

NUC

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The NAF batch system

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Outline

- > Fair Share
- > Job distribution



Fair Share Mechanisms

Functional Share

- > covers current occupancy of the farm
- > group share + some little share between all users
- > group share weight is much higher than user share weight

Share Tree

- > covers historical usage
- > weights 3x as much as functional share in NAF batch system
- > impact of historical usage decreases over a week
- > overall shares have been assigned by administrators



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Ticket calculation

- > job priority based on tickets it gets assigned
- > as long as configured share is not reached, tickets will be assigned corresponding to the difference between configured and real share
- > tickets are calculated as sum of tickets from functional share and share tree
- > highest number of assigned tickets results in highest priority



Assigning free slots

at every scheduling run:

- > find free slots in every queue and their available resources
- > keep in mind: queues share the same host resources —→ number of queues does not matter!
- > match the top priority jobs with the available slots
- > jobs that do not fit will be retried at next scheduling run —→ can lead to so called starving jobs



Parallel jobs (e.g. PROOF)

implications of SGE scheduling behaviour

- > use "job reservation" for parallel jobs —————> avoids filling slots by minor priority jobs (will be left free)
- > in case of high job turnaround leads to a proper interactivity (... and high overall farm usage)
- > in case of low job turnaround exclusively used slots need to be considered

