SHARING DATA USING ALCF’S COMMUNITY DATA CO-OP (ACDC)

AVANTHI MADDURI
WHAT IS ACDC

ACDC is ALCF Community Data Co-op service configured to allow PIs to broadly share their data hosted on Eagle using Globus, by applying simplified interfaces.
WHAT IS EAGLE

- Eagle is ALCF’s recently deployed storage system with 100PB of usable capacity.
- Primary use of Eagle is sharing scientific data with the broader research community, using Globus.
- Few facts about Eagle:
  - HPE ClusterStorE1000 with 8480 disk drives
  - Lustre Filesystem
  - Sustained transfer rate of 650GB/s
- The Globus endpoint on Eagle is called alcf#dtn_eagle.
GLOBUS NOMENCLATURE RELEVANT TO ACDC

- **Guest and Mapped Collections**
  - [https://docs.globus.org/globus-connect-server/v5.4/reference/collection/](https://docs.globus.org/globus-connect-server/v5.4/reference/collection/)

- **Groups**
  - [https://docs.globus.org/how-to/managing-groups/](https://docs.globus.org/how-to/managing-groups/)

- **Collaborators (ALCF account holders, external)**

- **Access Manager (Proxy)**
  - [https://docs.globus.org/api/transfer/endpoint/#managed_endpoints](https://docs.globus.org/api/transfer/endpoint/#managed_endpoints)

- **More information**: [https://docs.globus.org/faq/](https://docs.globus.org/faq/)
HIGH LEVEL PROCESS FOR PI’S USAGE OF EAGLE

• PI requests an Eagle allocation project
  • Allocations Committee reviews and approves requests
  • A project with a unixgroup, project directory and quota is setup for the approved Eagle allocation project

• A Globus sharing policy is created for the project with appropriate access controls

• PI creates a guest collection for the project, using the Globus mapped collection for Eagle. Note: PI needs to have an active ALCF Account and will need to log in to Globus using their ALCF credentials.
  • If PI already has a Globus account, it needs to be linked to their ALCF account

• PI adds collaborators to the guest collection. Collaborators can be ALCF users and external collaborators

• Can add with Read only or Read-Write permissions

• Anonymous read-only is enabled so collections can be shared publicly
Eagle storage allocations will be granted to projects focused on data sharing.

Interested users can submit an allocation request using the ALCF’s Directors Discretionary Allocation Request form: https://accounts.alcf.anl.gov/allocationRequests
WORKFLOW FOR A PI..

**STEP 1:** Authenticate to Globus

**STEP 2:** Search for Eagle endpoint
WORKFLOW FOR A PI (CONT..)

**STEP 3:** Navigate to your Project directory

**STEP 4:** Click on the folder to be shared
WORKFLOW FOR A PI (CONT.)

STEP 5: Add a guest collection

- Add a guest collection

STEP 6: Share with a collaborator

- Share with a collaborator
  - Path: /Eagle_Testing/Collab_Folder2
  - Share With: user
    - Group - make data accessible to members of a group
    - All users - make data accessible to all logged in users of Globus
    - Public (anonymous) - make data accessible to everyone
  - Username or Email
  - (Permissions) read, write
  - Add Permission
EMAIL NOTIFICATION TO COLLABORATOR

Globus user Avanthi Madduri (mantrala@alcf.anl.gov) shared the folder "/Eagle_Testing/Collab_Folder2/" on the endpoint "Collab_Folder2" (endpoint id: 040537c4-8348-4b93-91f6-46c160398a9e) with Ravi Madduri (madduri@anl.gov).

Use this URL to access the share:
https://app.globus.org/file-manager?&origin_id=040537c4-8348-4b93-91f6-46c160398a9e&origin_path=/Eagle_Testing/Collab_Folder2/&add_identity=114e9185-bda9-450f-ae7a-d3408ca2ccfb

The Globus Team
support@globus.org
# COLLABORATOR’S VIEW OF THE GUEST COLLECTION

## File Manager

### Collection: Collab_Folder2

<table>
<thead>
<tr>
<th>NAME</th>
<th>LAST MODIFIED</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>cypress.json</td>
<td>5/20/2021, 4:25 PM</td>
<td>3 B</td>
</tr>
<tr>
<td>External_folder_user</td>
<td>5/20/2021, 4:56 PM</td>
<td>–</td>
</tr>
<tr>
<td>ScreenShot_1.png_rename_t</td>
<td>5/20/2021, 4:19 PM</td>
<td>139.36 KB</td>
</tr>
<tr>
<td>ScreenShot_2.png_test</td>
<td>1/28/2022, 10:34 AM</td>
<td>262.14 KB</td>
</tr>
</tbody>
</table>
A PI CAN:

<table>
<thead>
<tr>
<th>Create, delete and share</th>
<th>Create, delete and share with ALCF users and collaborators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Manager</td>
<td>Specify someone as an Access Manager for the shared collection</td>
</tr>
<tr>
<td>Transfer</td>
<td>Transfer data between globus endpoints</td>
</tr>
</tbody>
</table>
A COLLABORATOR CAN..

- Read files from a collection*
  - If the collaborator has read permissions on the guest collection in Globus
- Write to a collection and delete files in a collection*
  - If the collaborator has write permissions on the guest collection in Globus

*assumes PI has the appropriate POSIX permissions on the files
CAVEATS

Only PI can create guest collections

Guest collections are active as long as the project is active and PI's account is active

What does a ‘Permission Denied’ error mean for:

- PI
- Others
QUESTIONS?

DOCUMENTATION & FAQS:
THANK YOU FOR YOUR TIME AND ATTENTION