

MOUNTAINS
AND MINDS

High Performance Computing Advisory Group

Thursday, January 26, 2017



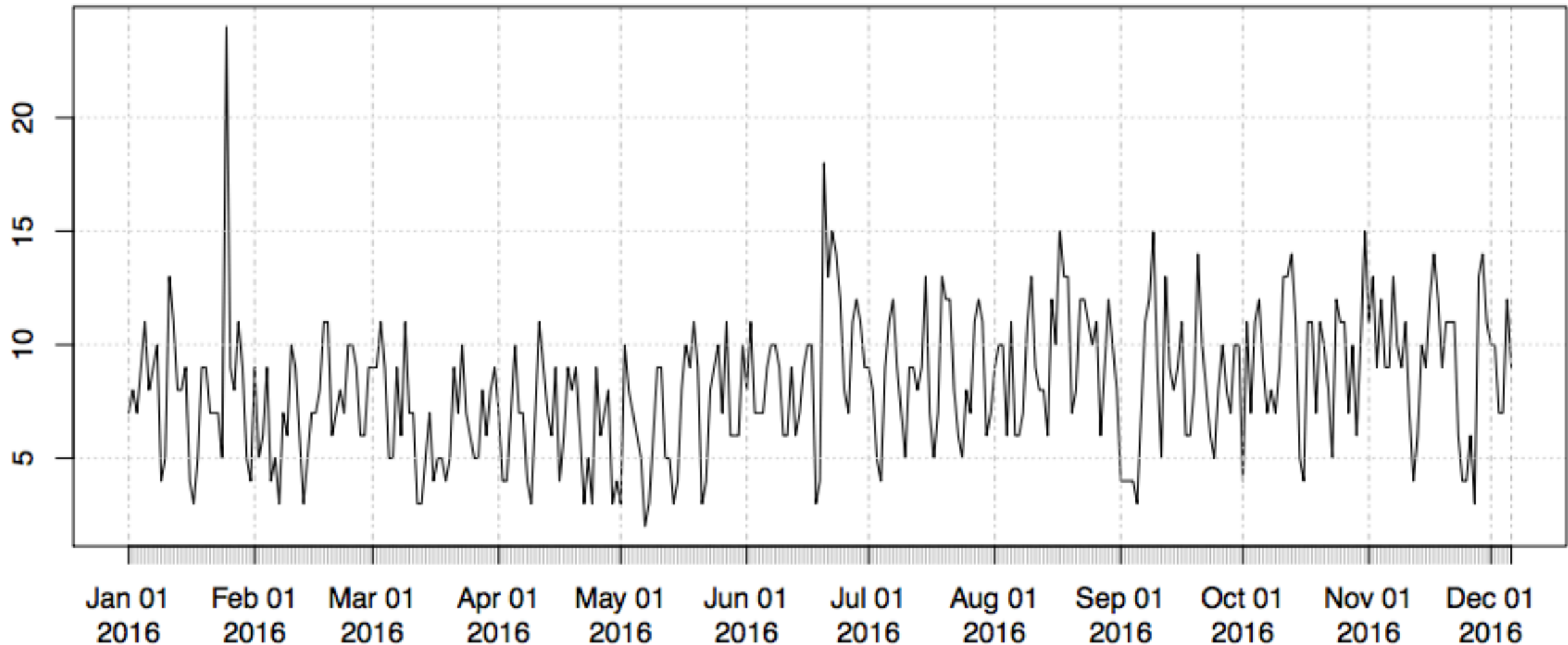
AGENDA

1. Information
 - a. Hyalite Usage
 - b. Expansion Update
2. RAM Policy
3. High RAM Nodes
4. Queue Changes
5. Hyalite Documentation





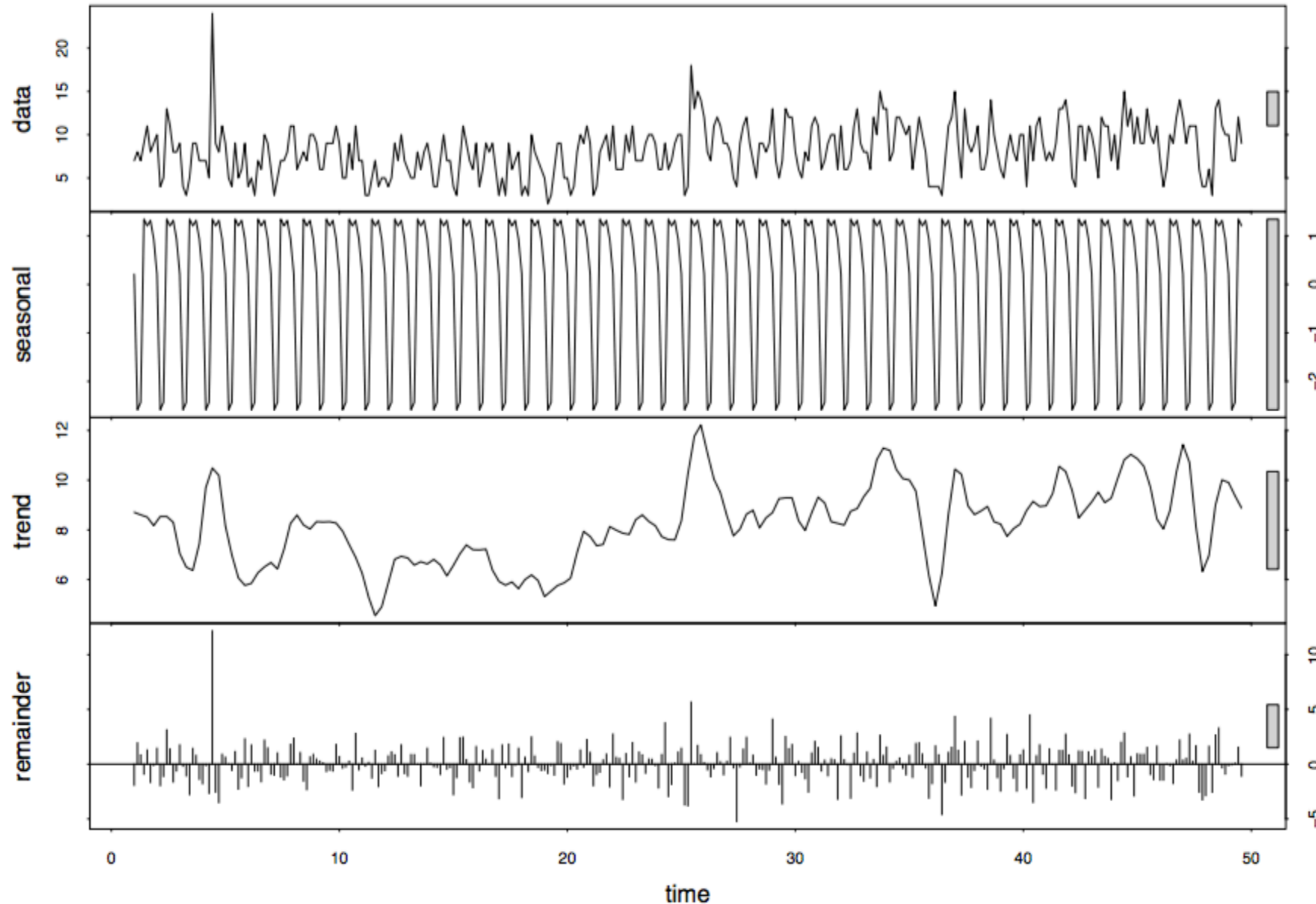
2016 Hyalite Usage: Active Users



NOTE: An active User on a given date is a User that ran at least one Job on that date.

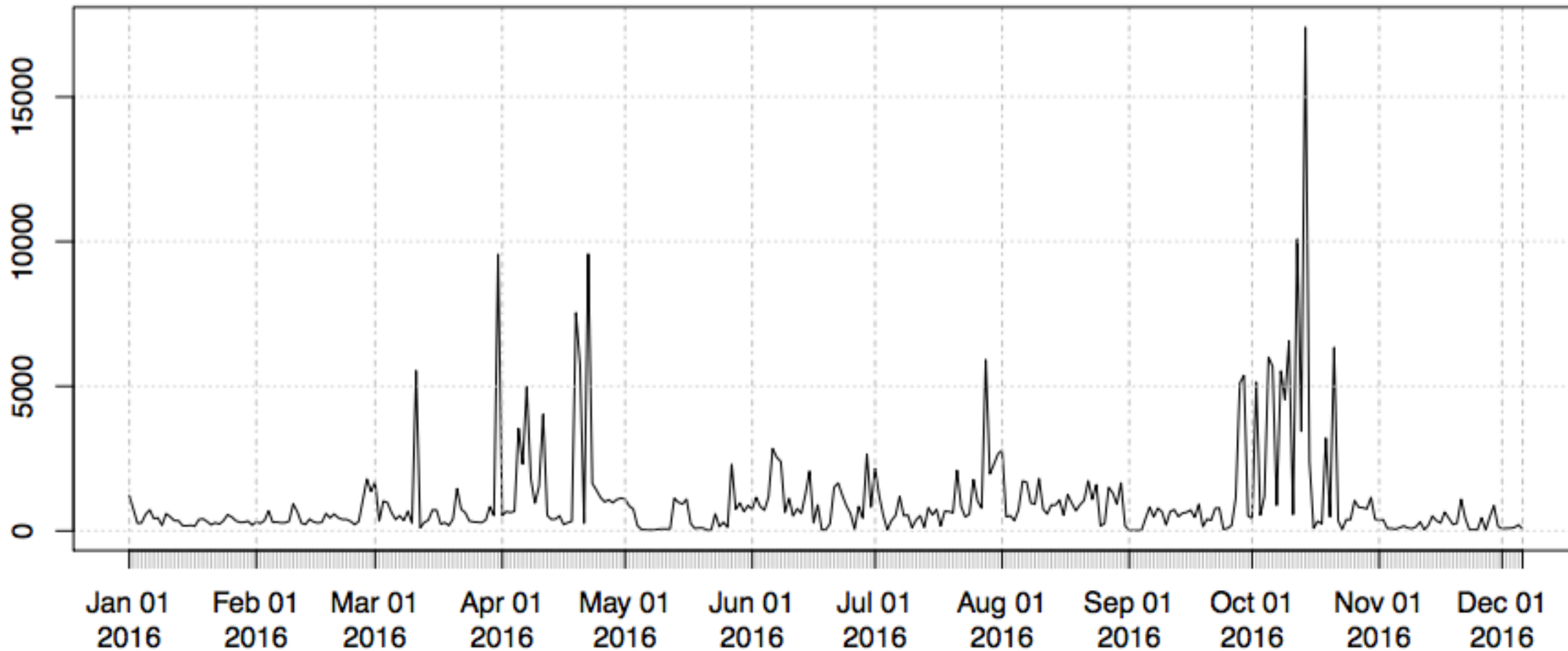


2016 Hyalite Usage: User Trends



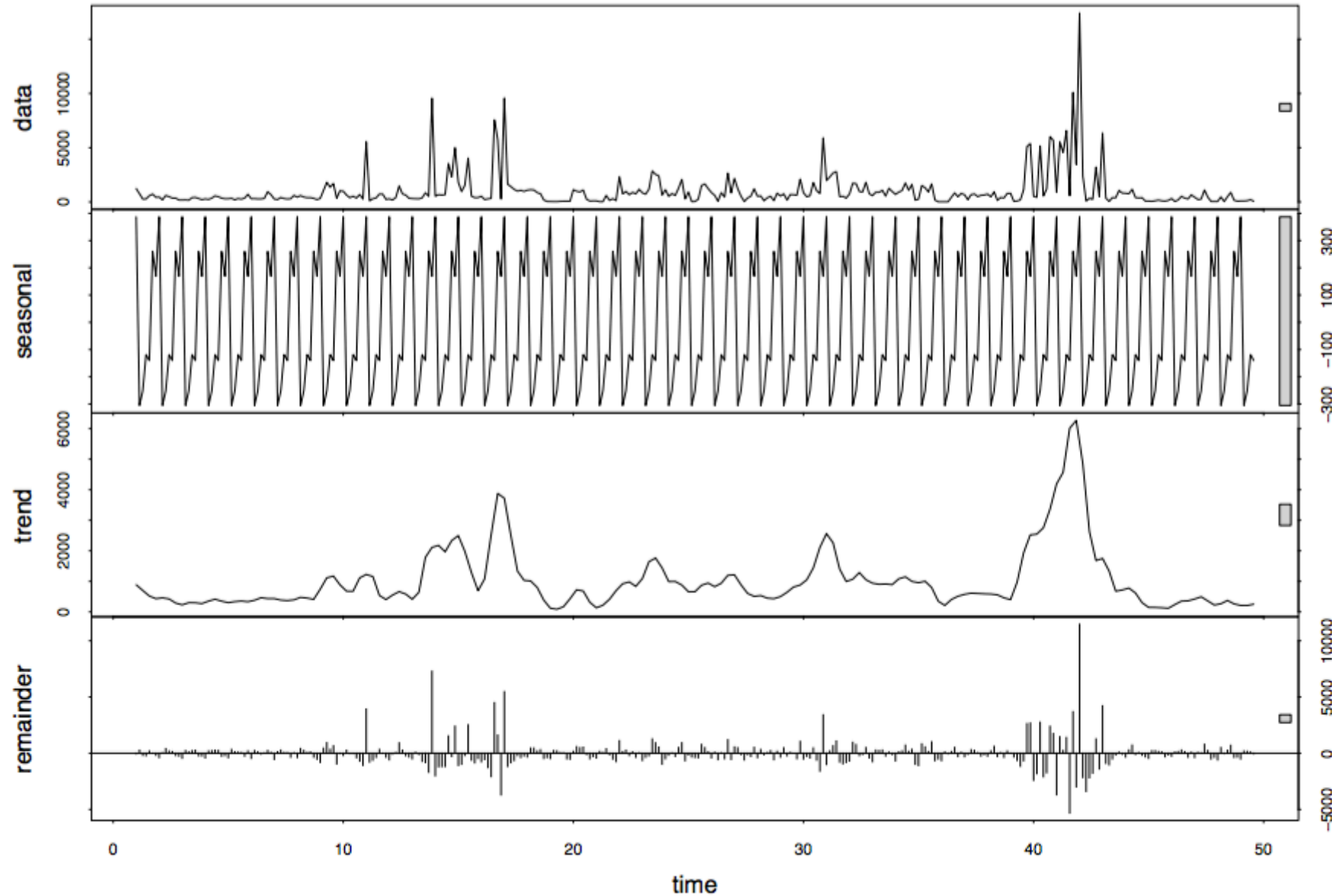


2016 Hyalite Usage: Jobs Run





2016 Hyalite Usage: Jobs Trends





Expansion Update (post update)

The cluster expansion took place earlier this week (1/23-1/25)

- Added 1 Quad Socket, 1.5TB RAM compute node (Xlarge)
- Added 4 regular compute nodes (bringing the total to 64 compute nodes, 2048 HT cores)
- Upgraded 16 compute nodes to 256GB RAM (from 64GB)
- All was completed successfully and on time!



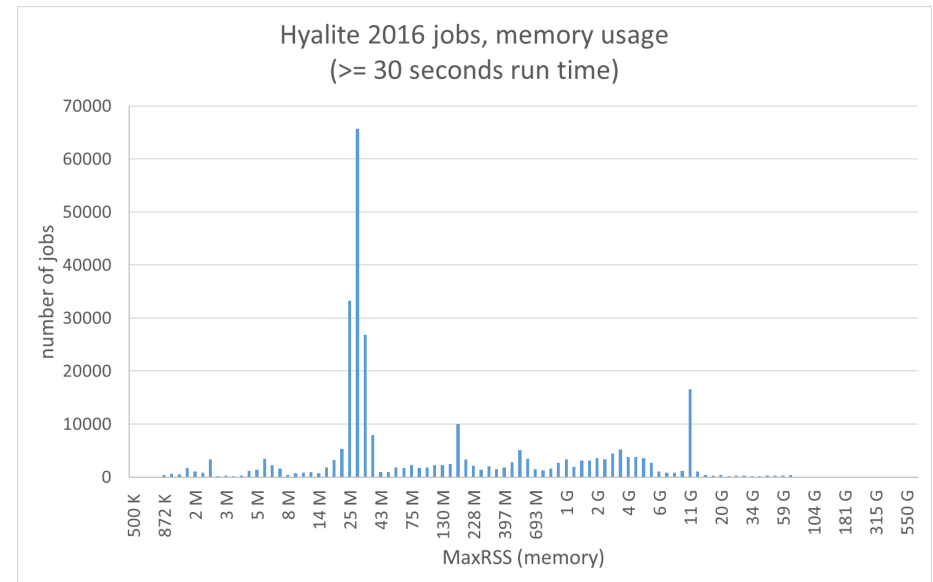


RAM Policy

Previously, RAM was not enforced as a job resource

Now, RAM is tracked—

- Default— 2GB RAM per CPU
- Example 1— 16 CPU job, by default will be killed if it uses more than 32GB RAM
- Example 2— 32 CPU job, will use all of a standard node
- Example 3— 1 CPU job, 64GB RAM specified, will fully allocate a default node (previously, this would not fully allocate a node)





High RAM Nodes

16 Existing compute nodes now with 256GB RAM

- Members of the *default* and *priority* queues
- Just specify more RAM in job
- Example– to schedule a job to a new high-memory node
SBATCH -mem 256000





Queue Changes

To accommodate the High RAM nodes and GravityLab Xlarge node–

- Two Additional Queues
 - *Xlarge*: single node, pre-emptive queue for Gravitylab (Yunes)
 - *unsafe*: all nodes (includes Xlarge node), queue for everyone
 - anyone can run a job here, but:
 - jobs can be pre-empted by other queues
 - pre-empted jobs get re-queued
- Xlarge node not a part of *default* queue





Hyalite Documentation

We have some Hyalite documentation posted here:

<http://www.montana.edu/rci/hyalite/>

- On that page, we've posted citation boilerplate
<http://www.montana.edu/rci/hyalite/#citation>

- We also have—
 - a QuickStart guide
 - a CheatSheet
 - a list of available modules



*Documentation updates for Queue changes to be posted soon
Check it out!*