

dCache things

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... on behalf of the dCache team



HELMHOLTZ
ASSOCIATION

Agility in a Changing World



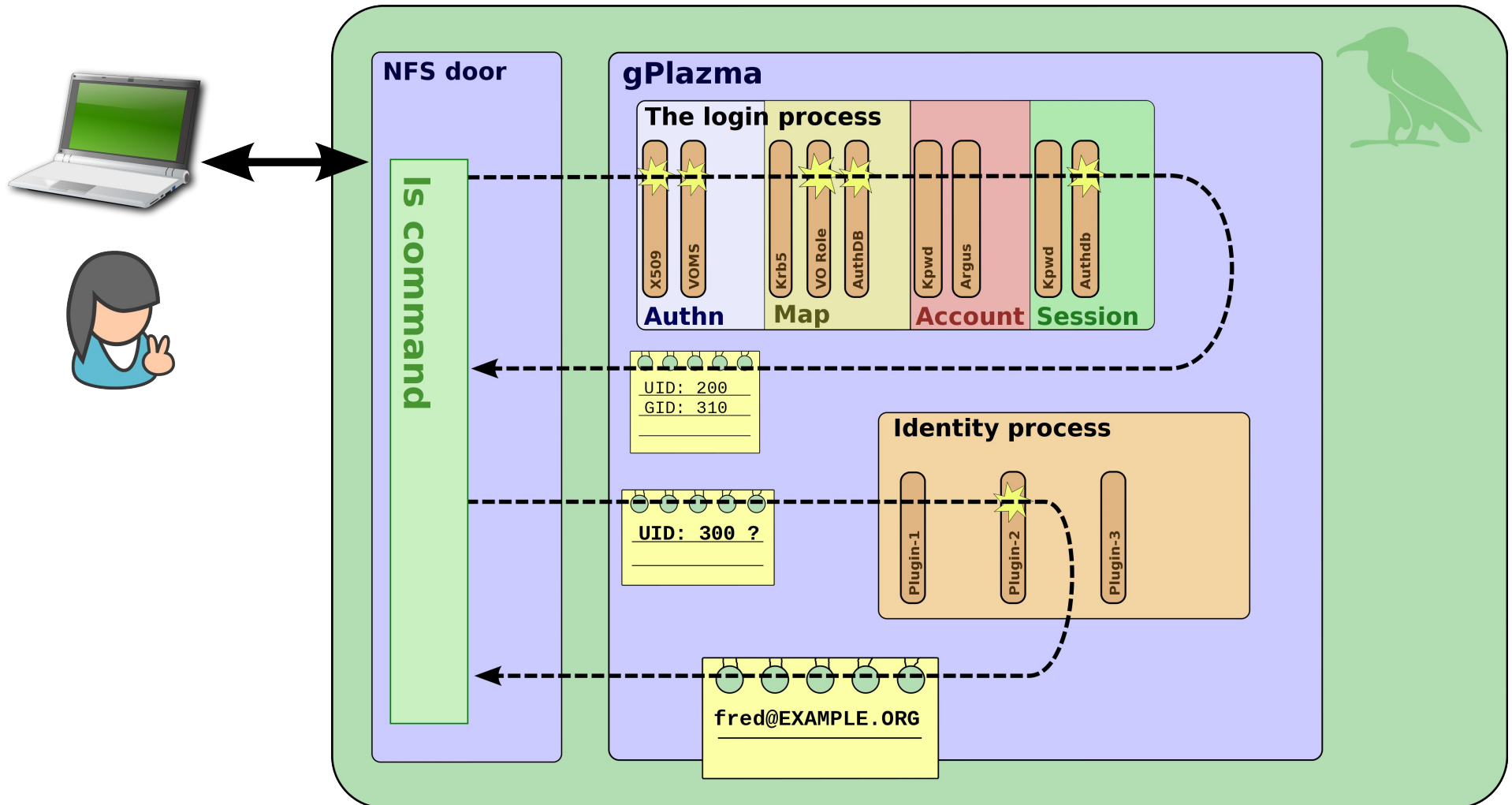
Flexibility through plugins



gPlazma: flexible identity management



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Federated storage: the idea

Client-driven

1. Find all replicas
2. Choose “best” one
3. Open data to best replica

Federated storage

1. Open data
 - a) Make request to central end-point
 - i. Find all replicas
 - ii. Chooses “best” one
 - iii. Reply with redirect
 - b) Follow redirect

NB. needs a network protocol that **supports redirection**: xrootd or HTTP

NB. file may have **different paths** in different storage systems

Federated storage: the implementation

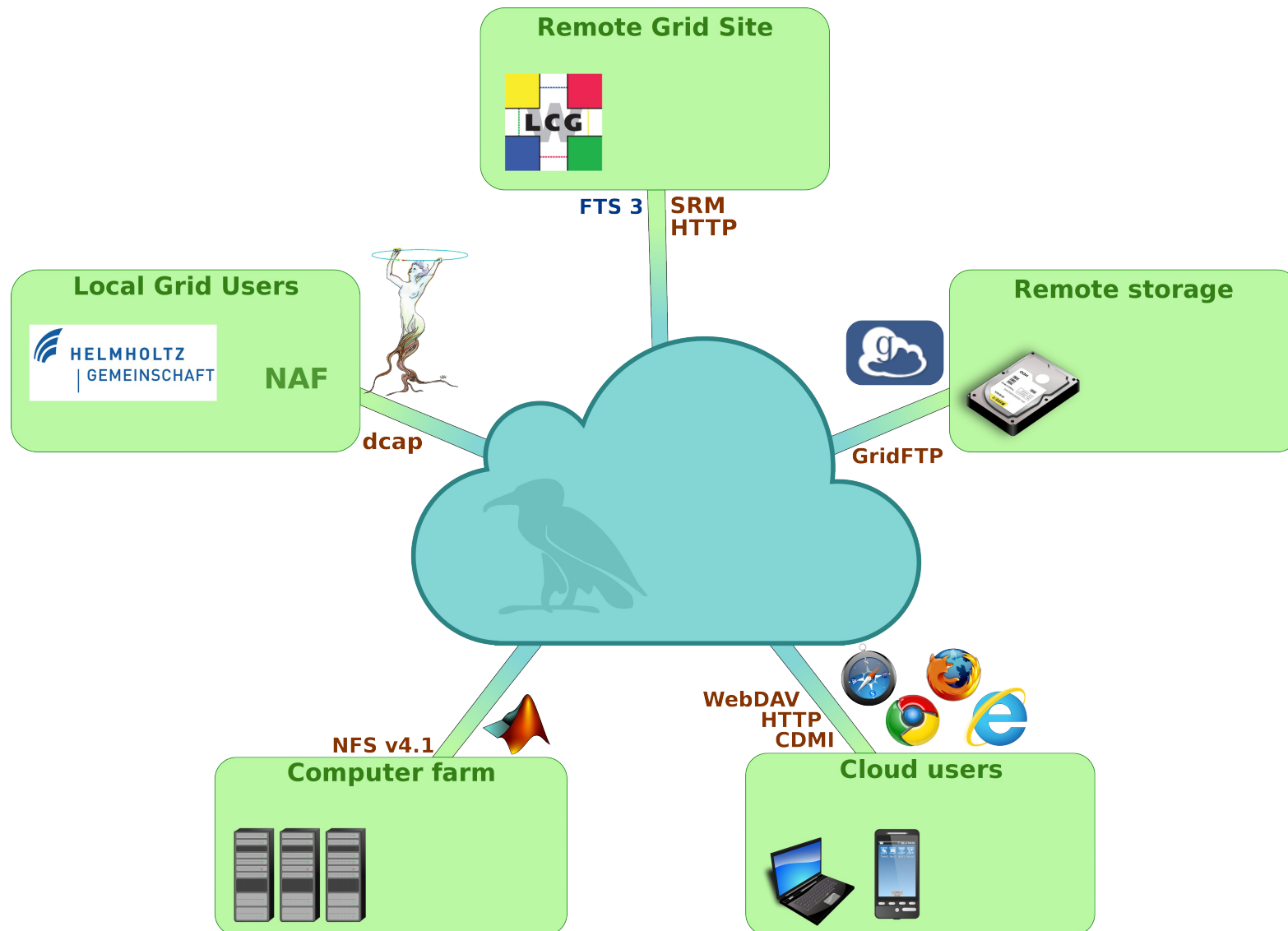
xrootd-based

- Experiment-driven
 - CMS pushing,
 - ATLAS are investigating
- xrootd door has plugins:
 - Allows global-to-local path mapping
 - Plugin for CMS and ATLAS developed
 - Experiments are involved in plugins

HTTP-based

- Collaboration between DESY and CERN IT-GT/DMS
- Allows use of industry standard software
- Can browse files
- Currently in the early stages
 - Prototype software written
- Initial performance tests are encouraging

dCache scientific cloud



Conclusion

- dCache is agile software
 - flexibility achieved through plugins
 - more than SRM, more than grid storage
- dCache is back-bone of HEP analysis
 - ~50% of data stored in dCache
- Get involved!
 - If you don't have dCache, install it
 - If you have dCache, what else can you get it to do?

Image credits

Skateboard: Tim Drivas (from flickr)

Horses: Verity Borthwick (from flickr)

Keyboard: Who Are You? psd (from flickr)