



Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>

Suppressing the wrfout from parent domains 1 and 2

14 messages

Saiprasanth Bhalachandran - NOAA Affiliate

Thu, Jan 28, 2016 at 4:51

<saiprasanth.bhalachandran@noaa.gov>

PM

To: Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>, Thiago Quirino - NOAA Federal <thiago.quirino@noaa.gov>

Hi Christina and Thiago,

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Warm Regards,
Sai Prasanth
Doctoral student,
Department of Earth, Atmospheric and Planetary Sciences
Purdue University

Saiprasanth Bhalachandran - NOAA Affiliate

Fri, Jan 29, 2016 at 12:53

<saiprasanth.bhalachandran@noaa.gov>

PM

To: Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>, Thiago Quirino - NOAA Federal <thiago.quirino@noaa.gov>

Hi Christina/ Thiago,

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To: Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov>

Cc: Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>, Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>

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Cc: Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov>, Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>

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What aspect of the model is running slowly? Is it the I/O rate or the computation? You can find that out by looking for "Timing for Writing" in the output files.

Sincerely,
Sam Trahan

On Fri, Jan 29, 2016 at 3:44 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Hi Sam,

Even in the wrfdiag files, the output is created only for about 28 hours with the Purdue clusters in 4 hours (using the same 464 processors). I want to be able to run for the entire 126 hours and hence, I am willing to skimp on the outputs of domains 1 and 2, so that I can obtain the output completely for domain 3 atleast.

Sai

On Fri, Jan 29, 2016 at 3:18 PM, Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov> wrote:

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Which fields do you need? There is hourly data for some 2D fields in the wrfdiag files.

Sincerely,
Sam Trahan

On Fri, Jan 29, 2016 at 3:12 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Hi Christina,

Thank you for getting back to me. As I mentioned, I only have 4 hours of simulation time. And I need outputs at a frequency of an hour or 30 minutes, however, it is possible to complete 126 hours of simulation time only if I give the 3 hour option (after 9 hours). So, I need to either suppress the domain output for the two larger domains or I need the interval to be large enough so that my output for the inner domain for the entire period of time is not compromised.

Thank you,
Sai

On Fri, Jan 29, 2016 at 2:58 PM, Christina Holt - NOAA Affiliate <christina.holt@noaa.gov> wrote:

Hi Sai,

I apologize that I led you astray in the tutorial. I believe that you will be able to suppress the output without dealing with the registry. In `ush/hwrf_expt.py`, the lines that begin with `"wrf.add_output"` contain a `"step"` which is specified in seconds. This will change the output interval for all domains.

It becomes a little more involved if you would like to output each domain at different intervals.

Christina

On Fri, Jan 29, 2016 at 12:56 PM, Thiago Quirino - NOAA Federal <thiago.quirino@noaa.gov> wrote:

Hi, Sai. I am forwarding your question to Samuel Trahan as well. Both Sam and Christina are true experts on the system.

Best,
Thiago.

On Fri, Jan 29, 2016 at 2:53 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Hi Christina/ Thiago,

If there is a way to directly specify history interval in the `forecast_product` section instead of modifying the registry, that'd be great too?

Thank you,
Sai

On Thu, Jan 28, 2016 at 6:51 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Hi Christina and Thiago,

Due to limitations in my computing resources, I wish to suppress the wrf output from domains 1 and 2 and hold on to the wrfout files only in the inner most domain. Since I don't have the option of editing the `namelist.input` and modifying the domain specific history interval, I was wondering as to what the best way to do this maybe.

I see the forecast products section in `hwrf.conf` but I don't see how I can modify the history interval for domains 1 and 2 alone.

Christina, you had mentioned in the DTC tutorial that I might have to modify the registry, but I am not sure as to what to modify exactly. Can I receive more specific instructions please?

Thank you,

Sai

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Warm Regards,
Sai Prasanth
Doctoral student,
Department of Earth, Atmospheric and Planetary Sciences
Purdue University

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Purdue University

<rsl.out.0000>

Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>

Mon, Feb 1, 2016 at 9:22 PM

To: Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov>

Cc: Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>

Sai,

You never sent me the rsl.out.000 file. It appears you sent it to other people, but not to me.

Sincerely,
Sam Trahan

On Mon, Feb 1, 2016 at 7:58 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Christina and Sam,
Any updates on this?

Sincerely,
Sai

On Jan 29, 2016, at 5:25 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Sam,
Please find my rsl.out file attached. I checked the timings and I am unable to pinpoint as to which component was taking maximum time.

Sincerely,
Sai

On Fri, Jan 29, 2016 at 4:55 PM, Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov> wrote:

Sai,

Sorry, I was referring to the \$WORKhwrfl/runwrf/rsl.out.0000 file. There are lines of this format:

```
Timing for Writing wrfout_d03_2016-01-16_15_00_00 for domain      3:  0.38388
elapsed seconds
Timing for Writing          wrfdiag_d02 for domain      2:  0.16954 elapsed
seconds
```

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Purdue University
<rs1.out.0000>

Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>

Mon, Feb 1, 2016 at 10:20 PM

To: Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov>, Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>, Thiago Quirino - NOAA Federal <thiago.quirino@noaa.gov>

Turning off output files will not help you. The total time spent on outputting files is 85 seconds. Time spent on computation is 4190.19 seconds. However, the "timing for main" will occasionally be very long on timesteps where that makes no sense. Here are a few of the longer ones:

Timing for main: time 2013-11-24_04:50:15 on domain 1: 6.19342 elapsed seconds
Timing for main: time 2013-11-24_06:24:45 on domain 1: 6.25550 elapsed seconds
Timing for main: time 2013-11-23_06:06:00 on domain 2: 9.47266 elapsed seconds
Timing for main: time 2013-11-23_06:06:11 on domain 1: 10.39728 elapsed seconds
Timing for main: time 2013-11-23_06:00:11 on domain 2: 18.78374 elapsed seconds
Timing for main: time 2013-11-23_06:00:33 on domain 1: 32.67186 elapsed seconds

Such large runtime variations are usually due to an external influence. Make sure you are running in exclusive mode. If your jobs share nodes with other jobs, it can cause extreme slowness. Also, contact sysadmins for help

tracking down any possible system issues, such as loose infiniband cables or nodes with over-active system processes.

Lastly, you can also try increasing the wallclock limit or the number of cores.

Sincerely,
Sam Trahan

On Mon, Feb 1, 2016 at 11:51 PM, Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov> wrote:

Sam,
Please find the rsl.out file attached.

Thank you,
Sai

Begin forwarded message:

From: Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov>
Date: January 29, 2016 at 5:25:58 PM EST
To: Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>, Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>
Subject: Fwd: Suppressing the wrfout from parent domains 1 and 2

Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>

Mon, Feb 8, 2016 at 4:48 PM

To: Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>

Cc: Saiprasanth Bhalachandran - NOAA Affiliate <saiprasanth.bhalachandran@noaa.gov>, Thiago Quirino - NOAA Federal <thiago.quirino@noaa.gov>

Sai,

I wanted to touch base to see if you ever found an appropriate solution for speeding up your job.

Christina

On Mon, Feb 1, 2016 at 10:20 PM, Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov> wrote:

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Saiprasanth Bhalachandran - NOAA Affiliate

Tue, Feb 9, 2016 at 11:51 AM

<saiprasanth.bhalachandran@noaa.gov>

To: Christina Holt - NOAA Affiliate <christina.holt@noaa.gov>

Cc: Samuel Trahan - NOAA Affiliate <samuel.trahan@noaa.gov>, Thiago Quirino - NOAA Federal <thiago.quirino@noaa.gov>

Hi Christina,

Unfortunately, my system administrators haven't been able to fix the time taken for my job. I am at a dead end now. I'm also working with Thiago and Russell to see the current status of my Jet account.

Thiago : Please, can you help?

But if you know any other solution that can work with the system at its present status (4 hour wall time limit) - Kindly let me know. Right now, I am specifying a 29 nodes, 16 ppn (max in this cluster).

Thank you,
Sai

On Feb 8, 2016, at 6:48 PM, Christina Holt - NOAA Affiliate <christina.holt@noaa.gov> wrote:

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