

This ticket has been Closed | 5 months ago [Reply](#)

#211 Database reports timezone setting not working

Raveen Vijendren

R , reported 9 months ago

When generating reports from OpenNMS Database reports of Grafana Dashboards, two issues were noticed:

1) Changing the report timezone had no effect on the results on the graphs in the reports; the data view remained the same. This used to work correctly in the previous versions of OpenNMS where the graphs would change to follow the selected time zone. See attached PDF reports taken in three timezones.

2) Grafana data does not coincide with the report data due to timezone issues. It only agrees in CDT timezone as the OpenNMS core and UI servers are set to CDT as the OS's timezone.

OpenNMS Support

O [csaid 9 months ago](#)
Cc: [Rhin-wai.chen@exxonmobil.com](#), [sean.torres1@exxonmobil.com](#)

Hello Raveen,

It looks like you've found a bug.

I started a test environment with Horizon 26.2.1 + Helm 5.0.3 + Grafana 6.7.4, and I could reproduce the problem. What I did was simple, create a simple dashboard, then set the timezone to GMT (like your example). Then, create the report in OpenNMS using multiple timezones, and all the generated PDFs are based on GMT (the timezone from the Grafana dashboard, not the one chosen in the WebUI).

You said this was not the case on older versions. Do you remember exactly which combination of versions (OpenNMS+Helm+Grafana)? That can give the developers an idea about what changed between versions that could lead to this problem.

Once I understand where the problem could be, I'm going to create a JIRA issue for it, but keep in mind that code changes are required to have a solution for this.

Alejandro.

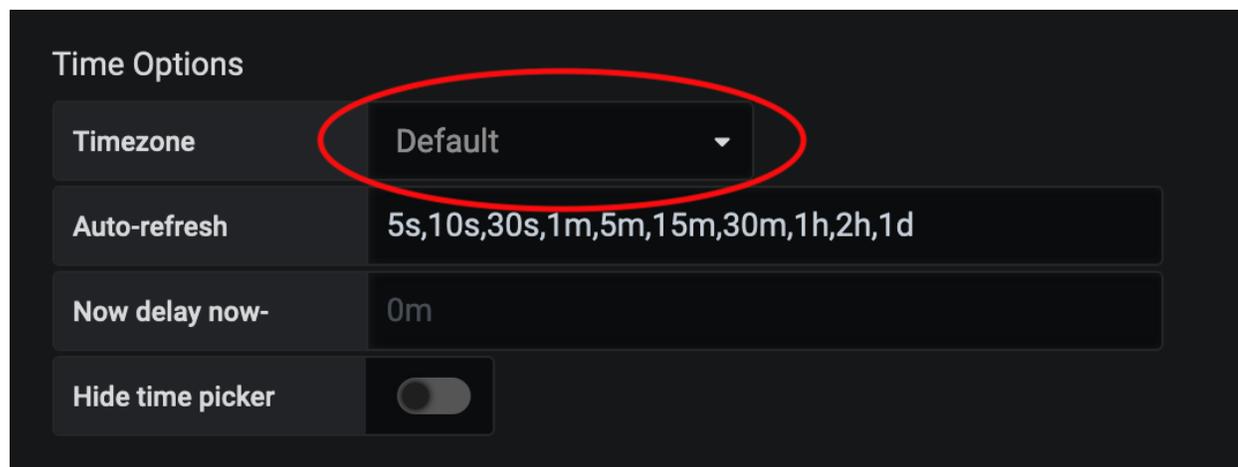
OpenNMS Support

O , said 9 months ago

Hello Raveen,

It turns out it is not a bug. You cannot configure the Grafana Dashboard to have UTC as the Timezone if your intention is to change the timezone when rendering images through its API (which is what OpenNMS used to build the PDF).

If I change it to "Default", everything works as expected.



Raveen Vijendren

R , said 9 months ago

Hi Alejandro,

It still doesn't work even when setting timezone to Default on the Grafana Dashboard.

Could i get into a Zoom call with you to show the settings?

Thanks.

OpenNMS Support

O , said 9 months ago

Hello Raveen,

Have you saved the dashboard prior to requesting the PDF generation in OpenNMS?

If so, could you please export the Dashboard in JSON and share it with me?

Alejandro.

Raveen Vijendren

R , said 9 months ago
Hi Alejandro,

Yes i have saved the dashboard prior to running the report generation.

Please see the attached JSON

OpenNMS Support

O , said 9 months ago
Hello Raveen,

Could you please confirm the exact version of OpenNMS, Helm, Grafana, and each additional Grafana plugin (besides Helm) installed on that environment?

Alejandro.

Raveen Vijendren

R , said 9 months ago
OpenNMS == Version: 26.1.0
Grafana == 6.7.3
OpenNMS Helm == 5.0.2

Additional plugins used :

Grafana pie chart plugin == 1.6.0

(link: <https://github.com/grafana/piechart-panel> (<https://github.com/grafana/piechart-panel>))

OpenNMS Support

O , said 9 months ago
Hello Raveen,

Thanks for the details.

I'm going to build a test environment with those versions as everything works as intended on a clean installation of Horizon 26.2.1 + Helm 5.0.3 + Grafana 6.7.4 without additional plugins, running on a CentOS 8 VM.

I'll let you know later how that goes.

Alejandro.

Raveen Vijendren

R , said 9 months ago

Our production environment is RHEL 7.8

The server time is set to CDT timezone (UTC - 5:00)

OpenNMS Support

O , said 9 months ago

Hello Raveen,

No problem, the VM I'm building is based on CentOS 7.

Is the timezone configured at the OS level? What's the output of the command `timedatectl`?

Are there any custom time-related settings at the JVM level or OpenNMS level?

Alejandro.

OpenNMS Support

O , said 9 months ago

Raveen,

There is another key element to keep in mind. Your local timezone, in other words, what your browser has configured, is what the WebUI is going to use to build the timestamps for the time-range on the report. So, you can choose the target timezone on which the dates will be displayed in the report, but the time range doesn't have to be consistent with that chosen timezone.

I verified that even with the same versions you're used.

I started collecting data a few minutes ago. That means I can see data in my timezone (America/New_York or EDT) between 12 PM and 1 PM. If I choose that same time range for today on the report but change the timezone to be Europe/Zurich (for instance), I can see the exact same graph I'm seeing on Grafana, but the time-range in the X-Axis is based on the chosen timezone, not the local one, even though the time range at the top of the report is based on my local time.

Perhaps that is what you say it is not working? I mean, it is confusing to me seeing the "correct" timespan on the graph, but the report shows the time on a different timezone, even though the correct timezone appears right after

the time-range in question.

OpenNMS Support

O , said 9 months ago

I'm attaching the report that I'm referencing to enhance my explanation.

Sean Torres

S , said 8 months ago

Hi Alejandro,

We have verified the grafana dashboard is set to default. The same graphs are generated at with the same hours over time regardless of timezone selected in the OpenNMS Database Reports UI.

To me "it looks like" the OpenNMS UI parameter is not being passed on to the report generation.

Thoughts?

Thanks,

Sean

OpenNMS Support

O ~~said 8 months ago~~
Cc: sean.torres1@exxonmobil.com

Hello Sean,

I made an extensive number of tests, and the only problem I found so far is the following (as I mentioned to Raveen on one of my earlier replies):

<https://issues.opennms.org/browse/NMS-12930> (<https://issues.opennms.org/browse/NMS-12930>).

If you want to see precisely the queries made against the Grafana ReST API to build an image, you can simply set the default log-level in grafana.yaml to debug. Then, inside grafana.log, you'll see messages like this:

For America/New_York:

```
t=2020-09-25T13:38:19-0400 lvl=info msg=Rendering logger=rendering renderer=phantomJS path="d-solo/vsJQy7KMk/opennms?"
```

```
panelId=2&from=1601046000000&to=1601053200000&width=1149&height=1572&timeout=30&theme=light&tz=UTC04%3A00"
```

For Europe/Berlin:

```
t=2020-09-25T13:39:40-0400 lvl=info msg=Rendering logger=rendering renderer=phantomJS path="d-solo/vsJQy7KMk/opennms?panelId=3&from=1601046000000&to=1601053200000&width=1149&height=1572&timeout=30&theme=light&tz=UTC"
```

That tells me that OpenNMS is passing the correct timezone to Grafana. The only scenario I found on which Grafana doesn't respect that is when having UTC configured inside the Dashboard. Of course, I'm using a default installation, with practically no configuration changes, and I invite you to try the same.

Alejandro.

Sean Torres

S , said 8 months ago
Hi Alejandro,

The config is very basic except for the SSO and DB portions, we are not setting any parameters related to rendering.

That said, if you look at the "to/from" variables then they represent "ms epoch" which is based on GMT. And the "tz" variable simply alters the x-axis rendering to fit with the parameter.

In that case, a solution is to take the "relative time" aka "timepicker" picked by the user, then take into account the "timezone" the user selected, convert it to "ms epoch" and use that to submit to grafana with the tz.

This as outline in your bug would couple the date picker and the timezone together to correct the issue. Probably this alone would allow for the fix without adjusting the Jasper reports.

Thoughts?

Sean

OpenNMS Support

O said 8 months ago
Cc: sean.torres1@exxonmobil.com

Hi Sean,

You're right; that's also how I think the time range selection should work, as the current solution is misleading.

For the rendering logging message, actually "info" should work, instead of "debug" (which is the default), so in theory, it should appear without modifying grafana.ini under the [log] section, unless it currently has a level of warn or greater. I just verified one more time, and I can see it.

As OpenNMS uses Grafana's ReST directly with an API Key, the proxy/SSO settings should not interfere if "localhost" is used. If it isn't, I still believe should not be a problem, but I'd have to configure something similar to be sure.

Alejandro.

OpenNMS Support

O [said 8 months ago](#)
Cc: Sean.Torres1@exxonmobil.com

Hello Raveen/Sean,

Besides NMS-12930, if there is another reproducible issue, please go ahead and create another one in JIRA.

For now, and because there has been no more input in over 10 days, I'm going to close the ticket. If there are more questions, feel free to reopen it or create a new one.

Alejandro.

Raveen Vijendren

R [said 6 months ago](#)
Hi,

This ticket doesn't seem to have been resolved, we've just tested the reporting function on Horizon 27.0.1 and Grafana version 7.3.4.

When selecting report timezone as Asia/Singapore for ad-hoc reports, the time axis seems to be plotted with UTC rather than the selected timezone. (See the SNMP interface utilization graph)

Raveen Vijendren

R [said 6 months ago](#)
Sorry didn't attach the report file.
Also attached the grafana dashboard JSON

Raveen Vijendren

R , said 6 months ago

Screen shot of the Grafana panel showing that the data is correct for the report,

Looks like only the report axis needs to be set to the local timezone.

OpenNMS Support

O said 6 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

By design, the X-Axis will be consistent with the chosen timezone from the report wizard, and during all my tests, that was the case.

Alejandro.

Raveen Vijendren

R , said 6 months ago

Hi Alejandro,

From what we see in our environment, the data is correctly fetched and displayed for the selected timezone, its just that the X-Axis needs to be relabeled to the selected timezone instead of being labeled in UTC. Other than this, it's working.

Thanks.

OpenNMS Support

O said 6 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

I'm sorry, but I don't understand what's missing.

Keep in mind that the graphs themselves shown on the PDF report are NOT generated by OpenNMS, are extracted directly from Grafana, so anything you want to "show" there has to be part of the dashboard.

Alejandro.

Raveen Vijendren

R , said 6 months ago
Hi Alejandro,

Please see these new screenshots of a report and dashboard that was made for a customer. The report was generated in UTC timezone. Grafana dashboard was configured as browser time when the report was generated. What we see is that the NetFlow data on both report and dashboard match up, but not the SNMP data. Also sent along is the dashboard JSON.

OpenNMS Support

O said 6 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

I never tried the UI to schedule reports regularly, as that was never mentioned in the past.

The fix we added was for the standard use case to generate a PDF report immediately. Everything we tested and verified, and what I've explained so far, was for that in mind.

If the use case for scheduled reports is not working, you're facing a different problem, which requires time to reproduce and fix.

Based on what you selected in Grafana_Dashboard.png, keep in mind that data from Flows and data collected via SNMP come from completely independent and unrelated sources, so it is up to the devices that they provide the data timely. That's because SNMP data comes from Cassandra. In contrast, Flow data comes from Elasticsearch, and the way to gather, process, prepare and parse the data in both cases is completely different, and that doesn't mean OpenNMS is doing something wrong; in other words, that screenshot doesn't prove that's the case.

I'll build a test environment to try to reproduce the problem with scheduled reports, but please keep in mind that due to the holidays, the work might be extended to January 2021.

Alejandro.

OpenNMS Support

O said 6 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

With Horizon 27.0.2, Grafana 6.7.2 and Helm 5.0.3 (as there are multiple issues with Helm 6.x due to Grafana 7.x), the scheduled reports feature works as intended, the timezone is consistent with the chosen time range and the X-

Axis, meaning I cannot reproduce the problem you described on the screenshots.

While doing that I identified two problems; not directly related with what you're experiencing, but worth mentioning:

1) A problem with the UI while editing an existing scheduled entry:

<https://issues.opennms.org/browse/NMS-13064> (<https://issues.opennms.org/browse/NMS-13064>)

2) Something to keep in mind when using Grafana 7, especially if you're using Docker:

<https://issues.opennms.org/browse/HELM-265> (<https://issues.opennms.org/browse/HELM-265>)

We will continue troubleshooting process in January due to the holidays break.

Alejandro

Raveen Vijendren

R , said 6 months ago

Hi Alejandro,

Ok my comment on the SNMP data being incorrect is false, i didnt take into account the averaging that is done by the measurements API in the backend to roll up the data for the 24 hours time period in the report.

However, the Time Axis being shifted is still an issue. We had a call with OpenNMS yesterday and Sandy Skipper mentioned that a call should be scheduled to troubleshoot this issue solely.

Thank you.

OpenNMS Support

O , said 6 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

The X-Axis issue is definitively a problem, even though I could not reproduce it with the version of Grafana/Helm you should be using. Have you tried that? I suggest to start a VM and install Grafana 6.7.2 and Helm 5.0.3, create the data sources, import the Dashboard, and see if it works as it did for me (as that is what we would do on this upcoming session we will schedule in January).

Alejandro.

OpenNMS Support

○ said 5 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

Happy New Year!

After spending time making Grafana 7 and the Image Renderer works on a VM, I was able to reproduce the problem with that version and created the following JIRA issue:

<https://issues.opennms.org/browse/NMS-13070> (<https://issues.opennms.org/browse/NMS-13070>).

In the meantime, do not use the scheduler and generate the reports immediately when required until the developers add the required code changes to fix the X-Axis's inconsistency.

As mentioned, that inconsistency doesn't exist when generating the report immediately because the date range, in this case, is clear, whereas that's confusing when creating a scheduler as you don't set the range; instead, you set a relative range which seems altered by the time on which the cron-like expression dictates to generate the report.

Alejandro.

OpenNMS Support

○ said 5 months ago
Cc: sean.torres1@exxonmobil.com

Hello Raveen,

As I reproduced the problem with Grafana 7 and we have a JIRA issue with it, I will close the ticket. Let's track the progress there as it is in the hands of the development team.

If you have more questions, don't hesitate to reopen this ticket or create a new one.

Alejandro.

This ticket has been Closed | 5 months ago [Reply](#)