Foreman - Refactor #27906
Use modern Facter 3 facts
09/23/2019 12:36 PM - Ewoud Kohl van Wijngaarden

Currently we still rely on various Facter 2 facts that are deprecated in Facter 3 and will be removed in Facter 4.

https://puppet.com/docs/facter/3.11/core_facts.html#legacy-facts is a list of legacy facts.

Revision 50a336d5 - 10/14/2019 02:58 PM - Ewoud Kohl van Wijngaarden
Refs #27906 - Clean up PuppetFactParser (#7059)
As a preparation to moving to modern facts, this refactoring cleans up the operatingsystem method to make a future refactoring easier.

Revision cc4a95ff - 11/16/2021 01:24 PM - Ewoud Kohl van Wijngaarden
Fixes #27906 - Always prefer modern facts in Facter
Facter started to introduce structured facts in Facter 2. Since Facter 3, the old facts are deprecated. This introduces helper methods to provide the abstraction and always prefers modern facts.

It does make a change that it no longer considers the lsbdistrelease fact. 5d61c18f8a7bdeee314ac146ba8b535353c16c06b57 already preferred the os.release.full fact which is present with Facter 2.2 or newer. It should also fall back to the operatingsystemrelease fact which is present since Facter 1.5 and a more reliable fact.

To make things easier, it annotates which for each fact which version of Facter introduced it.
It should be noted that these tests are fairly slow. On my system they add a minute of runtime to the tests.

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**History**

**#1 - 09/23/2019 12:38 PM - The Foreman Bot**
- Assignee set to Ewoud Kohl van Wijngaarden
- Status changed from New to Ready For Testing
- Pull request https://github.com/theforeman/foreman/pull/7059 added

**#2 - 03/19/2021 10:54 AM - Ewoud Kohl van Wijngaarden**
- Related to Refactor #32130: Drop support of Facter 2 facts added

**#3 - 03/29/2021 01:11 PM - Ewoud Kohl van Wijngaarden**
- Assignee deleted (Ewoud Kohl van Wijngaarden)
- Status changed from Ready For Testing to New

**#4 - 03/29/2021 01:12 PM - Ewoud Kohl van Wijngaarden**
It should also be noted that Facter 4 ended up keeping the legacy facts. However, we should still update to the modern facts so at some point legacy facts can be turned off.

**#5 - 04/09/2021 08:04 AM - Marek Hulán**
from the other issue:

Today we still support so called legacy facts in places we parse puppet facts. The drop of the Facter 2 was announced a while ago at https://community.theforeman.org/t/the-road-to-making-puppet-optional/17983 and Foreman 2.6/3.0 would be a good time to clean up this code. While some work has been done, there are still facter 2 facts supported, they should be removed from the codebase.

**#6 - 04/14/2021 06:04 AM - Lukas Zapletal**
Guys, are we sure about dropping facter 2.x from the codebase? There was a 2.4 user complaining about 2.x facter broken after upgrade, I think we might still have some users. And this should probably be communicated in advance, we haven't announced or deprecated anything yet IIRC.

https://community.theforeman.org/t/puppet-fact-parser-is-failing-with-string-does-not-have-dig-method/23138

From discovery standpoint we are now good, it took me a while to upgrade to f4 but we are good. But honestly I think we should actually do the very opposite - fix f2 support, then do some announcement and deprecation warnings and schedule this to 3.1 or something like that.

**#7 - 04/14/2021 11:52 AM - Ewoud Kohl van Wijngaarden**
IMHO we should make sure the codebase 100% works when no legacy facts are present. That will be a first step to deprecation.

The particular case mentioned doesn't appear to be related. The structured os fact should be present in 2.4 already.
While I agree, I think we should keep the status-quo for some time before we are ready for the switch. I suggest that we explore what exactly is wrong, since this was broken quite recently (the user reports 2.4) chances are we can fix that easily and buy some more time.

In the linked post I have said that it should work if the user doesn’t use stringify_facts = true. In Puppet 4 that setting has been removed and is always false. We have also dropped support for Puppet < 5 so it would be weird to document "this is how you make unsupported software work". Also note that the user reported they upgraded to 1.24 which is also unsupported.

What we can do is more graceful error handling. IMHO this isn't very helpful to a user. I'm thinking about adding abstractions for all facts with rescue statements everywhere that says "failed to read fact x" so it's at least easier to understand.

Not a bad idea about improving the error reporting, Ewoud could you turn that into a new RM issue and describe the expected behavior on several examples please? Like if uploaded facts does not contain fact xyz, he should see an error saying "fact xyz is not present". Ideally also specify where (notification drawer, log, API response, host status or something else)

I agree we should go ahead and drop support for legacy facts, I asked few users in our community and there was no concern with that. People seem to be upgrading their Puppet infrastructure (good). If they have older facters deployed, they probably also have older Foreman installed.

https://github.com/puppetlabs/facter/commit/58901c0101e8c8d7f1ec80bcb9356e61d7cadd3 did add a schema of facts. Its history can be used as a source of when a fact was introduced. That's the best way right now that I know to determine it.

In the attached PR I updated all facts to their modern version where possible. I also annotated all facts and when they were introduced. It looks like if we raise the version to at least 2.2, we can simplify the parser so I opened #32337 for that.

Let's keep the scope of this PR to only make sure we can operate without any legacy facts present.
- Related to Refactor #32345: Provide non-DB model methods and deprecate DB model methods in FactParser added

#17 - 11/10/2021 11:06 AM - The Foreman Bot
- Pull request https://github.com/theforeman/foreman/pull/8450 added

#18 - 11/16/2021 01:24 PM - The Foreman Bot
- Fixed in Releases 3.2.0 added

#19 - 11/16/2021 02:01 PM - Ewoud Kohl van Wijngaarden
- Status changed from Ready For Testing to Closed

Applied in changeset foreman|cc4a95fbeb24d1b1bc16dd3f133ee9a742331f9.

#20 - 02/15/2022 01:31 PM - Amit Upadhye
- Category set to Facts