Scalable Global Data Access with HTTP/WebDAV

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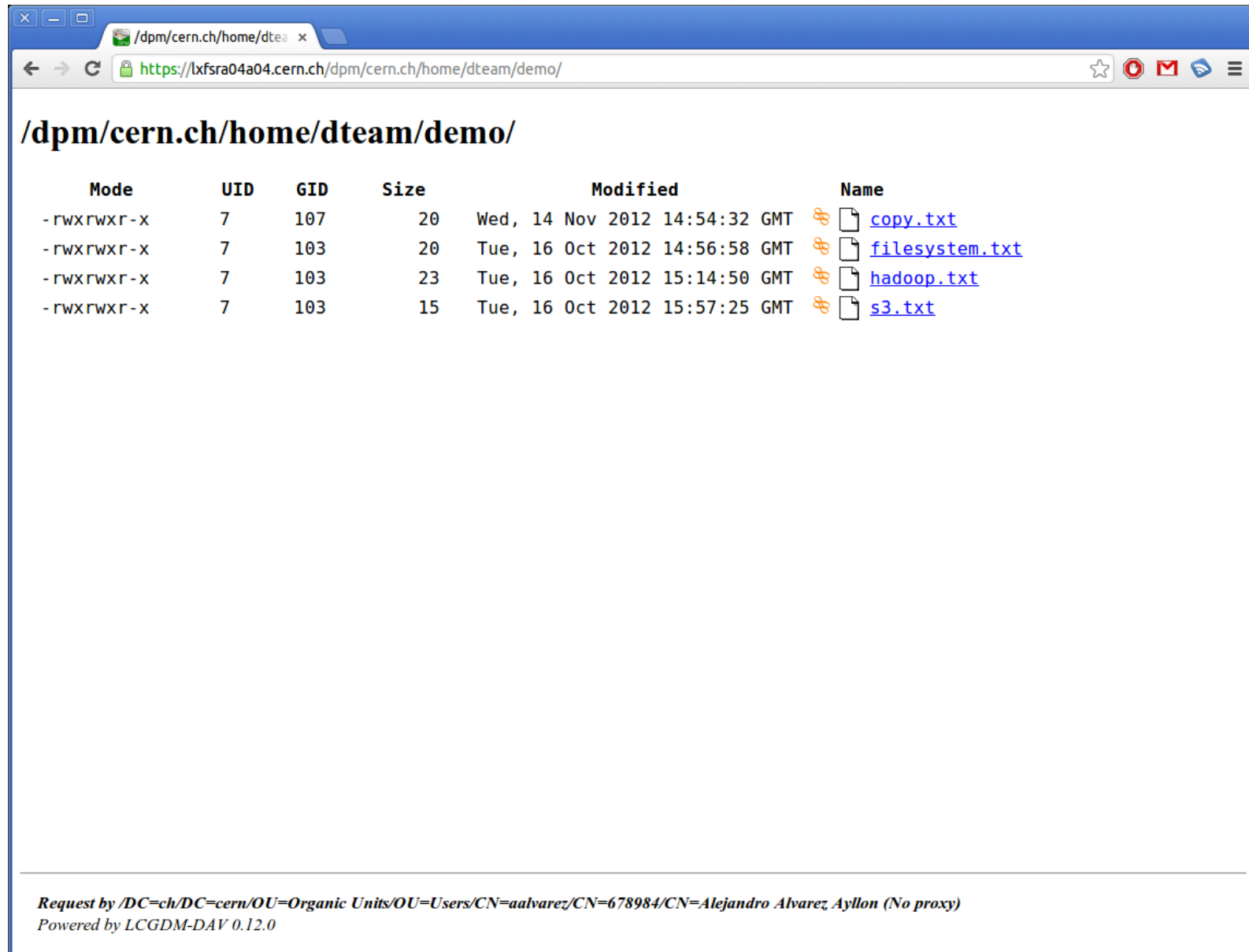*on behalf of the LCGM development team*

Overview

- HTTP/DAV in front of DPM

  – Use case: Installing in an existing DPM

    - Browsing using Nautilus

    - Random I/O

    - Third party copies

- HTTP/DAV in front of LFC

  – Use case: Accessing CERN's read-only LFC

    - Redirection

    - Fall-back with Metalink

HTTP/DAV in front of DPM

- We have already shown how installing lcgdm-dav-server is quite easy

    – And also, how to boost performance using the new plugins

- And we have seen how to navigate using a web browser

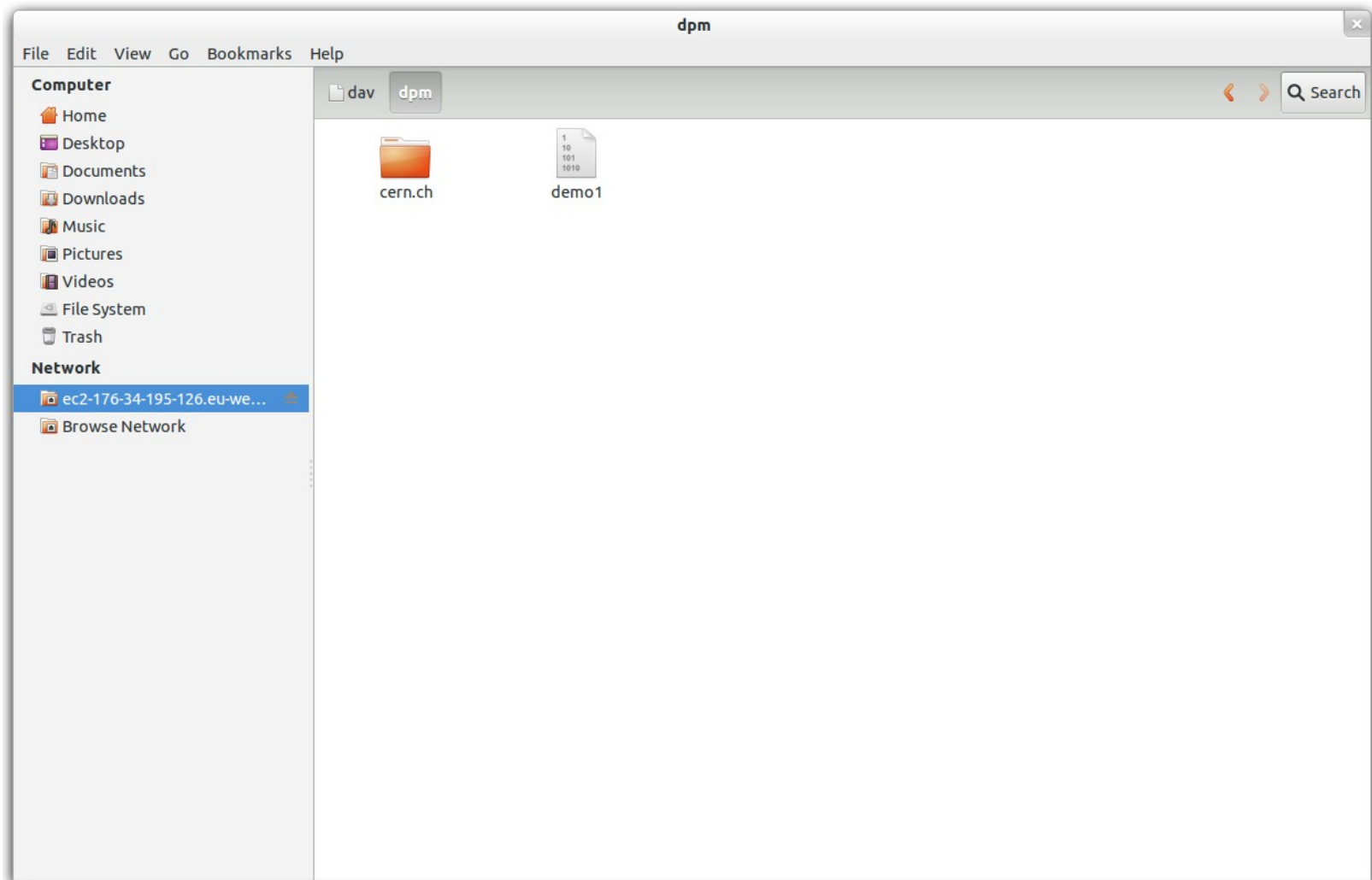   – Which is already good enough!

HTTP/DAV in front of DPM

HTTP/DAV in front of DPM

- But we can mount it using Nautilus

HTTP/DAV in front of DPM

- Random I/O
  - A file can be read partially using Range headers
  - Using cURL, we can test it manually

    curl -L http://host/path/file -r start-end

- Third party copies
  - Copy from one HTTPS to another
  - Source must understand logic
  - Destination doesn't
    - But you must be authorized, obviously!

HTTP/DAV in front of LFC

- We said we could browse a DPM using regular web browsers, and DAV clients (i.e. Nautilus)

- But we can do that too with the LFC!

  – Even better, if our client supports redirection, we can browse an LFC and access files from there

HTTP/DAV in front of LFC

- Fallback with Metalink
  - What happens if one of the replicas is broken?
  - Metalink gives us the full list, and a client (i.e. aria2) can try each one until it reaches a good one
  - Even better, if the file is big, it can use at the same time several replicas to increase throughput