



**CS<sup>3</sup>  
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EOSC**

**Connecting European Data**



# Applications integration beyond local clouds

Giuseppe Lo Presti (CERN), Michiel de Jong (Pondersource), Gianmaria Del Monte (CERN)



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Frontend (Lisa)

## APIs

- Working prototypes, documentation (Samuel)
- OCM (Gianmaria, Giuseppe, Michiel)
- CS3APIs (Gianmaria, Giuseppe)

## Backend

- Implementation for Reva
- Invitation + Sharing + Apps (Gianmaria)

- # The Open Cloud Mesh standard: *status quo* and evolution
- # Browsing OCM resources locally vs accessing remote resources
- # Local vs Remote Applications
- # Licensing issues and outlook

- # The *invitation workflow* was implemented in Reva, and exploited in the NC-Reva and OC-Reva integrations by Pondersource
  - # Based on a new endpoint, **yet not part of any tagged OCM protocol version**
- # However, no provision was made to support multiple protocols/access methods when creating OCM shares
  - # Only WebDAV was possible, even data transfers were an “implementation detail”
- # Extensions have been defined to cover all that
  - # More details in [OCM-API#54](#) and [OCM-API#57](#)

### # /ocm/invite-accepted

- # The receiver EFSS informs the sender EFSS that an invitation was *accepted*
- # The sender returns the user's details, to establish mutual trust
- # Used to be /ocm/invites/accepted in the initial Reva implementation

### # /ocm-provider (should really be /.well-known/ocm or similar!)

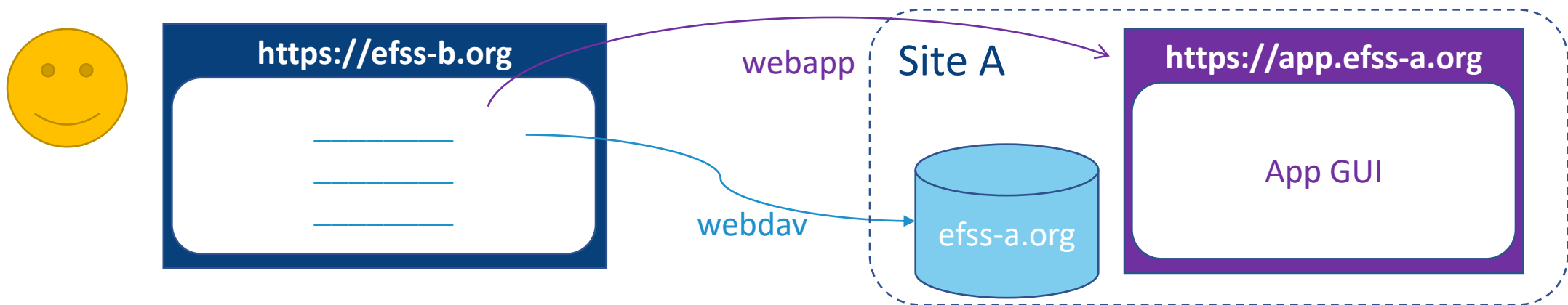
- # A discovery endpoint already in use, *standardized* following Nextcloud implementation

### # /ocm/share: extended

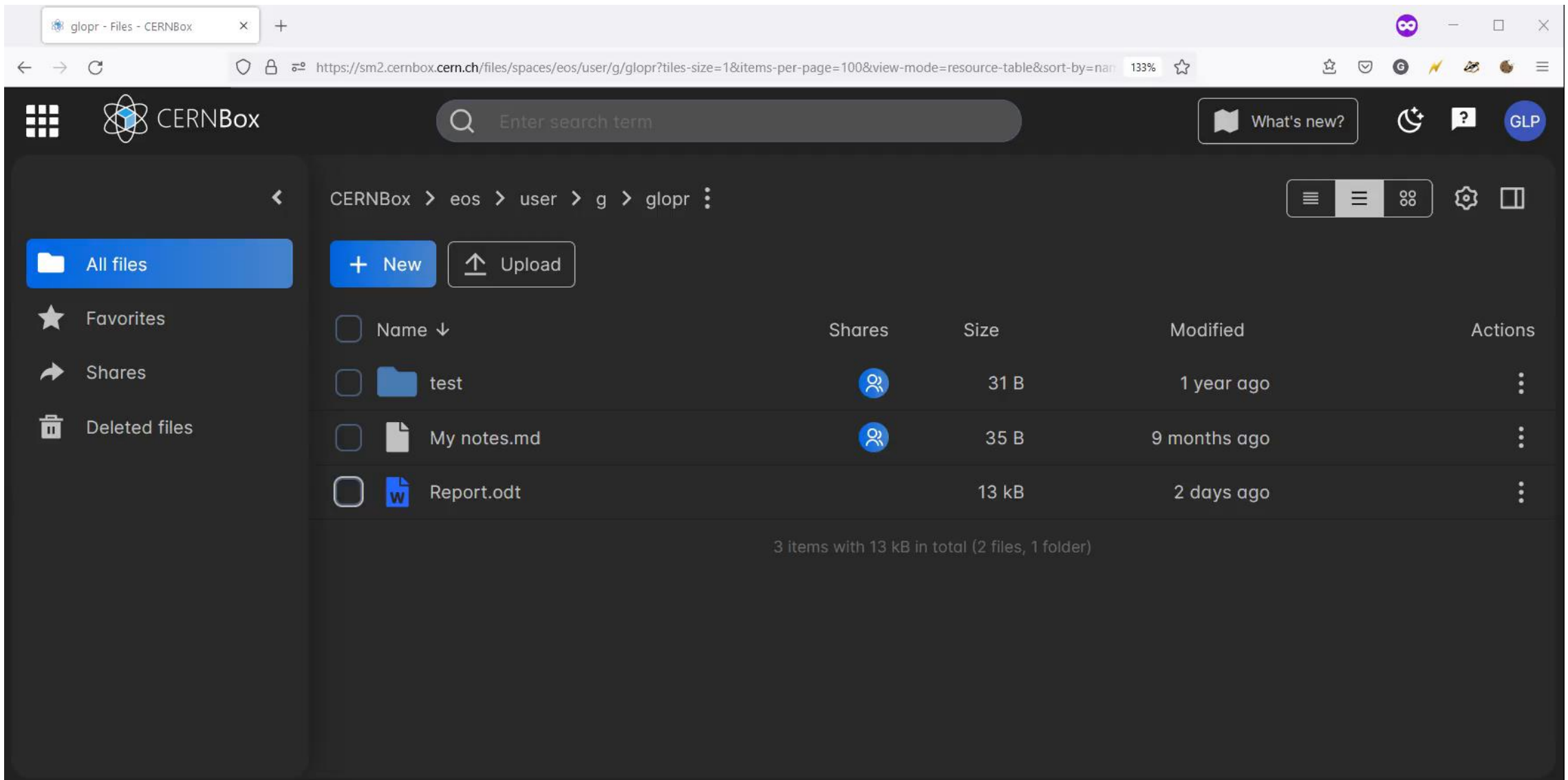
- # New property *protocols*, specified as an array
  - # Multiple types supported (**webdav**, **webapp**, **datatx**), including *permissions*, *URIs*, and further *attrs*
  - # *protocol* (unspecified object type) **dropped**
- # New property *sender*
- # *providerId* renamed to *shareId*

This enables apps for remote users in collaborative mode






- # Model: a user at site EFSS-A shares
  - # A resource, accessible via WebDAV
  - # An application to manipulate that resource, accessible via a Web App URL
- # Consequence: remote users are enabled to
  - # Browse the remote storage from their **local EFSS**
  - # Access the application(s) available at the **remote EFSS**, via “public” link
    - # **Local** applications might be enabled in read-only mode, to prevent conflicts with remote ones



- # Scenario: Giuseppe belongs to Marineford, a site where no web app has been made available by the site admins
- # Giuseppe works together with Lisa @ CERN, and can access a folder shared via OCM
- # Giuseppe participates to a collaborative editing session with Lisa, who has a web app deployed at her site



The screenshot shows a web browser window displaying the CERNBox file manager interface. The browser's address bar shows the URL: `https://sm2.cernbox.cern.ch/files/spaces/eos/user/g/glopr?tiles-size=1&items-per-page=100&view-mode=resource-table&sort-by=nam`. The interface includes a search bar, navigation breadcrumbs (CERNBox > eos > user > g > glopr), and a table of files and folders. The table has columns for Name, Shares, Size, Modified, and Actions. The items listed are a folder named 'test', a file named 'My notes.md', and a file named 'Report.odt'. A summary at the bottom indicates '3 items with 13 kB in total (2 files, 1 folder)'.

<input type="checkbox"/>	Name ↓	Shares	Size	Modified	Actions
<input type="checkbox"/>	 test		31 B	1 year ago	⋮
<input type="checkbox"/>	 My notes.md		35 B	9 months ago	⋮
<input type="checkbox"/>	 Report.odt		13 kB	2 days ago	⋮

3 items with 13 kB in total (2 files, 1 folder)



- # Remote users access apps over a “public link on steroid”
  - # Authenticated via OCM, users are not anonymous
- # Applications are already typically accessible over public links
  - # And EFSS sites already expose apps to totally random users out there
- # => Licensing is already covered... isn't it?
- # Exposing apps over federated EFSSs can only *increase* their usage
  - # App providers will eventually benefit from an increased adoption of their solutions

- # This is still an MVP
  - # A few Pull Requests are to be merged, some polishing needed
  - # Open question about exposing **local** apps over remote resources
- # We need to evolve the OCM API – including recent proposals
  - # What about agreeing on the new endpoints and **tag a v2.0?**
    - # Major version justified by the new endpoints and by a breaking change
  - # Let's take advantage of this venue!
- # Once code is stabilized, promote deployment across the ScienceMesh



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*Acknowledgements to the WP4.3 folks and to the CERNBox gang!*

**Thank you!**  
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