Arvados - Story #11349

[Node Manager] Add status URL for node manager

03/28/2017 06:33 PM - Tom Morris

**Status:** Resolved  
**Priority:** Normal  
**Assigned To:** Tom Clegg  
**Category:**  
**Target version:** 2017-04-12 sprint  
**Start date:** 04/10/2017  
**Due date:**  
**% Done:** 100%  
**Estimated time:** 0.00 hour

**Description**

Implemented HTTP server which serves status URL with JSON format output

Configurable port #

Start with the data which is currently being logged:

- List of nodes sizes
- Number of nodes in each state
- State of each node

**Subtasks:**

- Task # 11375: Review 11349-nodemanager-status-api  
- Task # 11447: update wiki

**Related issues:**

- Related to Arvados - Feature #11799: [Node manager] Publish status.json  
  Duplicate  
- Related to Arvados - Story #11836: [Nodemanager] Improve status.json for moni...  
  Rejected 05/23/2018

**Associated revisions**

- **Revision 2c094e28 - 04/11/2017 03:33 PM - Tom Clegg**
  Merge branch '11349-nodemanager-status-api'

  refs #11349

- **Revision a6be53f6 - 04/11/2017 06:52 PM - Tom Clegg**
  Build packages for python "future" module.

  refs #11349  
  refs #11308

- **Revision 1b290e51 - 04/12/2017 03:39 PM - Tom Clegg**
  11349: Fix section name in example configs.

  refs #11349

**History**

#1 - 03/28/2017 06:40 PM - Tom Morris

- Description updated
- Story points set to 2.0

#2 - 03/28/2017 06:43 PM - Tom Clegg

See [source/sdk/python/tests/keepstub.py](source/sdk/python/tests/keepstub.py) and [source/sdk/python/tests/test_keep_client.py](source/sdk/python/tests/test_keep_client.py) for example of starting up a multithreaded http server.

Suggest maintaining a global status variable, protected by a mutex, and just dumping its content in the status.json handler.

#3 - 03/29/2017 07:58 PM - Tom Clegg

- Assigned To set to Tom Clegg
- Target version changed from Arvados Future Sprints to 2017-04-12 sprint
New config section "[Manage]" with "port" (127.0.0.1) and "address" (default -1, which disables management server)

status.json response

```json
{
    "nodes_up": 3,
    "nodes_shutdown": 1,
    "nodes_booting": 2,
    "nodes_wish": 4
}
```

I see 2 clusters of questions I get often, one group is about "orchestration-related" or "pipeline-wide" and the other group of questions is about the resources inside a node when a job is running.

From the first group I usually get question like this (which this should help):

- "why my job is queued for X hours?"  -> having a historical # nodes in wishlist could potentially give a clue.
- "my pipeline ran for 24 hours, which nodes did it use? " -> having a correlation of node with the pipeline helps.

From the second group:

- "is my node actually doing something?"  -> having a "node38: up" doesn't say much, I think that's a question to answer with logs
- "how many cores/ram/big should my nodes have/be?"  -> this is an analysis with the resources inside the node

so I think we can pull information from node manager to respond to the first group, usually this implies that the "node size" isn't as important as "how long has it been up and in which state"  
so uniquely identifying the node than been able to plot that is good. But I have to admit that too much detail could turn this in to an Logstash nightmare-adventure I don't want to go, so some summarized state values as a first step is good.

the proposal is good:

```json
{
    "nodes_up": 3,
    "nodes_shutdown": 1,
    "nodes_booting": 2,
    "nodes_wish": 4
}
```

later will be good to have unique node names and a way to report them over time (which makes it very difficult when they weren't born yet and in the "nodes_wish" pile)

Local test run was successful

Questions:

- services/nodemanager/arvnodeman/status.py - Do you think it would be good idea to log messages indicating when no management server is started (and maybe the reason?)
- services/nodemanager/tests/test_status.py:43 - Is that assertion superfluous given the following one? if it's to prove that old values remain, can it be checked outside the loop?
- Is the state of each node going to be included? (asking because it's mentioned on the story description)

Local test run was successful
services/nodemanager/arvnodeman/status.py - Do you think it would be a good idea to log messages indicating when no management server is started (and maybe the reason?)

Yes, added.

```python
if not self.enabled:
    _logger.warning("Management server disabled. "+
                    "Use [Manage] config section to enable.")
    return
```

services/nodemanager/tests/test_status.py:43 - Is that assertion superfluous given the following one? If it’s to prove that old values remain, can it be checked outside the loop?

Yes, moved it outside the loop.

- Is the state of each node going to be included? (Asking because it’s mentioned on the story description)

Indeed, we seem to have changed our minds about that: for now we just want a summary that we can graph easily.

Suggest adding "/nodes.json" with info about each node. (Not sure if we should keep this issue open for it or make a new one.)

`11349-nodemanager-status-api @ a779382603d2da2ec38ceb8a21262cc4f151f077`

#11 - 04/11/2017 03:32 PM - Lucas Di Pentima
LGTM, thanks!

#12 - 04/12/2017 05:35 PM - Tom Clegg
- Status changed from In Progress to Resolved