployment view:

Concurrency view properties:

Unexpected execution time (it occurs several times, showing just one here):

Thanks in advance,
Miguel

Miguel Muñoz Arancón

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