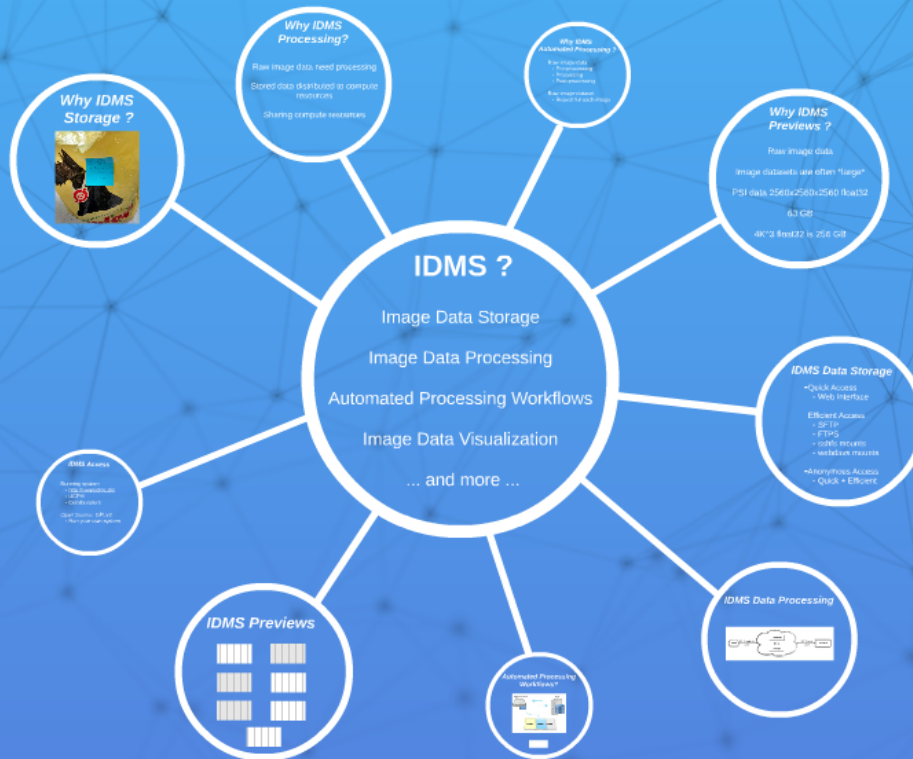
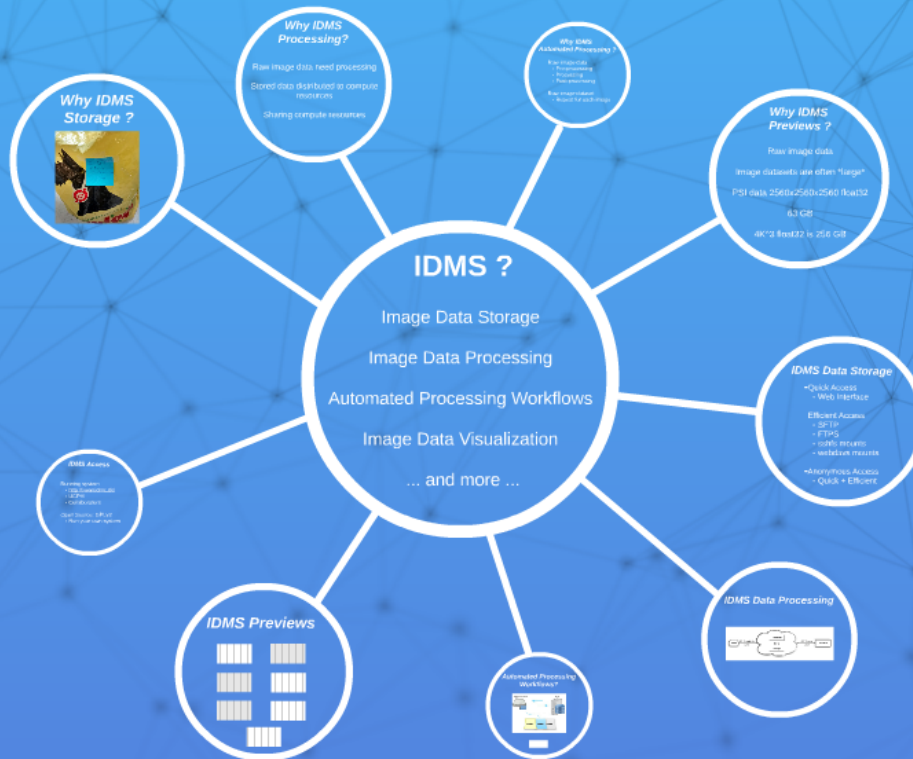


# Imaging Data Management System



# IDMS

# Imaging Data Management System



# IDMS

# IDMS ?

Image Data Storage

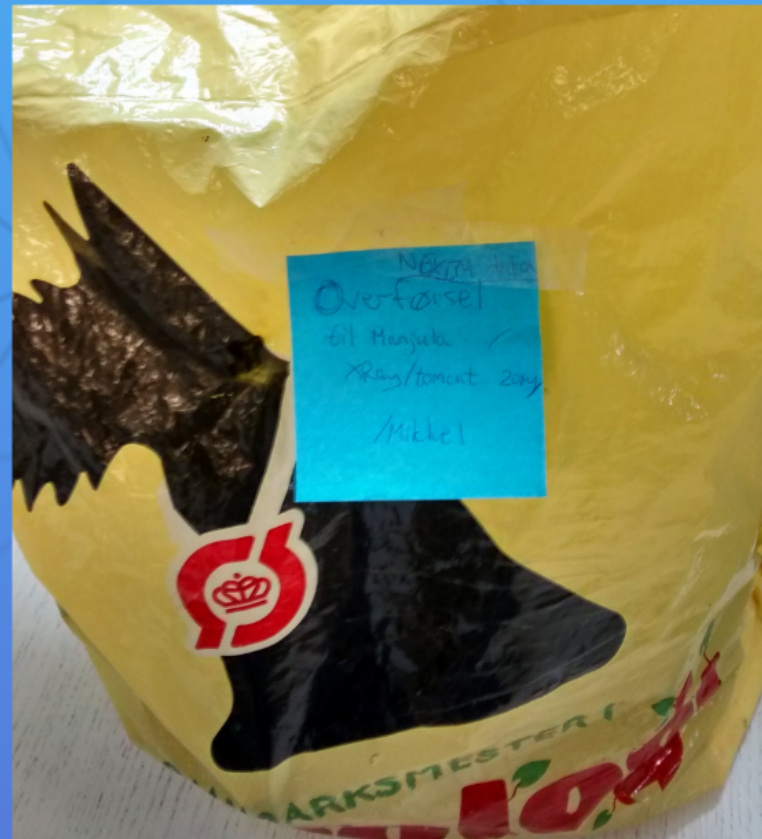
Image Data Processing

Automated Processing Workflows

Image Data Visualization

... and more ...

# Why IDMS Storage ?





NEKIM ditu  
Overførsel  
til Manjula ✓  
XRay/tomcat 2019  
/Mikkel



MARKSMESTER



# *Why IDMS Processing?*

Raw image data need processing

Stored data distributed to compute  
resources

Sharing compute resources

# *Why IDMS Automated Processing ?*

Raw image data

- Pre-processing
- Processing
- Post-processing

Raw image dataset

- Repeat for each image

# *Why IDMS Previews ?*

Raw image data

Image datasets are often *\*large\**

PSI data 2560x2560x2560 float32

63 GB

4K<sup>3</sup> float32 is 256 GB



# IDMS ?

Image Data Storage

Image Data Processing

Automated Processing Workflows

Image Data Visualization

... and more ...

# *IDMS Data Storage*

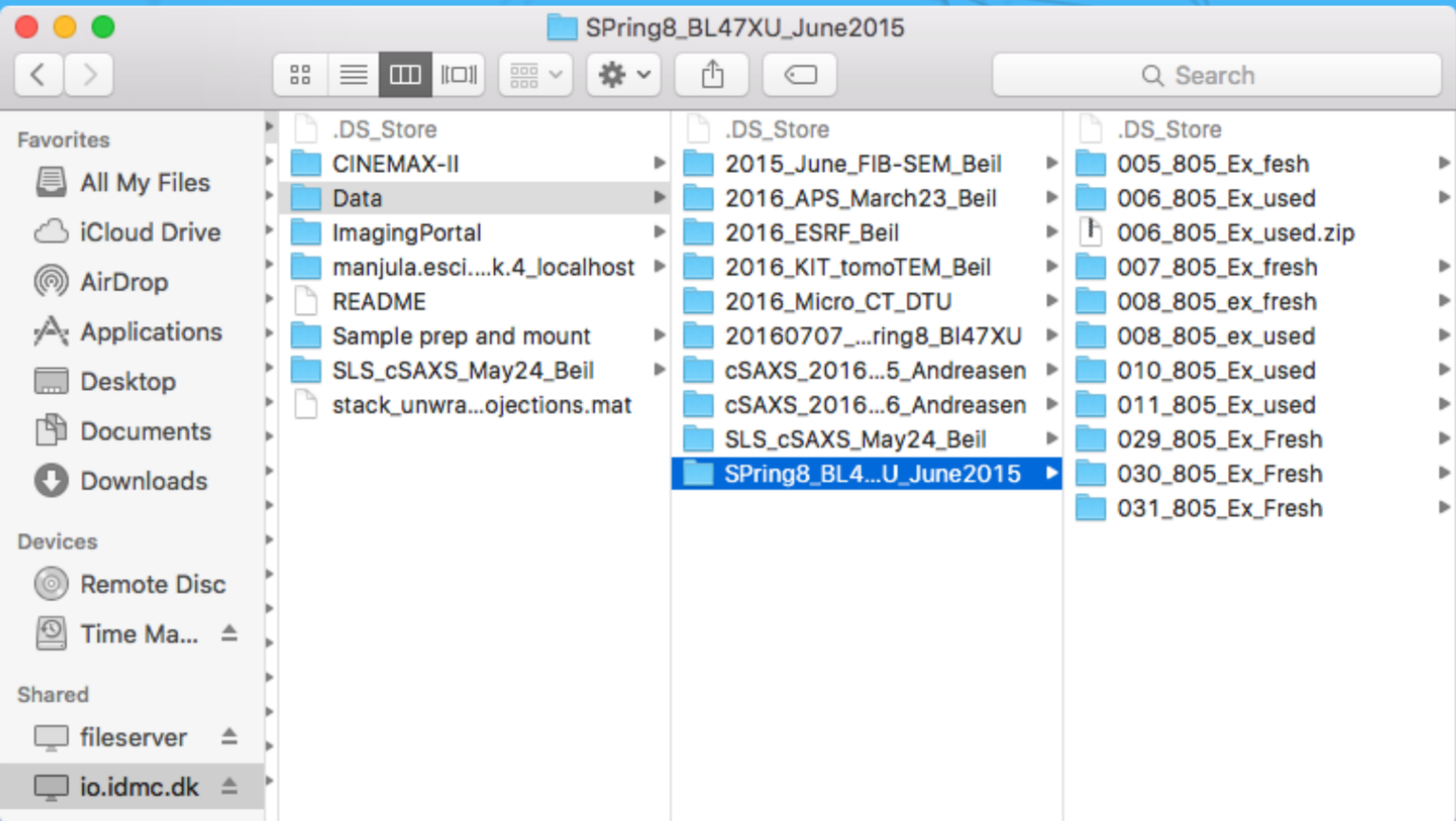
- Quick Access
  - Web Interface
- Efficient Access
  - SFTP
  - FTPS
  - sshfs mounts
  - webdavs mounts
- Anonymous Access
  - Quick + Efficient



# *IDMS Data Storage*

- Quick Access
  - Web Interface
- Efficient Access
  - SFTP
  - FTPS
  - sshfs mounts
  - webdavs mounts
- Anonymous Access
  - Quick + Efficient





SPring8\_BL47XU\_June2015

Search

Favorites

- All My Files
- iCloud Drive
- AirDrop
- Applications
- Desktop
- Documents
- Downloads

Devices

- Remote Disc
- Time Ma... ▲

Shared

- fileserver ▲
- io.idmc.dk ▲

- |                               |                                 |                     |
|-------------------------------|---------------------------------|---------------------|
| .DS_Store                     | .DS_Store                       | .DS_Store           |
| CINEMAX-II                    | 2015_June_FIB-SEM_Beil          | 005_805_Ex_fesh     |
| Data                          | 2016_APS_March23_Beil           | 006_805_Ex_used     |
| ImagingPortal                 | 2016_ESRF_Beil                  | 006_805_Ex_used.zip |
| manjula.esci....k.4_localhost | 2016_KIT_tomoTEM_Beil           | 007_805_Ex_fresh    |
| README                        | 2016_Micro_CT_DTU               | 008_805_ex_fresh    |
| Sample prep and mount         | 20160707_...ring8_BI47XU        | 008_805_ex_used     |
| SLS_cSAXS_May24_Beil          | cSAXS_2016...5_Andreasen        | 010_805_Ex_used     |
| stack_unwra...ojections.mat   | cSAXS_2016...6_Andreasen        | 011_805_Ex_used     |
|                               | SLS_cSAXS_May24_Beil            | 029_805_Ex_Fresh    |
|                               | <b>SPring8_BL4...U_June2015</b> | 030_805_Ex_Fresh    |
|                               |                                 | 031_805_Ex_Fresh    |

# *IDMS Data Storage*

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# MIG Imaging Data Management Center

- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
- Logout
- Server Admin

### File Manager

/ CINE CINE Exen Reco **Cph-CT-Toolbox**

- /
- Bardino
- CINEMA
  - 2016-10-12\_NTNU\_Cement
  - CINEMAX-II
    - Exercises
      - Flow\_Modeling
      - Reconstruction
        - CaseGFRP
        - Cph-CT-Toolbox
          - conf
          - doc
          - job-templates
          - plugins
          - presentations
        - Students
        - presentations
      - Data
      - ImagingPortal
      - SLS\_cSAXS\_May24\_Beil
      - Sample prep and mount
      - manjula.esci.nbi.dk.4\_local
    - Chrome-Open-ID
    - DTU Imaging
    - GreenClimate
    - IDMC
    - LM-Glasfiber
    - LU
    - NEXIM

Name	Size	Type	Date Modified
conf	4.00 KB	dir	2016-24-08 14:28
doc	4.00 KB	dir	2016-29-08 10:07
job-templates	4.00 KB	dir	2016-24-08 14:21
plugins	4.00 KB	dir	2016-19-08 09:20

- Open Folder
- Create Folder
- Create File
- Upload File
- Pack
- Copy
- Paste
- Delete Folder
- Rename
- Image Settings
- Share Link
- Data Transfers >
- Advanced >

Click to open upload helper

4 files in current folder of total 16.00 KB in size.

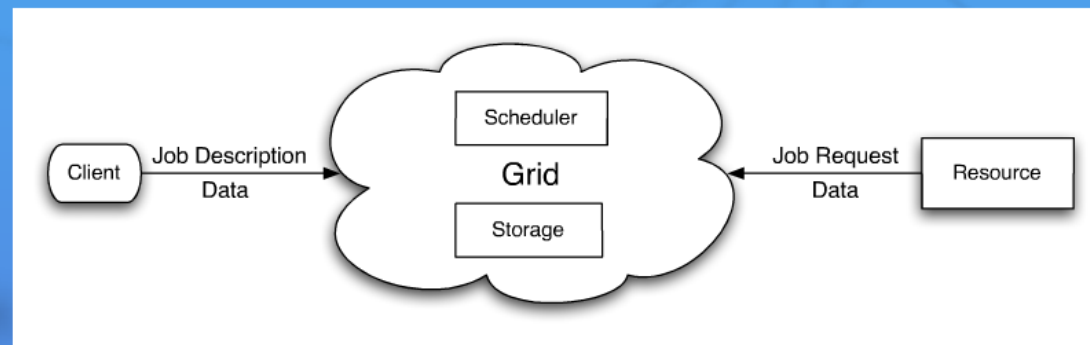
Enable touch screen interface (all clicks trigger menu)  Show hidden files and dirs

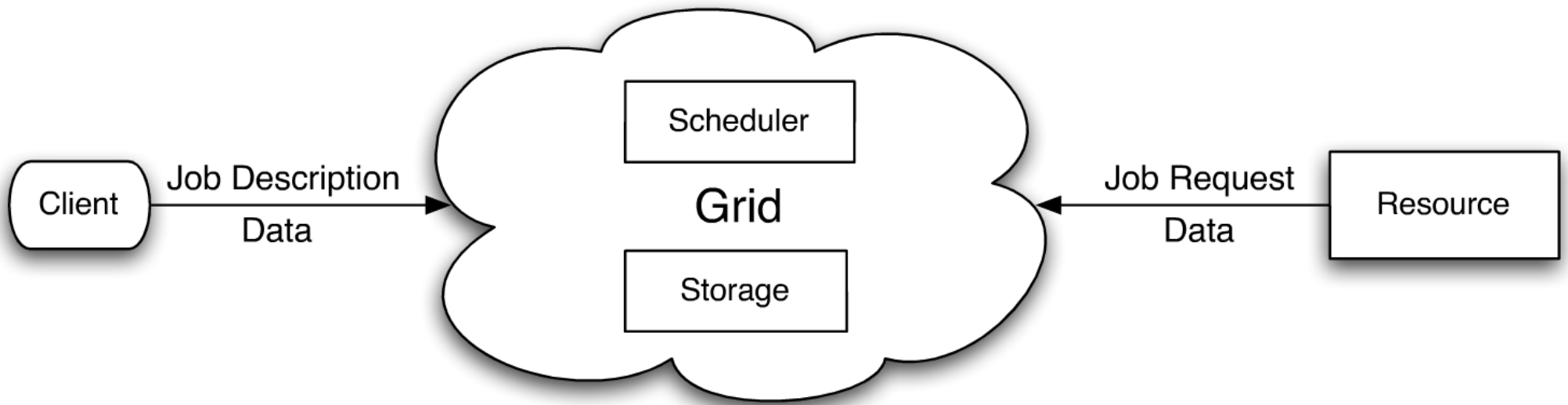
# *IDMS Data Storage*

- Quick Access
  - Web Interface
- Efficient Access
  - SFTP
  - FTPS
  - sshfs mounts
  - webdavs mounts
- Anonymous Access
  - Quick + Efficient

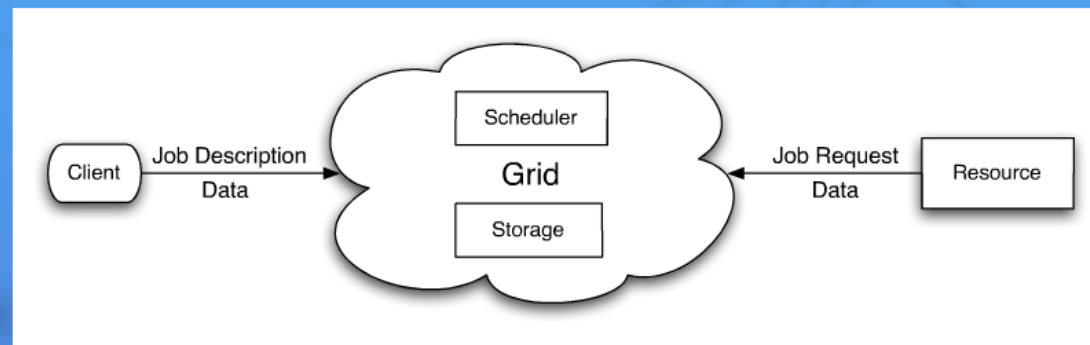


# *IDMS Data Processing*

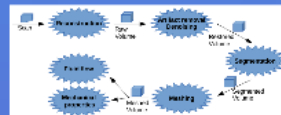
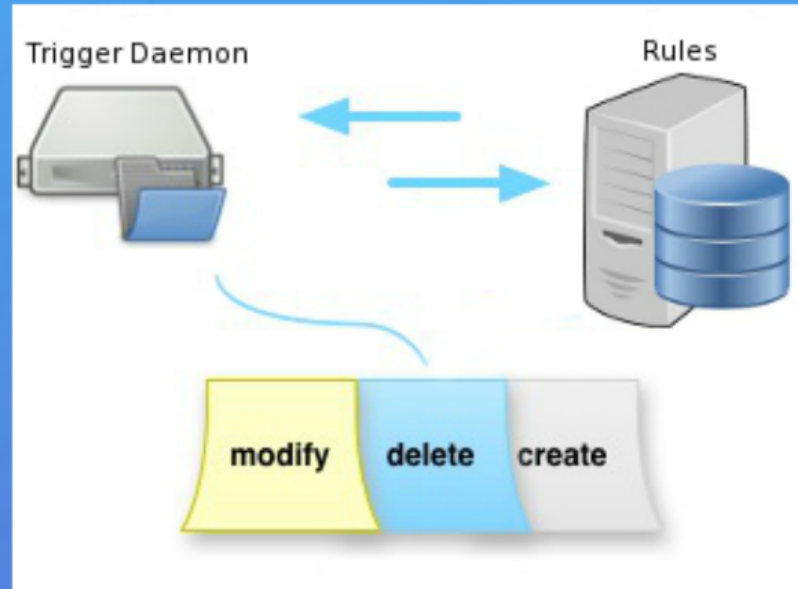




# *IDMS Data Processing*



# Automated Processing Workflows?



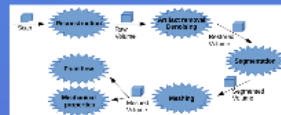
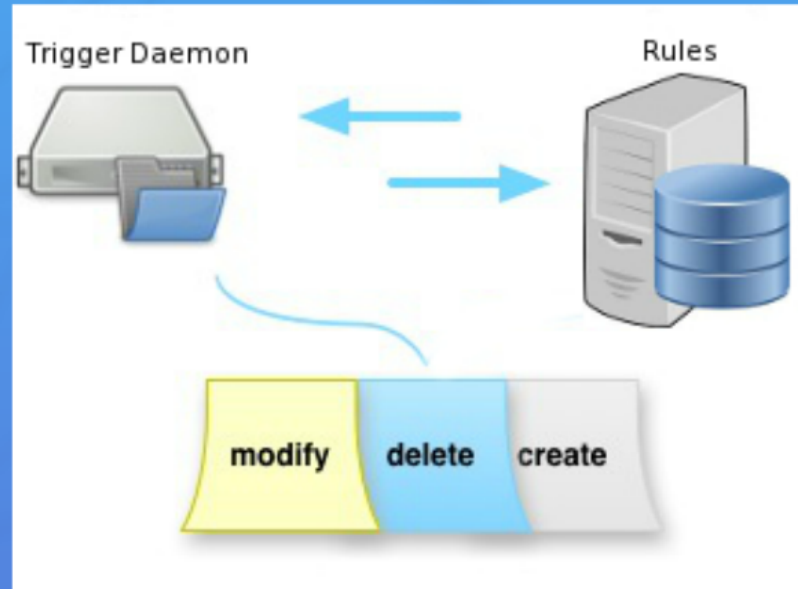


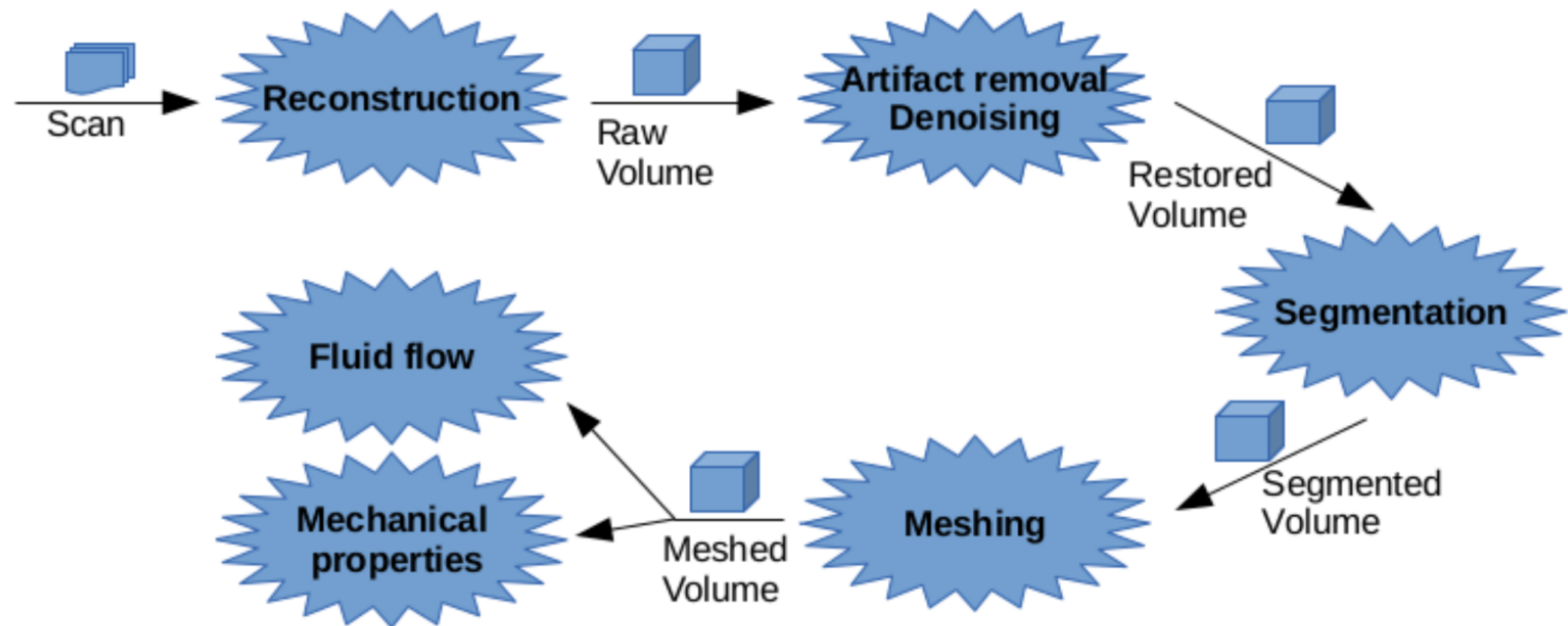
Trigger Daemon

Rules

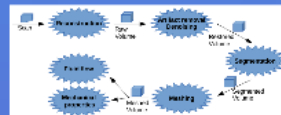
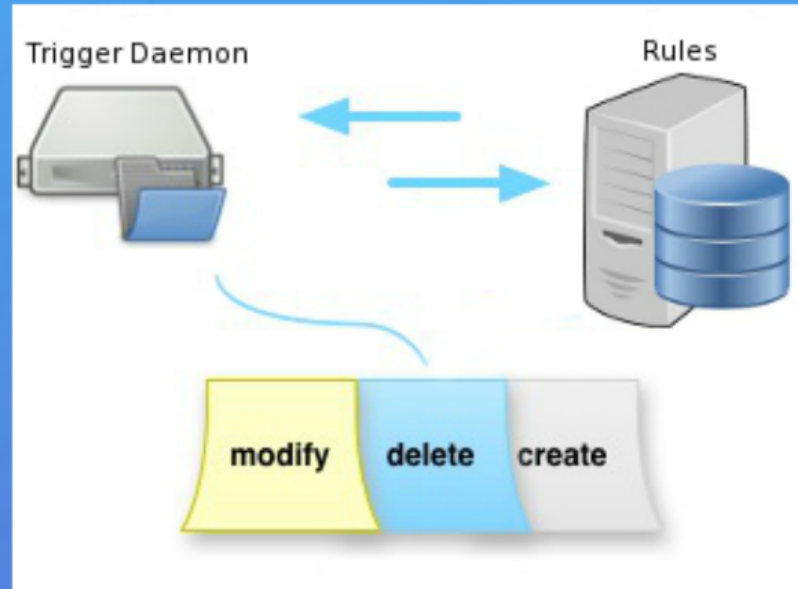


# Automated Processing Workflows?

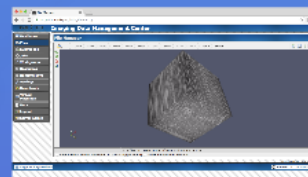
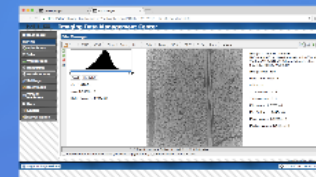
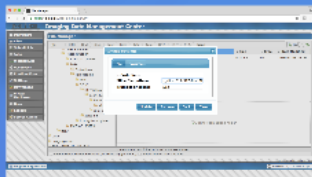
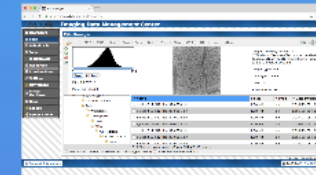
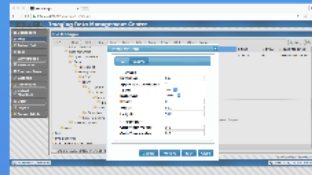
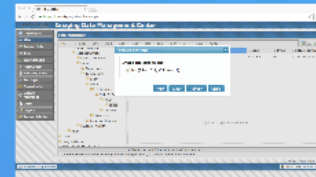
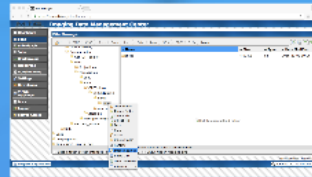




# Automated Processing Workflows?



# IDMS Previews





# MIG Imaging Data Management Center

- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
- Logout
- Server Admin

### File Manager

/ CINE CINE Stud Exeri Reco Data Tomr SFoV CT-T 512x hann

- flow\_modeling
- Reconstruction
  - Cph-CT-Toolbox
  - Data
    - Projections
    - Tomograms
    - LFoV
    - SFoV
      - CT-Toolbox
        - 512x512x512
          - hann
            - slices

- ram-la
- Zeiss-bin
- from-job-templ
- MATLAB\_ASTR
- Rehr
- Data
- ImagingPortal
- SLS\_cSAXS\_May24\_Boil

Name	Size	Type	Date Modified
slices	4.00 KB	dir	2016-23-08 19:26

Click to open upload helper

current folder of total 4.00 KB in size.

Show hidden files and dirs

- Open Folder
- Create Folder
- Create File
- Upload File
- Pack
- Copy
- Paste
- Delete Folder
- Rename
- Image Settings
- Share Link
- Data Transfer
- Advanced >

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- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
- Logout
- Server Admin

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      - LFoV
      - SFoV
        - CT-Toolbox
          - 512x512x
            - hann
              - slic
              - ram-la
              - Zeiss-bin
              - from-job-templ
            - MATLAB\_ASTRA
          - Rehr
        - Data
        - ImagingPortal
        - SLS\_cSAXS\_May24\_Boil

Enable touch screen interface (a

Size	Type	Date Modified
4.00 KB	dir	2016-23-08 19:26

upload helper

Exit code: 0 Description: OK (done in 0.009s)

### Image Settings

File Volume

**-- Image --**

**Extension:**

**Apply to sub-folders:**

**Type:**

**Data type:**

**Offset:**

**Width:**

**Height:**

**-- Preview --**

**Cutoff min value:**

**Cutoff max value:**

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- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
- Logout
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### File Manager

CINE CINE Stud Exer Reco Data Tom SFoV CT-T 512x hann

Image Settings

File Volume

-- Volume --

Slice file pattern:

Number of slices:

Update Remove Back Close

Size	Type	Date Modified
4.00 KB	dir	2016-23-08 19:26

1 files in current folder of total 4.00 KB in size.

Enable touch screen interface (all clicks trigger menu)  Show hidden files and dirs

Exit code: 0 Description: OK (done in 0.009s)



# MIG Imaging Data Management Center

- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
- Logout
- Server Admin

### File Manager

CINE CINE Stud Exer Reco Data Tom SFoV CT-T 512x hann

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  - Data
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      - SFoV
        - CT-Toolbox
          - 512x512
            - hann
              - slices
              - ram-lak
              - Zeiss-bin
              - from-job-template
              - MATLAB\_ASTR
            - Rehr

- Data
- ImagingPortal
- SLS\_cSAXS\_May24\_Beil

**Image Settings**

**Image file extensions:**

- bin (Files: 512, Volumes: 1)

New Clear Refresh Close

Size	Type	Date Modified
4.00 KB	dir	2016-23-08 19:26

Click to open upload helper

1 files in current folder of total 4.00 KB in size.

Enable touch screen interface (all clicks trigger menu)  Show hidden files and dirs


Exit code: 0 Description: OK (done in 0.009s)

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- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
- Logout
- Server Admin

### File Manager

/ > CINE > CINE > Stud > Exeri > Reco > Data > Tomr > SFoV > CT-T > 512x > hann > **\_slices**



0 255

Reset Set Cutoff

Min: 1.8707e-1  
Max: 1.9465e+0

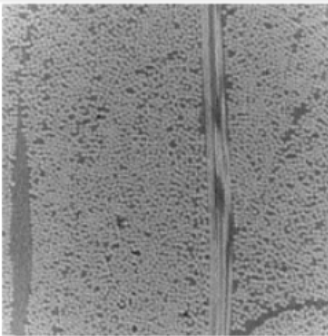


Image: CINEMA/CINEMAX-II/Students/Exercises/Reconstruction/Data/Tomr Toolbox/512x512x512/hann/slices/z\_slice-512-512-float32-0000.bin

Image Type: raw

Data Type: float32

Offset: 0

X Dimension: 512

Name	Size	Type	Date Modified
z_slice-512-512-float32-0000.bin	1.00 MB	bin	2016-23-08 19:25
z_slice-512-512-float32-0001.bin	1.00 MB	bin	2016-23-08 19:25
z_slice-512-512-float32-0002.bin	1.00 MB	bin	2016-23-08 19:26
z_slice-512-512-float32-0003.bin	1.00 MB	bin	2016-23-08 19:26
z_slice-512-512-float32-0004.bin	1.00 MB	bin	2016-23-08 19:26
z_slice-512-512-float32-0005.bin	1.00 MB	bin	2016-23-08 19:25
z_slice-512-512-float32-0006.bin	1.00 MB	bin	2016-23-08 19:25

513 files in current folder of total 512.00 MB in size.

Enable touch screen interface (all clicks trigger menu)
  Show hidden files and dirs

Exit code: 0 Description: OK (done in 0.009s)




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- Dashboard
- Files
- Submit Job
- Jobs
- Workgroups
- Resources
- Runtime Envs
- Settings
- Downloads
- Virtual Machines
- Docs
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### File Manager

CINE CINE Stud Exeri Reco Data Tomr SFoV CT-T 512x hann slices



0 255  
Reset Set Cutoff

Min: 1.8707e-1  
Max: 1.9465e+0  
Slider Scale: 1.4494e+2

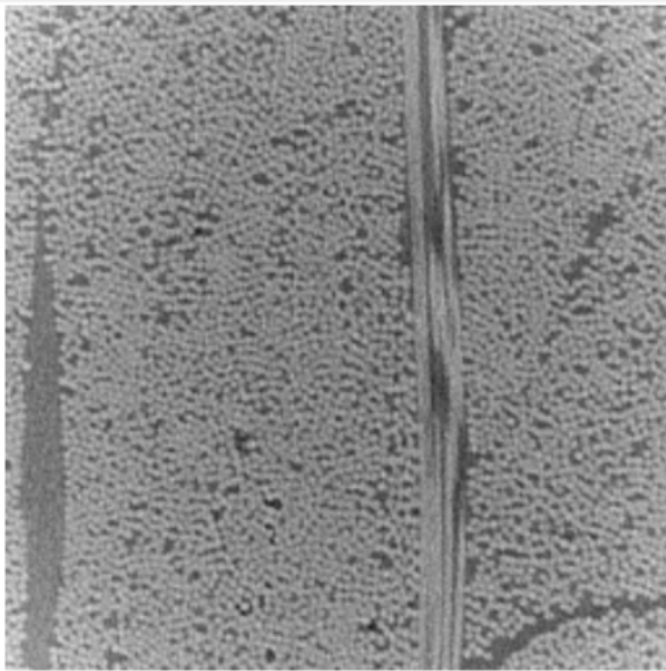


Image: CINEMA/CINEMAX-II/Students/Exercises/Reconstruction/Data/Tomr Toolbox/512x512x512/hann/slices/z\_slice-512-512-float32-0000.bin  
Image Type: raw  
Data Type: float32  
Offset: 0  
X Dimension: 512  
Y Dimension: 512  
Min Value: 1.8707e-1  
Max Value: 1.9465e+0  
Mean Value: 1.1295e+0  
Median Value: 1.1454e+0

513 files in current folder of total 512.00 MB in size.  
 Enable touch screen interface (all clicks trigger menu)  Show hidden files and dirs

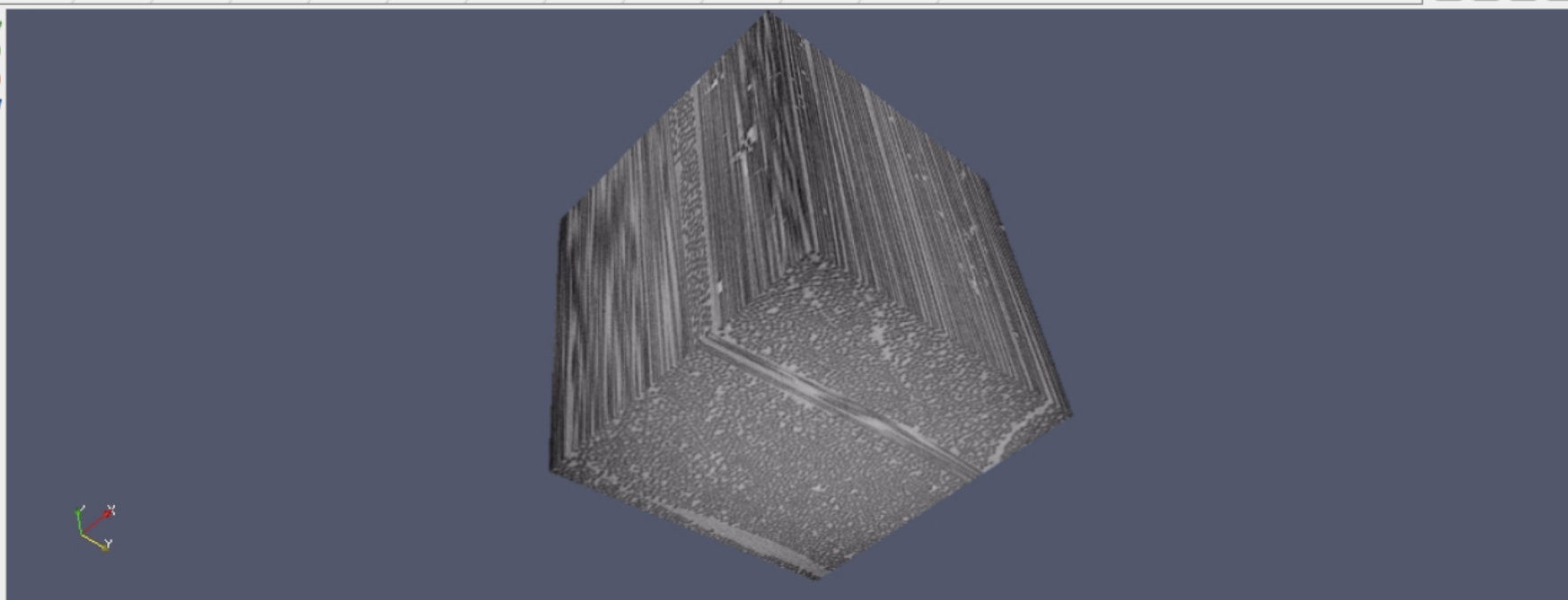
Exit code: 0 Description: OK (done in 0.007s)

# MiG Imaging Data Management Center

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- Files
- Submit Job
- Jobs
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### File Manager

/ CINE CINE Stud Exer Reco Data Tomr SFoV CT-T 512x hann slices

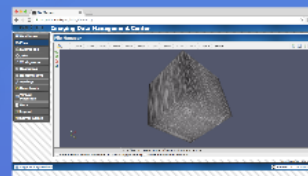
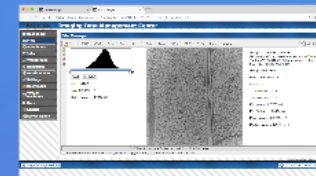
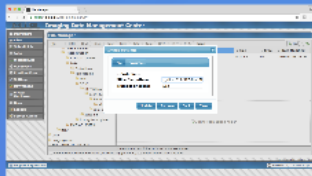
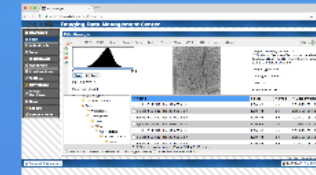
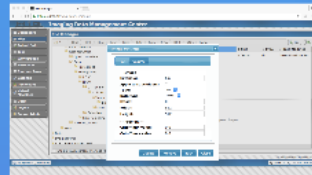
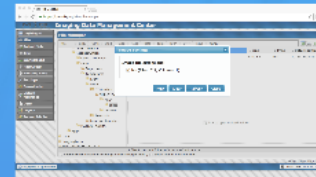
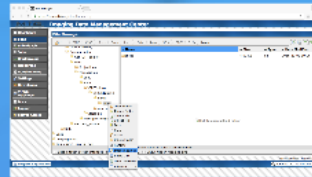


513 files in current folder of total 512.00 MB in size.

Enable touch screen interface (all clicks trigger menu)  Show hidden files and dirs

Exit code: 0 Description: OK (done in 0.009s)

# IDMS Previews



# *IDMS Access*

Running system

- <http://www.idmc.dk/>
- UCPH
- Collaborators

Open Source: GPLv2

- Run your own system



# IDMS ?

Image Data Storage

Image Data Processing

Automated Processing Workflows

Image Data Visualization

... and more ...

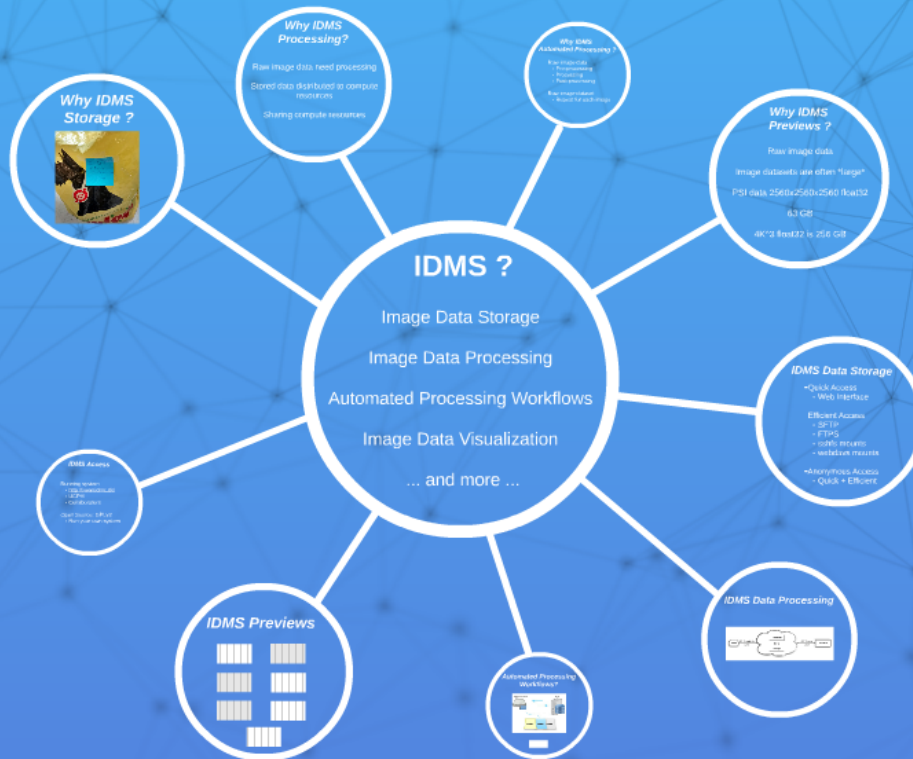




***Thank You***

***Questions ?***

# Imaging Data Management System



# IDMS