We are currently running SLURM 15.08.7, which results in a large number of errors logged from crunch-dispatch-slurm along the lines of this:

```
May 14 06:33:14 arvados-master-eglyx crunch-dispatch-slurm[28897]: 2018/05/14 06:33:14 "/usr/bin/scontrol" ["scontrol" "update" "JobName=eglyx-dz642-1j8w55pfx9dzcq4" "Nice=42101"]: "scontrol: error: Invalid nice value, must be between -10000 and 10000"
```

It looks like the range of valid nice values on 15.08 is `10000` to `10000`, whereas on the newest version of SLURM (17.11) this is documented to be `+/-2147483645` ([https://slurm.schedmd.com/scontrol.html](https://slurm.schedmd.com/scontrol.html)). What version of SLURM does arvados require/expect?

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**History**

**#1 - 05/16/2018 03:29 AM - Tom Clegg**

I'd recommend a newer version if possible (slurm 16.05.9 also allows nice values up to 2147483645) but slurm 15 is supported.

Reducing PrioritySpread (from the default 10) to 1 or 2 in your crunch-dispatch-slurm config should improve/fix this. (see [https://doc.arvados.org/install/crunch2-slurm/install-dispatch.html](https://doc.arvados.org/install/crunch2-slurm/install-dispatch.html))

Even with that, there might be situations where the limited range, combined with slurm's approach of reducing the default priority with each job submission, makes it impossible for c-d-s to achieve its desired priority ordering.

In the worst case, it's possible to deadlock by consuming all of your compute nodes with arvados-cwl-runner jobs, each waiting for a child which is waiting for a compute node to run on.

All slurm jobs are submitted with nice=10000 and adjusted from there, so (apart from the deadlock situation) containers will still run even if the adjustment fails.

That said, we should consider

- rate-limiting these errors
- updating the error message to mention PrioritySpread and the possibility of upgrading slurm

**#2 - 05/21/2018 08:36 PM - Joshua Randall**

Even with 'PrioritySpread: 1' we are seeing these errors, attempting to set nice values as high as 67012.

**#3 - 03/10/2020 09:07 PM - Peter Amstutz**

- Status changed from New to Closed