

# ScratchFS: A File System To Manage Scratch Disk Space For Grid Jobs

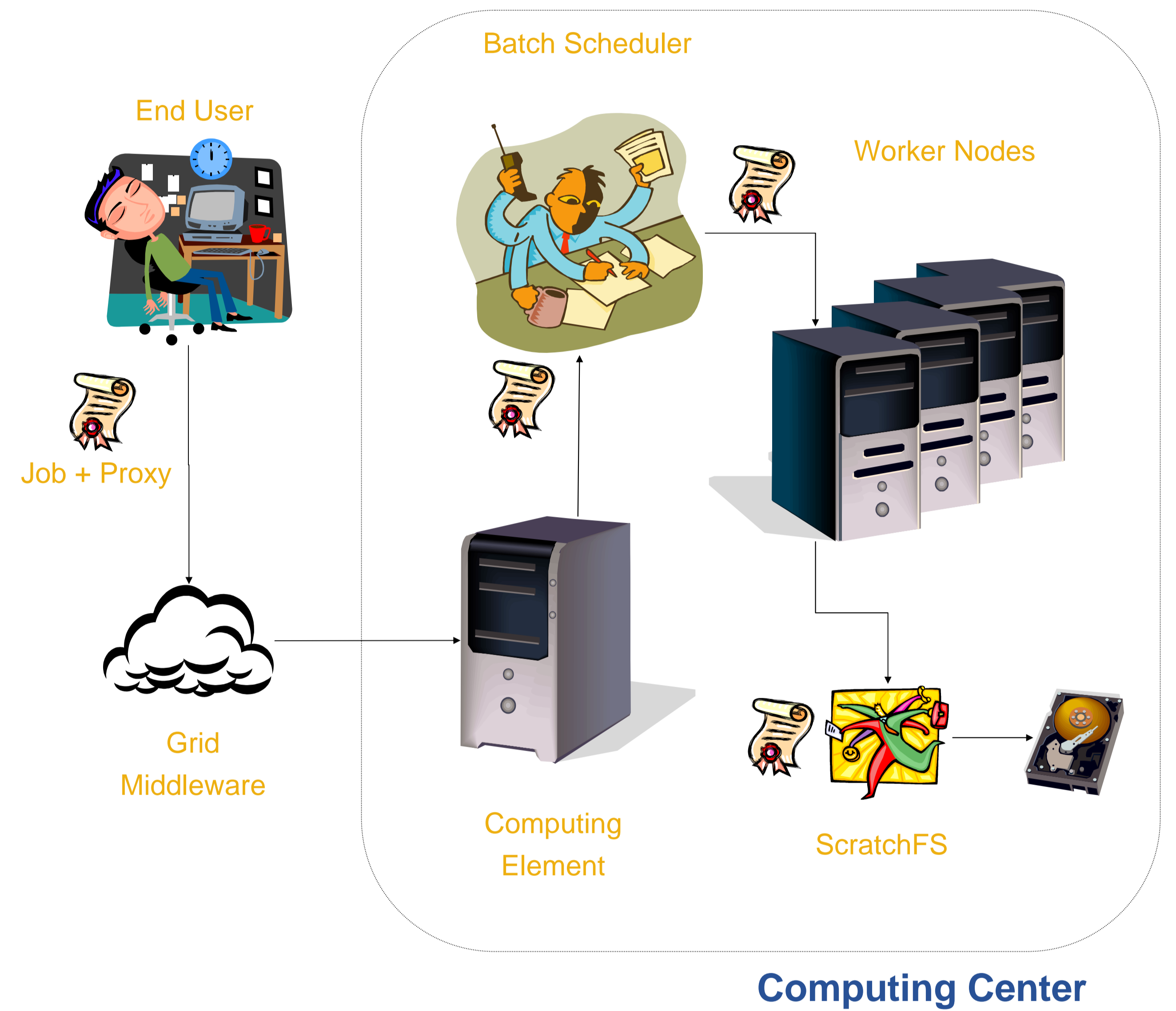
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## Issues

Since the actual operating systems were not designed to handle remote users in the way we conceive them in a *grid world*, we are obliged to use intermediate steps, like creating local accounts used to “convert” *grid users* to normal users. We are also forced to use different methods to monitor the space used by a job coming for the *grid* or to restrict the places where it can operate.

## Features of ScratchFS

- Implemented in user space (no kernel modifications needed).
- Quota enforcement (transparent to the users).
- Life time management.
- Real time usage details.
- Security based on grid proxies instead of Unix users.



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## Grid Security

- All the security can be controlled independently of the user id that runs the job.
- Different grid jobs running under the same user id will be recognized as different jobs belonging to different owners.
- A mapping from grid certificates to local identifiers is no longer needed.

## Performance

The performance tests showed us that although there is a price to pay for the functionality, it is not extremely high. Specially if it is compared to existing sandboxes or similar file systems.

