

# Research Data Storage & Management at CHRF: Tools and Best Practices

Michal Kouril

Home — Research IT Services - Microsoft Internet Explorer

Address <http://bmi.cchmc.org/>

**BMI.CCHMC.ORG**

Cincinnati Children's Research IT Services  
Division of Biomedical Informatics

Home Resources Services Help About Us

You are here: Home

**Research IT Services homepage**

**Description of Resources, Services**

**Statistics, utilization**

**Help/self-help pages**

**Links for more help**

**HELP@BMI.CCHMC.ORG**

**– Monitored 8x5, triaged within 2 hours**

The Research IT Services group in the Division of Biomedical Informatics provides computational resources, services and support to investigators at Cincinnati Children's Research Foundation and the University of Cincinnati College of Medicine.

**Hot topics**

- Getting started
  - System access requests
  - Usage policies
  - Mission

**Computational cluster**

Linux Cluster Utilization

Detailed stats, policies, testimonials, user group, more...

**Help**

**For desktop support with Windows and Mac**, call the Cincinnati Children's Service Desk, 513-636-4100, or the UCit Help Desk, 513-556-HELP.

**For help with BMI-supported hardware and software**, email the [BMI Help Desk](#).

**For password changes**, go to the following do-it-yourself sites. For all other systems and applications, email the [BMI Help Desk](#).

- Cluster, calendar, wiki, web servers
- BMI Linux desktops, bullpen, internal Citrix servers
- Cincinnati Children's network and email

**Resources**

- Software
- Collaboration tools
- Research data warehouse
- Computational cluster
- Data storage
- Database servers
- Web servers

**Services**

- Basic research support
- Clinical research support
- Software development
- Hosting
- Mac, Linux and Solaris support

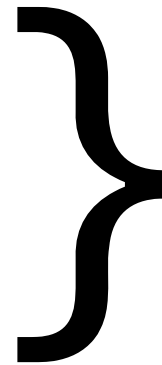
**Help**

Get more information about these tools including access instructions, training

Local intranet

# [Research] Data Storage

- Unstructured data
  - RDS
  - Xythos
- Structured data
  - Primary data portals
  - Electronic Lab Notebook
  - Databases, ...



Next open house

# Data Storage: Best Practices

- Avoid duplication – share!
- Avoid external hard drives
  - better, more reliable hardware in institutionally provided storage (RDS, Xyθος, ...)
- Allow access only for people that need access (HIPAA)
- Differentiate between access level (Read-Only and Read-Write)
- Make sure backup procedures conform to data retention requirements

# Data Storage: **ownership**

- **YOU** *should be* in charge of your data
- **YOU** *should be* able to  
approve/deny access for anyone
- **YOU** *should be* able to easily get additional storage  
(charge-back applies)
- **YOU** *should* ask questions if it is unclear who has  
access, where your data is, how it is protected, ...  
(we'll be happy to answer)

# RDS servers

- Storage accessible from within CCHMC network only (or VPN)
- IS provides 24x7 support (you can call 6-4100)
- H: (home/user directory)
  - everyone in CCHMC should have exactly one
- G: (group/shared directory)
  - all divisions with significant research budget should be using RDS
- project drives
  - if you have additional data storage needs

# RDS allocations

- H: drive 10GB free
- G: drive 100GB free
- In increments of 10GB for:
  - \$1/GB/Year – standard backup
  - \$2/GB/Year – extended backup
  - 50c/GB/Year – no backup (but still lots of redundancies)
- All data replicated automatically to a remote location

# Project drives

- dedicated storage for [but not limited to] small groups (e.g., research labs)
- administratively separate  
(space-wise, permissions-wise, accounting-wise)
- How to get it:
  - Go to <http://ibmi.cchmc.org> and fill out:
    - Start date, end date
    - Owner, project drive name and size
    - Backup option
    - Budget number (cost is \$1/GB/year)
  - Permissions can be controlled through <http://bmirdsdp/DAP>, entirely self-serviced!
  - Self-service file restoration: instructions on <http://bmi.cchmc.org>
- More later...



# RDS Tools

- iBMI <http://ibmi.cchmc.org>
- Permissions Manager <http://bmirdsdap/DAP>
- Reporting (to come, now on demand)
- Auditing tool (to come)

# iBMI

- iBMI
  - RDS only (for now)
    - request quota increase for H:, G:
    - request project drive
    - monitor usage
  - Xythos billing (coming)
  - Software billing (coming)
  - other BMI services billing (coming)

# Permissions Manager

- Self-Service Request/Approval process
- Request access for yourself or somebody else
- If you are an authorizer for a directory
  - Easy process to approve/deny requests

Welcome, Michal Kouril

## Permissions Manager

Home Help

Summary

Pending Requests

Permission Requests

Membership Requests

Management

Administration

Advanced Administration

Search

Reports

Configuration

Finish

**1 User**  
Indicates the user for whom the request is made. Click **Change User** to select a different user.  
Michal Kouril (CHMCCORP) [Change User...](#)

**2 Folders**  
Click **Browse** to select the required folders. Close the selection dialog box to add the folders to the object list.  
Browse...  
In the object list, manually add or remove folders as necessary. Use a semi-colon (;) to separate the objects.  
Click **Add** to move the folders in the object list to the Operations table below.  
Add ↓

**3 Operations**  
For each folder, select the required operation from the Available Operations drop-down list. To remove a folder, select its checkbox and click **Remove**.  
change the outcome  
Mandatory field  
Directory Available operations Permissions  
Remove

**4 Explanation**  
Type a free-text reason for making the

Search:  Search

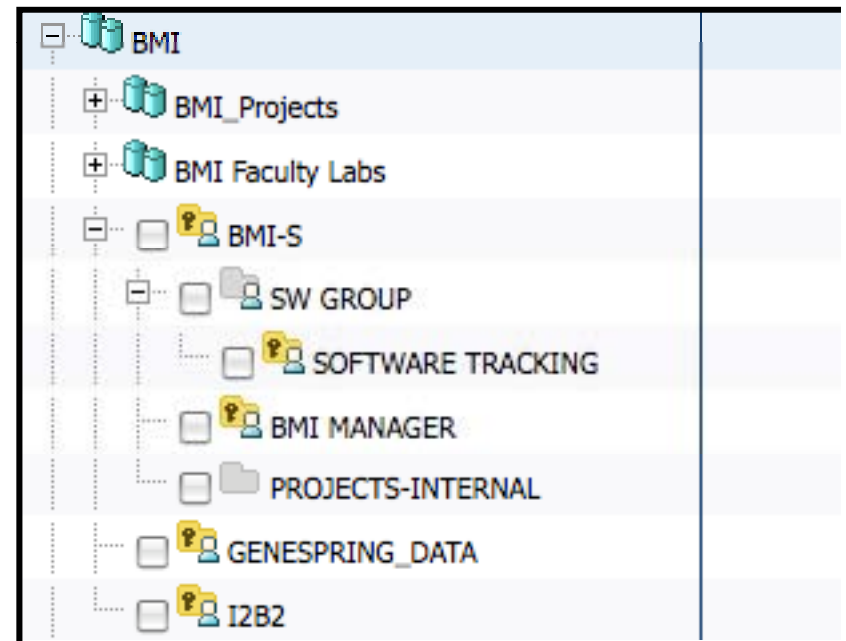
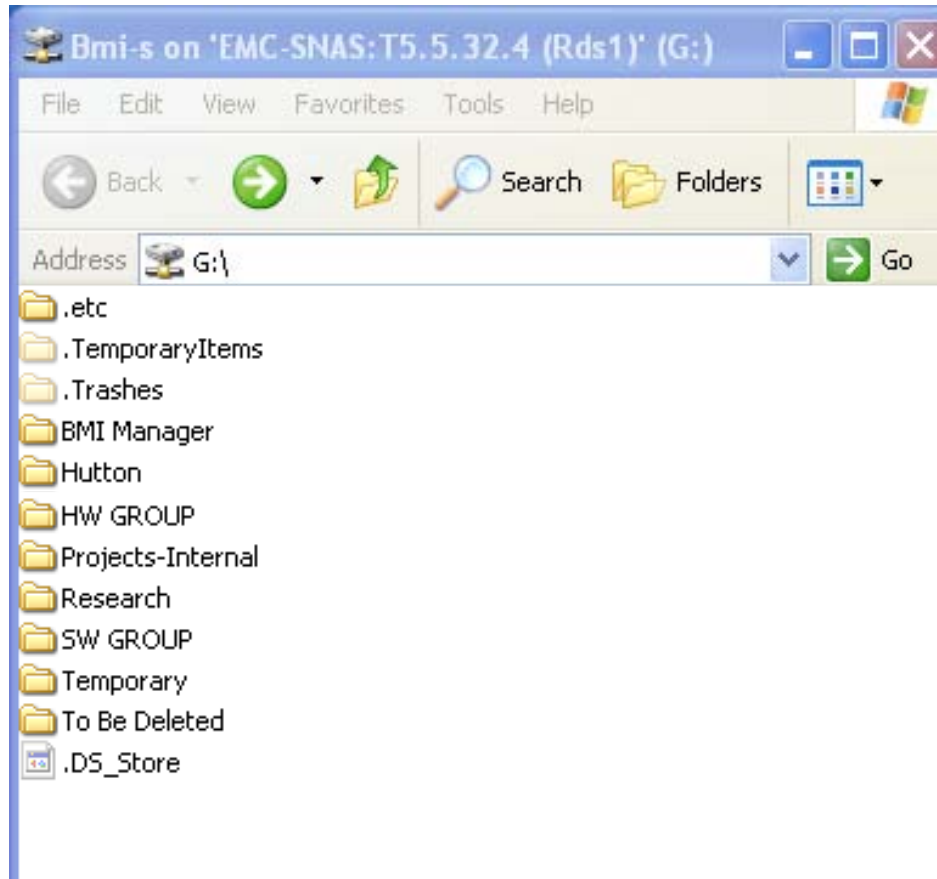
Display Name	Department	Display Path
BMI		
BMI_Projects		
BMI Faculty Labs		
MALAB		\\RDS1.CCHMC.ORG\BMI-1\MALAB
PESTIAN_LAB		\\RDS1.CCHMC.ORG\BMI-2\PESTIAN_LAB
BMI-S		\\RDS1.CCHMC.ORG\BMI-S
I2B2		\\RDS1.CCHMC.ORG\BMI-1\I2B2
GENESPRING_DATA		\\RDS1.CCHMC.ORG\BMI-1\GENESPRING_DATA
AdMed		
Allergy		
CRC		
DBE		
DevBio		
ExpHem		
Gastro		
HumGen		
ID		

OK Cancel

# RDS Case Studies

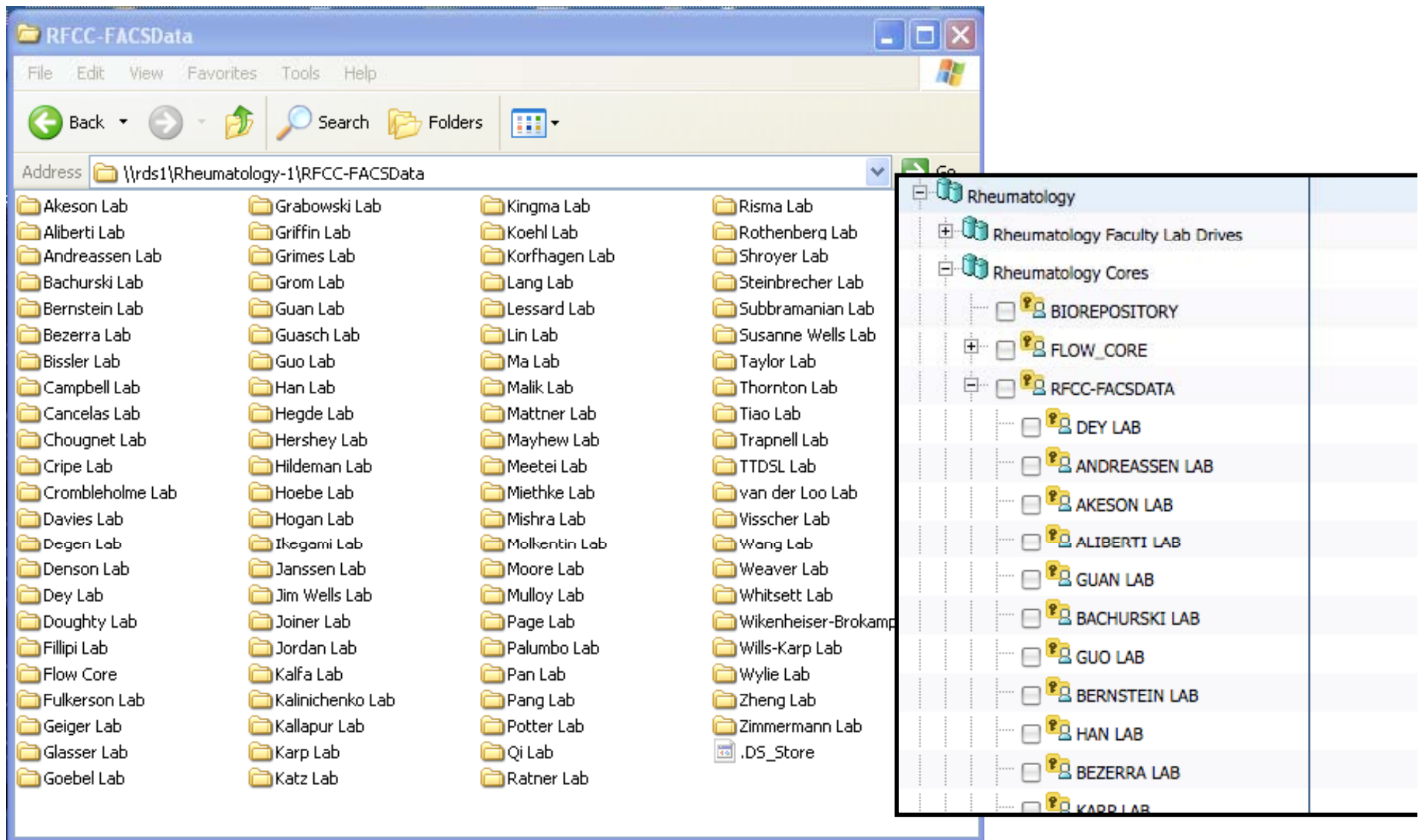
- BMI shared drive
- Flow project drive
- PulBio project drives

# Case Study: BMI Shared Drive

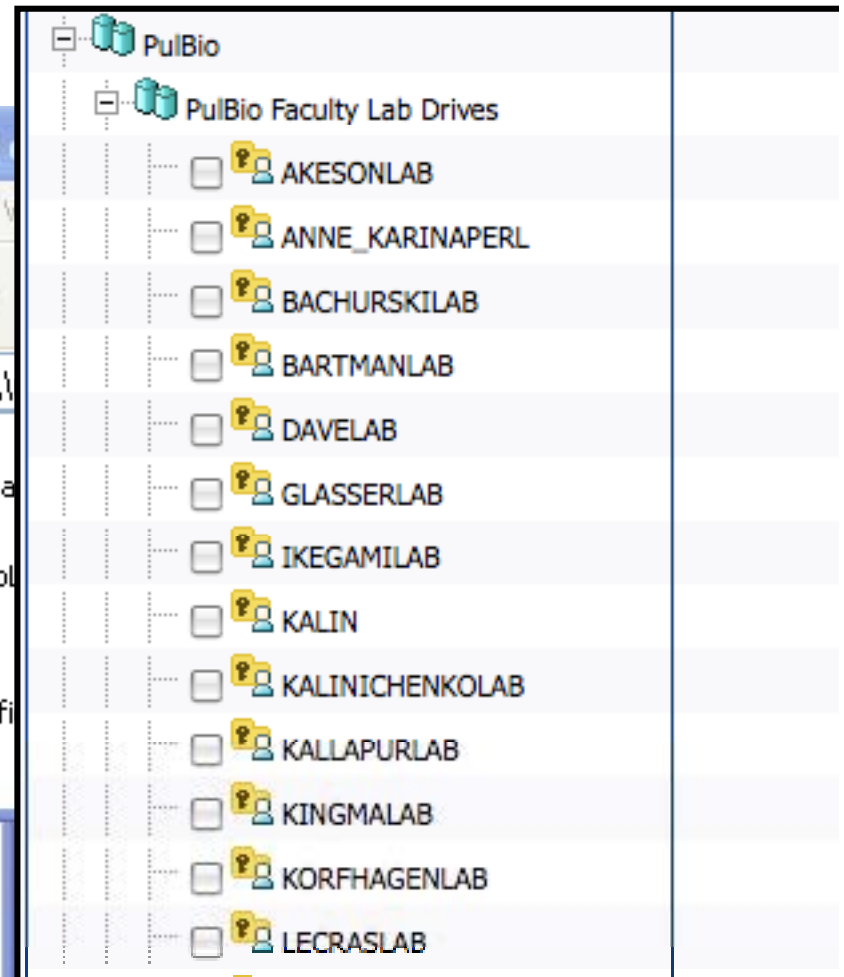
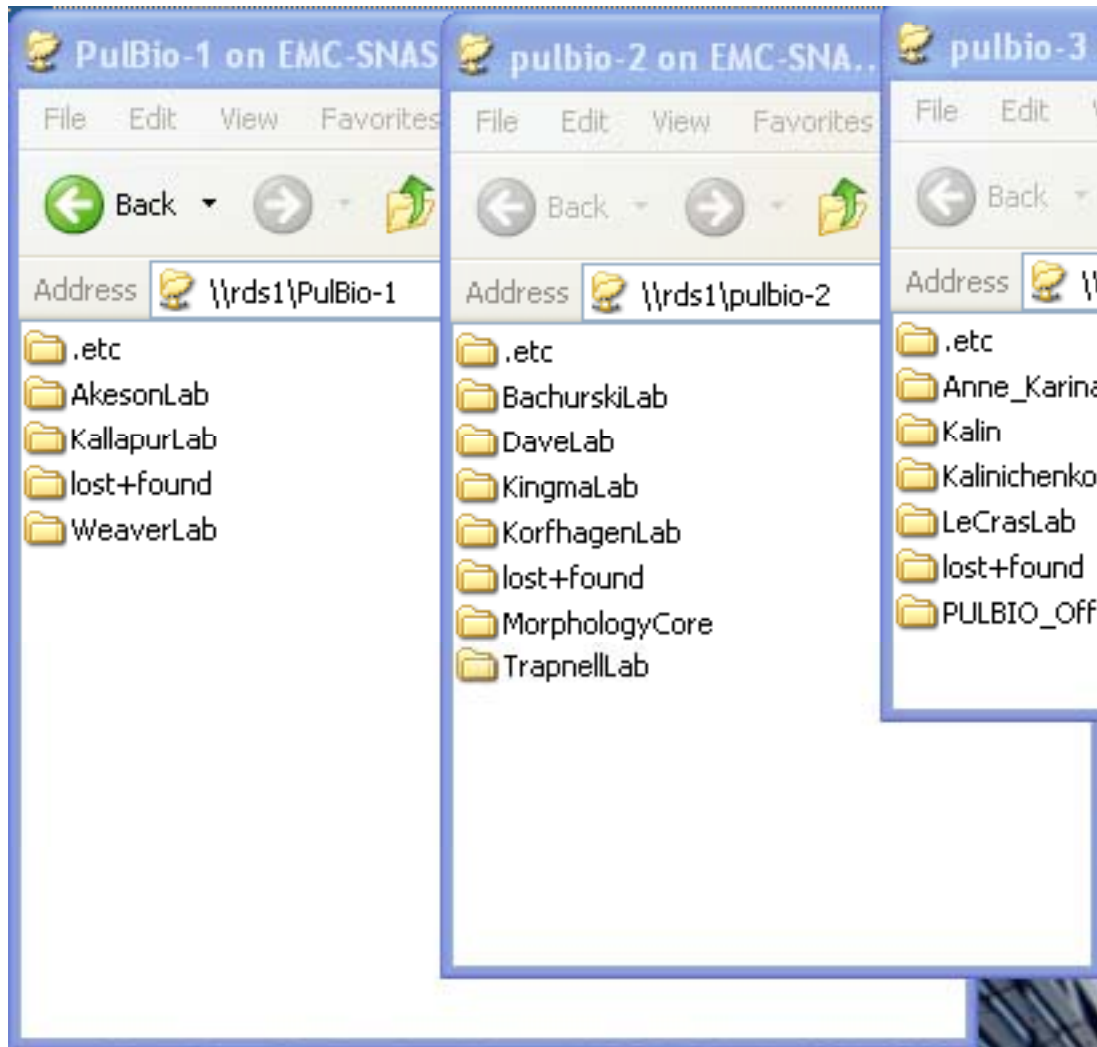


change the outcome\*

# Case Study: Flow project drive



# Case Study: PulBio project drives



# Xythos

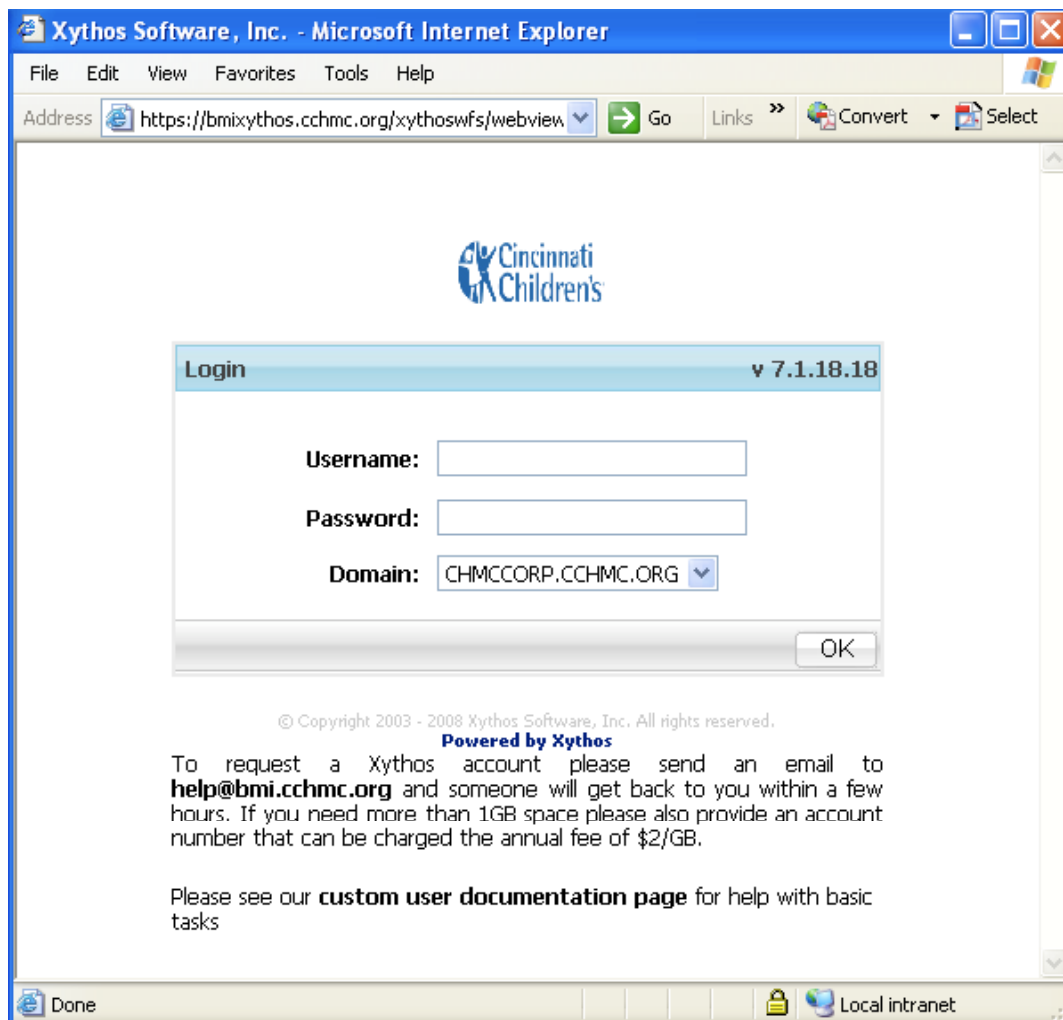
- Web-based storage, can be used to share data with non-CHMC collaborators (replaces ftp)
  - fine-grained permissions management capabilities
    - **YOU** are in charge
  - Quota management capabilities
  - Audit trails, change notification
- HTTP/SSL/WebDav service – encrypted data transfer
- Data is backed up
- \$2/GB/year above free 1GB quota



# Xythos

- Access at <http://bmixythos.cchmc.org>  
request account by emailing [help@bmi.cchmc.org](mailto:help@bmi.cchmc.org)

Details, documentation at <http://bmi.cchmc.org>  
(search for "Xythos")



# Xythos Tools

- iBMI (coming)
- Embedded permissions manager (ticket system)
- Audit trails (per request)

# FAQ

- *Do I need a project drive?*
  - “Maybe”, “It depends” – send an email to [help@bmi.cchmc.org](mailto:help@bmi.cchmc.org) and we’ll work with you.
- *Can I allow someone else to access data on my H: drive?*
  - H: drives are personal and no one else should have access to data. They are not meant for sharing data.
- *I need to increase the size of my H:, G: or project drive. How do I do that?*
  - <https://ibmi.cchmc.org>
- *Can I get my project drive mapped automatically?*
  - Call 6-4100 – BMI can’t modify the login script.

# FAQ

- *How do I map a project drive myself?*
  - <http://bmi.cchmc.org> (search mapping) DEMO
- *How do I restore a file on RDS myself?*
  - <http://bmi.cchmc.org> (search restore) DEMO
- *How do I request/grant permissions to a project drive?*
  - Go to <https://bmirdsdp/dap> DEMO
- *Is my desktop backed up [by IS]?*
  - No

# What else can we do for you? What can we do differently?

- Please do help us (BMI) continue to improve Research IT Services, we need your feedback:



- [John.Hutton@cchmc.org](mailto:John.Hutton@cchmc.org)
- [Keith.Marsolo@cchmc.org](mailto:Keith.Marsolo@cchmc.org)
- [Michal.Kouril@cchmc.org](mailto:Michal.Kouril@cchmc.org)
- [Michael.Wagner@cchmc.org](mailto:Michael.Wagner@cchmc.org)
- OR: [help@bmi.cchmc.org](mailto:help@bmi.cchmc.org)