OMERO: why should I bother?

WARWICK

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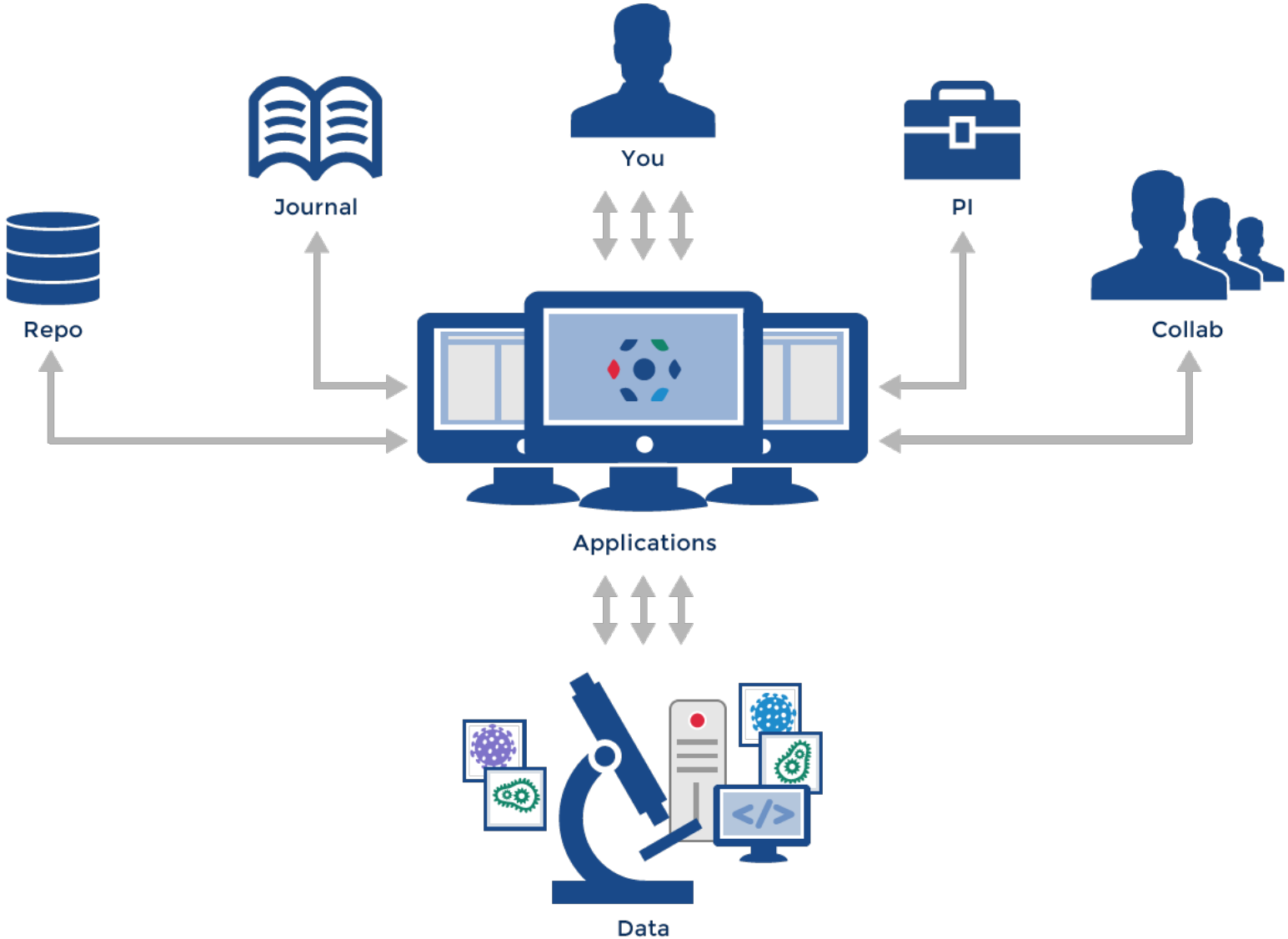
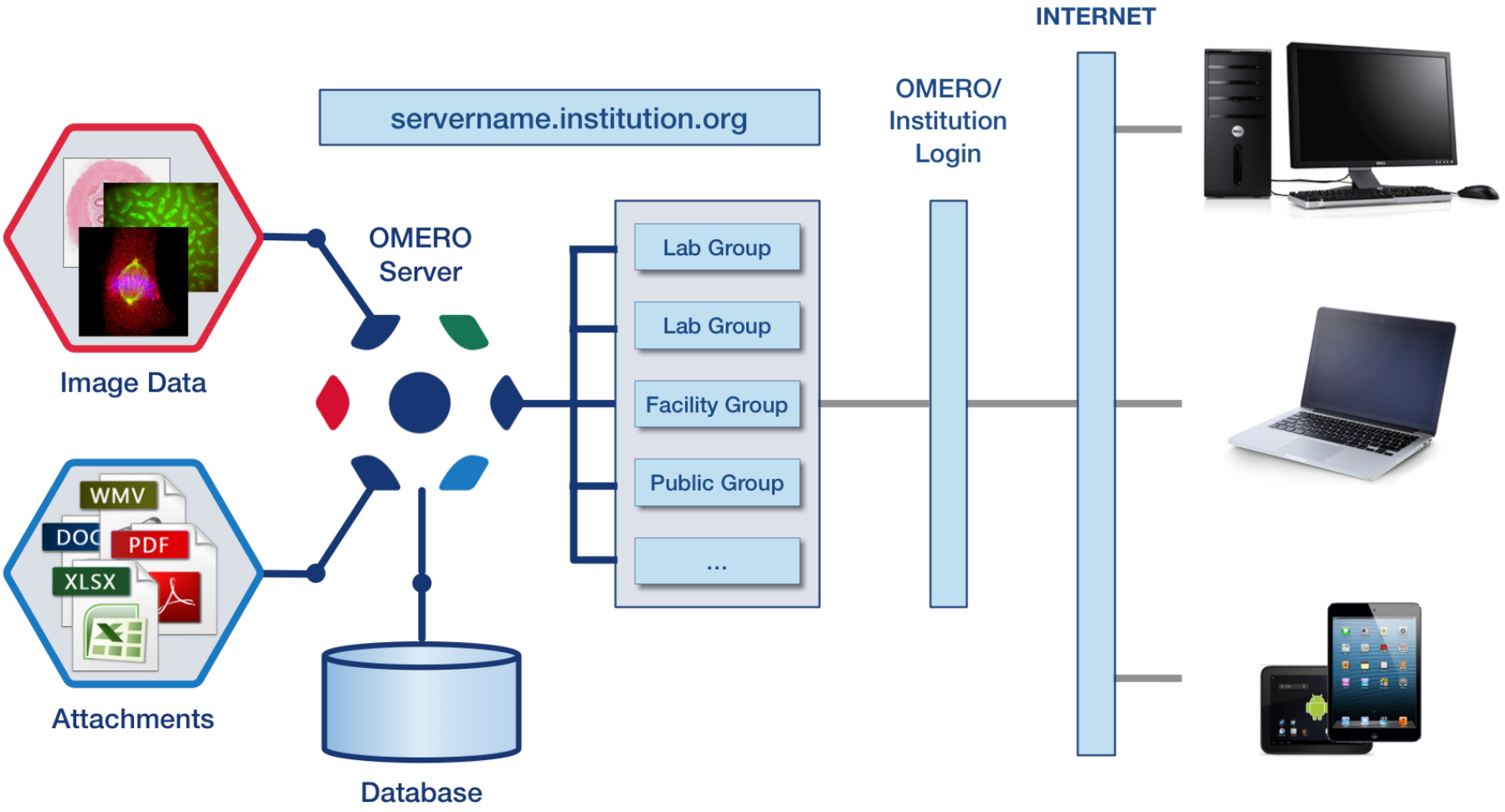
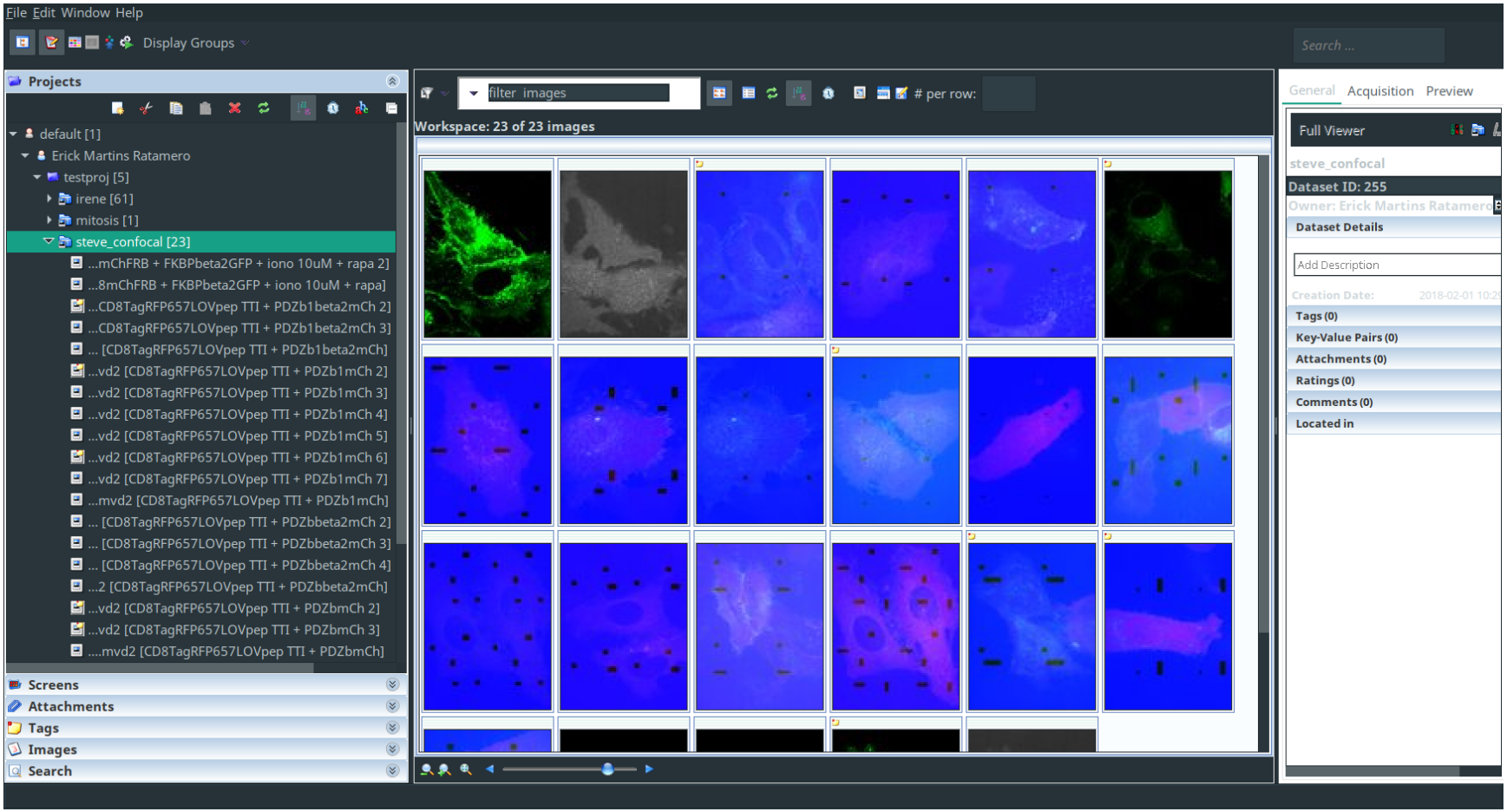
The Data Paradigm



The OMERO model



OMERO.insight: desktop client



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OMERO.web: web interface

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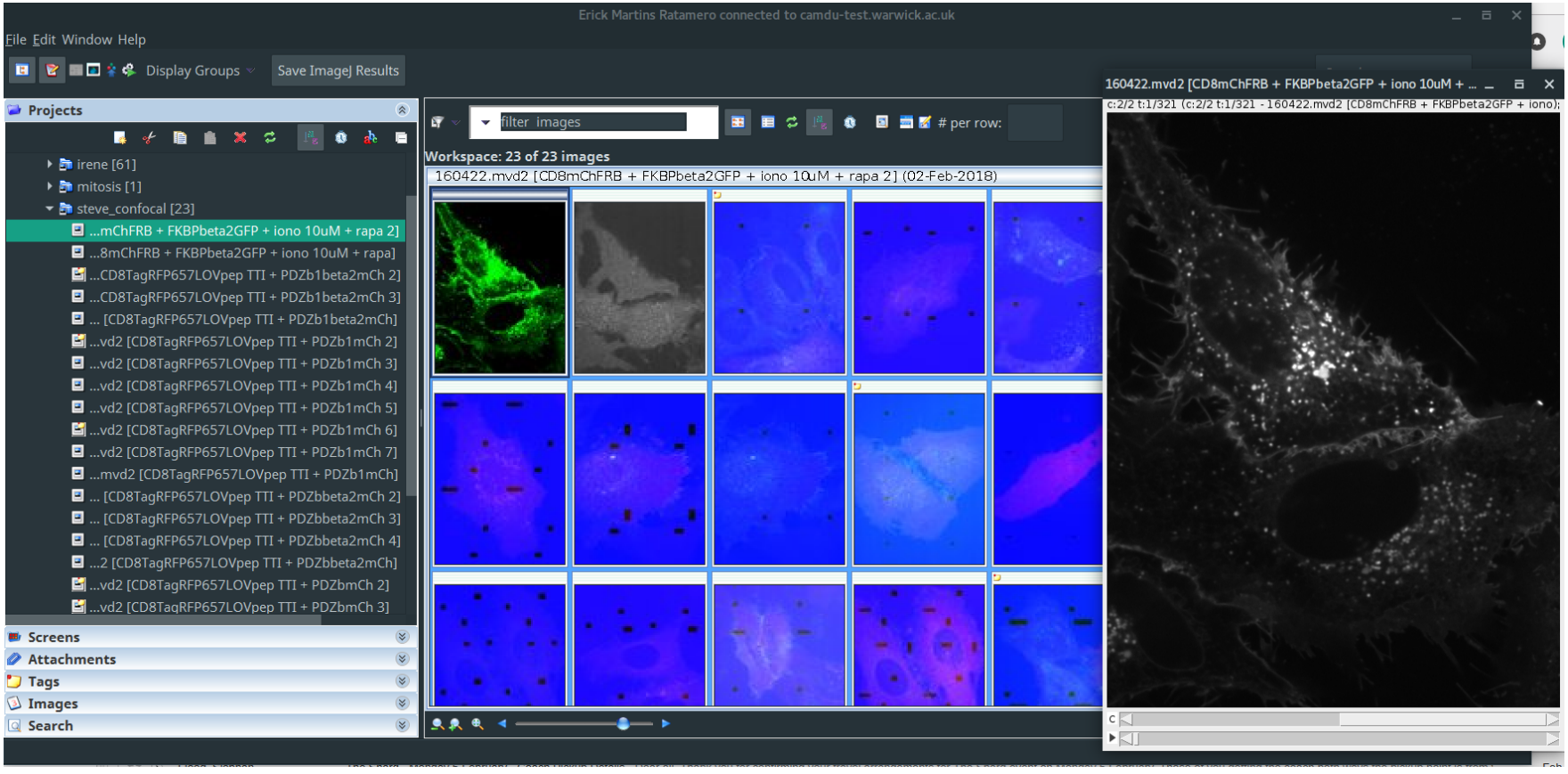
Fiji plugin: for when OMERO.web is not enough



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MATLAB, Python, Java... interfaces

```
from omero.gateway import BlitzGateway
# Connect to OMERO
conn = BlitzGateway("username", "password", host="omeroserver.org")
conn.connect()

# Load a Dataset
dataset = conn.getObject("Dataset", 123)    # DatasetWrapper
print dataset.getName()
# To get the wrapped omero.model.DatasetI...
print dataset._obj

# Object Wrappers have their own 'conn' - can load data on the fly
for image in dataset.listChildren():
    print image             # ImageWrapper id=152
    print image.getPrimaryPixels().getPlane(0, 0, 0)   # numpy 2D array
```

Cool OMERO features

- iViewer: advanced viewer inside your browser
- FPBio: 3D visualisation of Z-stacks from the web interface
- OMERO.scripts: running scripts remotely over whole datasets without transferring data
- Figure: Publication-grade figures generated directly from the raw data

Group/user system

- per lab/PI (plus public)
- Security/permissions: pros and cons of making groups completely private
- Sharing is possible inside and outside groups

Publishing

- Making images public is trivial
- allows thumbnails that redirect to full viewer (w/ channels, z-slices, etc.)
- Full datasets can be made public at one click, for open access
- great for openness, reproducibility, etc. etc.

Roll-out plan

- Already available for everyone

Summary

Single interface for:

- Storage: one platform for multiple mount points
- Viewing: all file types supported
- Organisation: permissions, users, groups, projects, datasets...
- Analysis: server-side scripts, integration with tools and programming languages, results directly attached to images
- Sharing: inside and across groups
- Publication: data is public after one click, figures can be done efficiently on the server