Bio-Formats and NGFF

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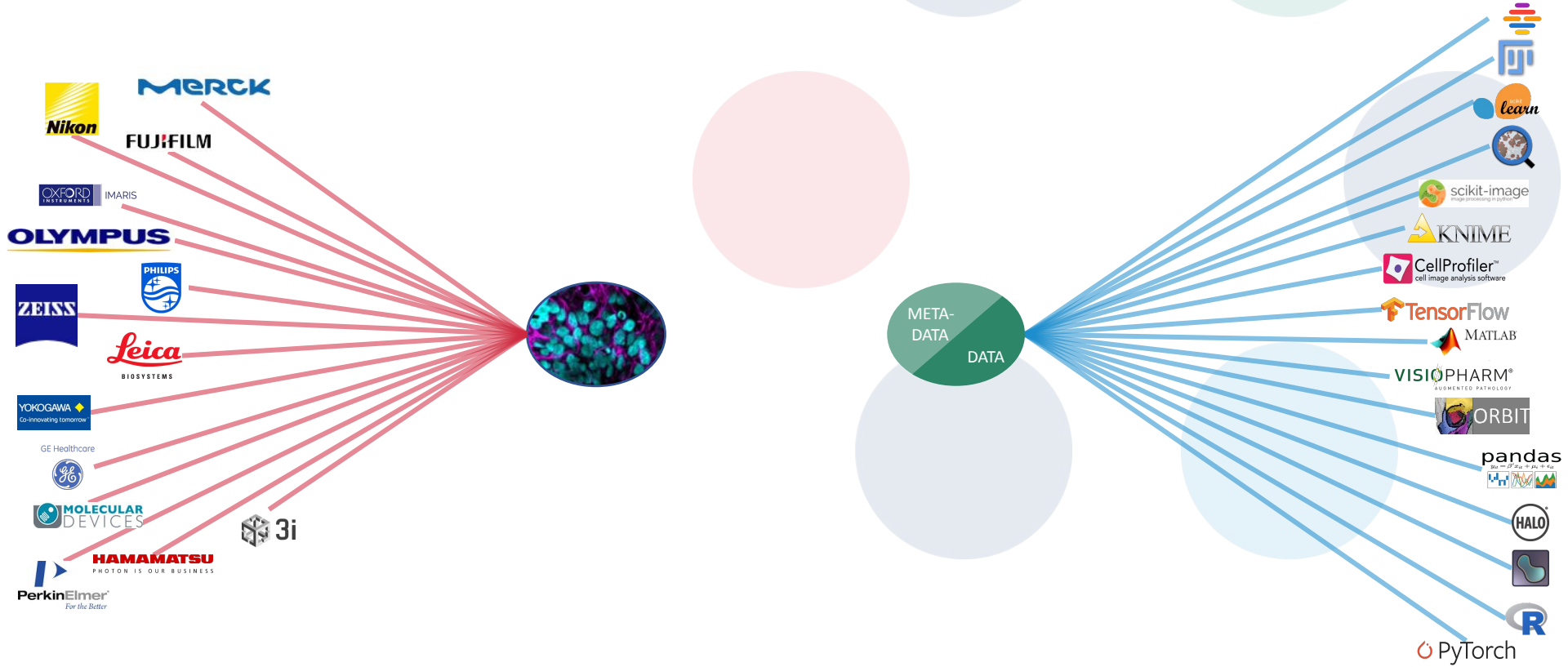
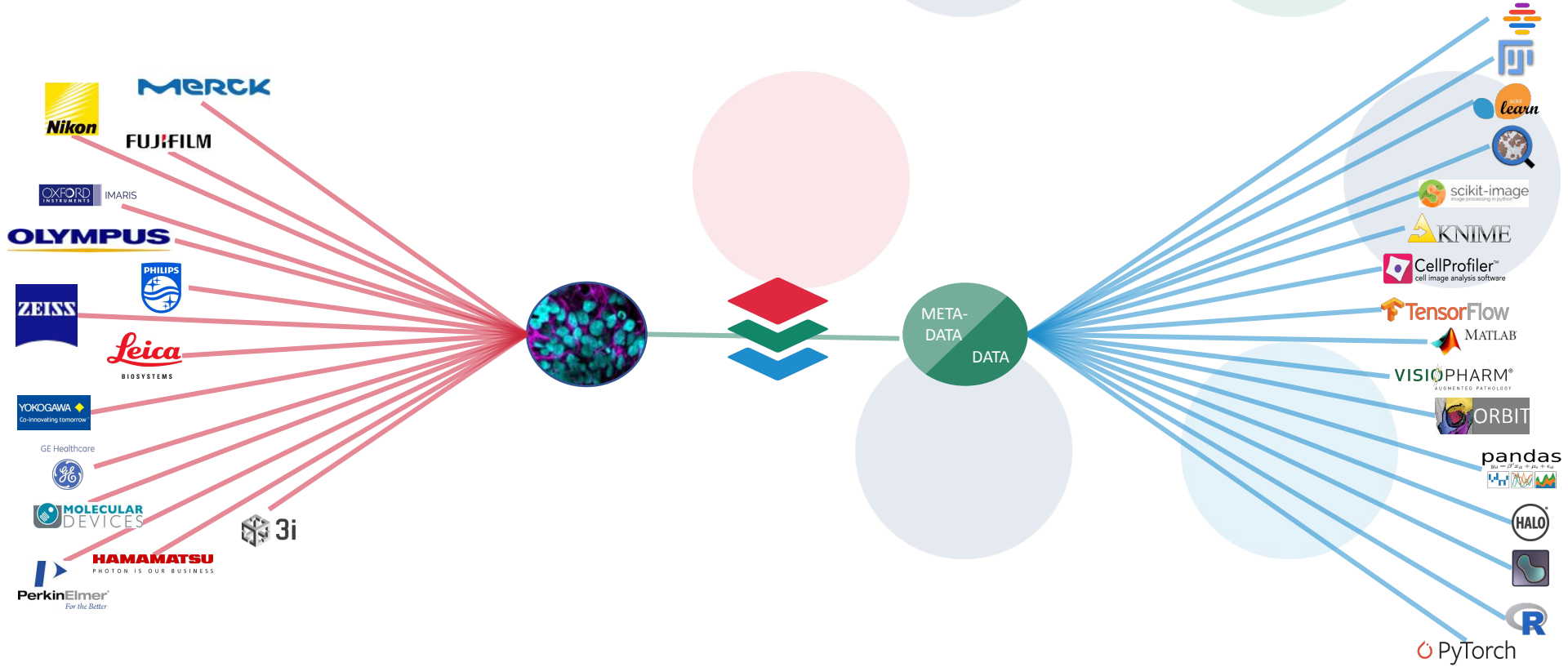
OME

IDR

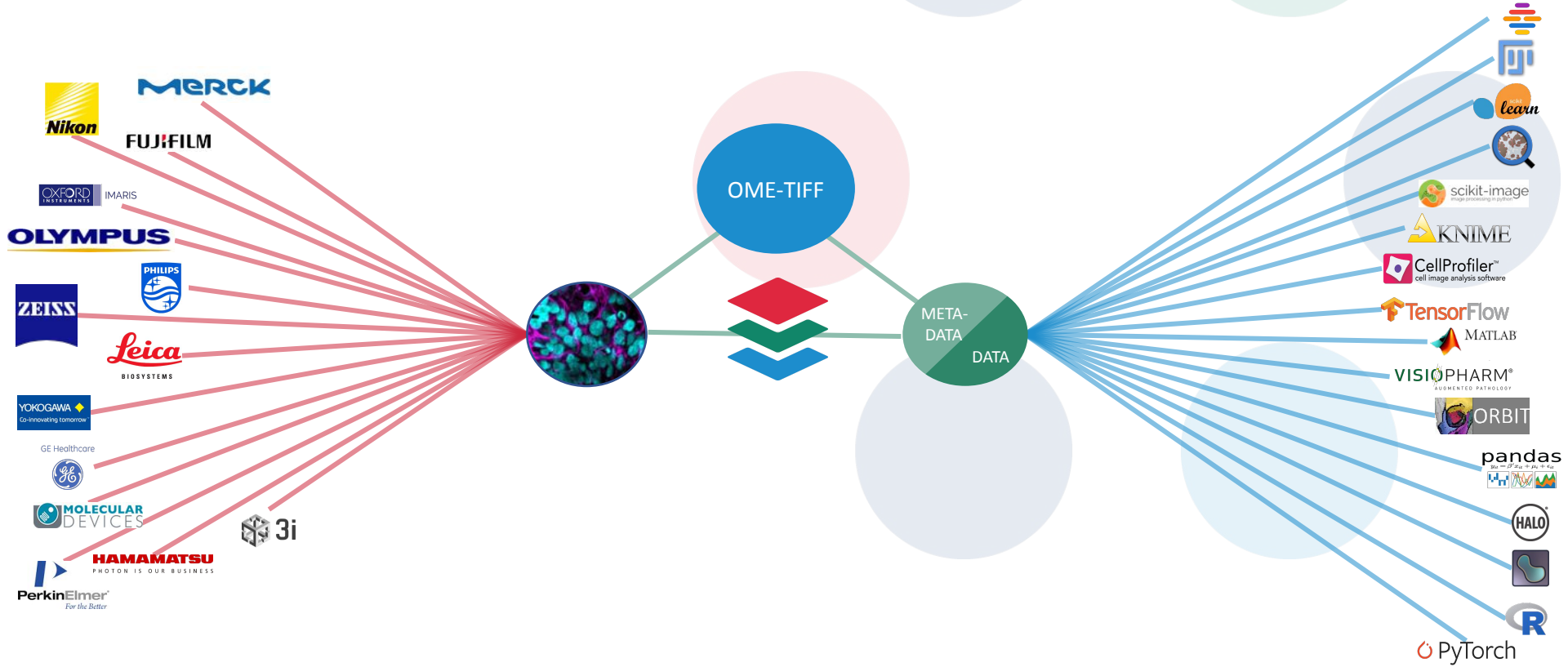
Proprietary Formats



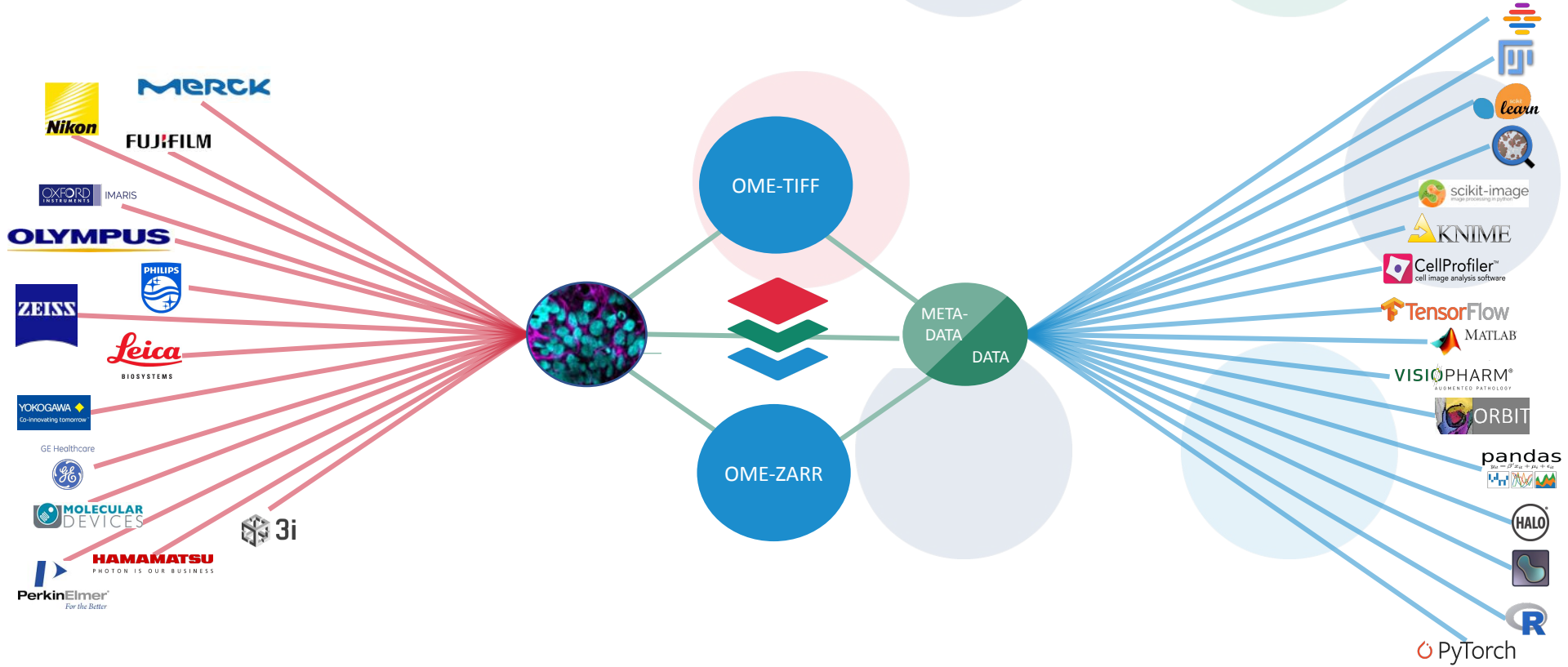
Proprietary Formats



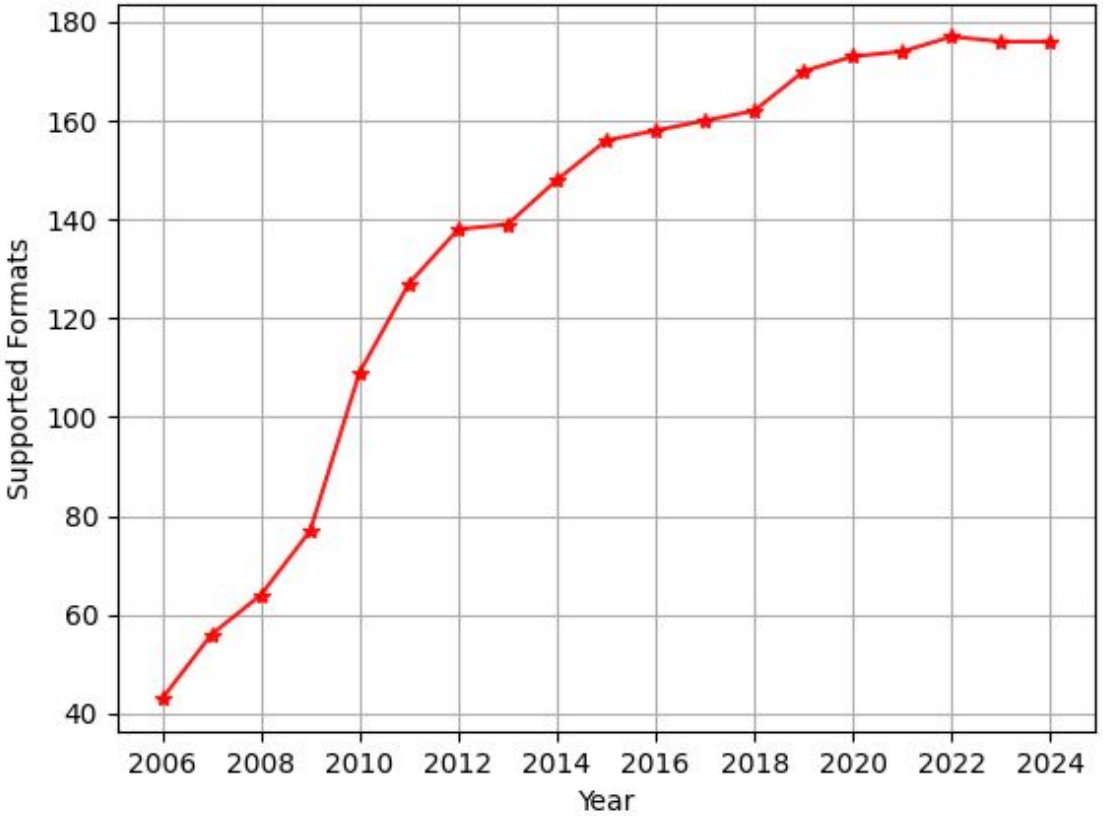
Open Standard Formats

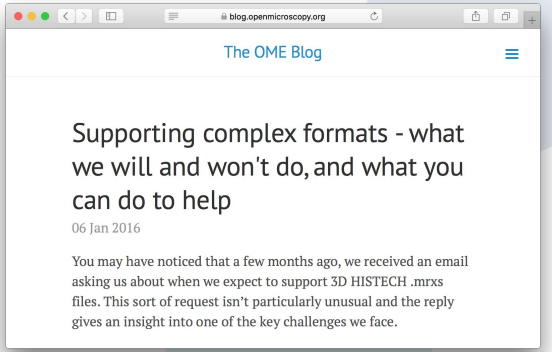


Open Standard Formats



Supporting complex formats



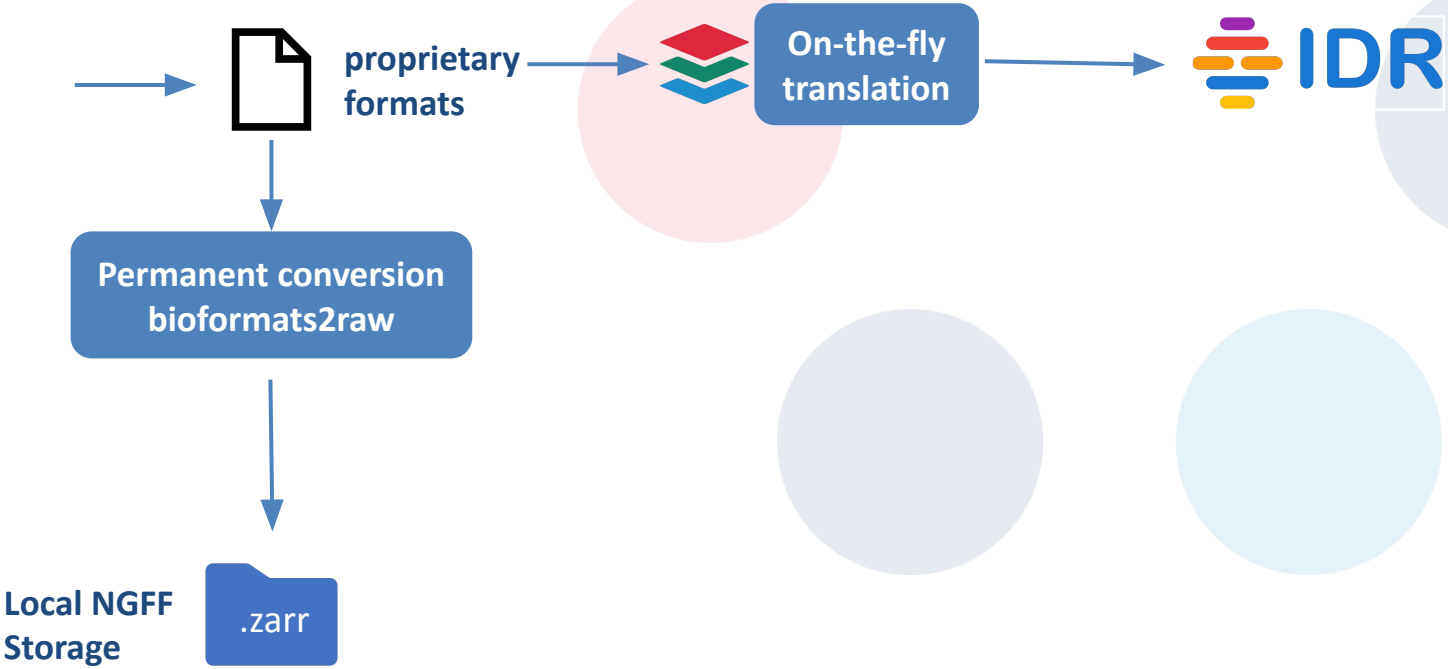


BIO-FORMATS

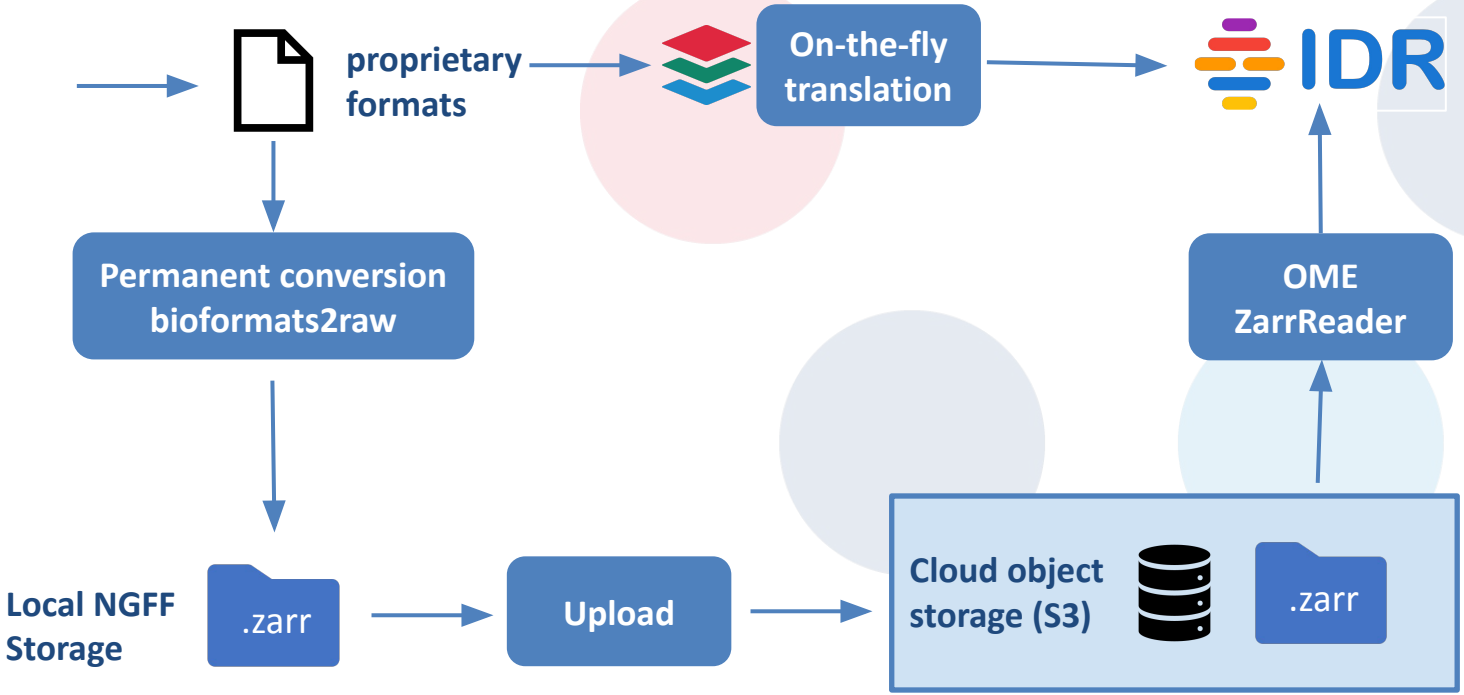
- 7.3.0 (April 2024)
  - Java 21 compatibility
- 7.2.0 (February 2024)
  - format improvements for Aperio SVS, Olympus OIR and Zeiss CZI and more
- 7.1.0 (December 2023)
  - API additions for compressed tiles
- 7.0.1 (October 2023)
  - Format improvements for Leica LIF, NDPI, TillVision, Gatan DM3, DICOM and more
- 7.0.0 (August 2023)
  - Removed a number of deprecated components
  - Added support for dual personality DICOM
- 6.14.0 (July 2023)
  - Format improvements for CV7000/CV8000, KLB, MicroManager
- 6.13.0 (May 2023)
  - Dependency updates and API additions

NGFF workflow for IDR

NGFF workflow for IDR



NGFF workflow for IDR



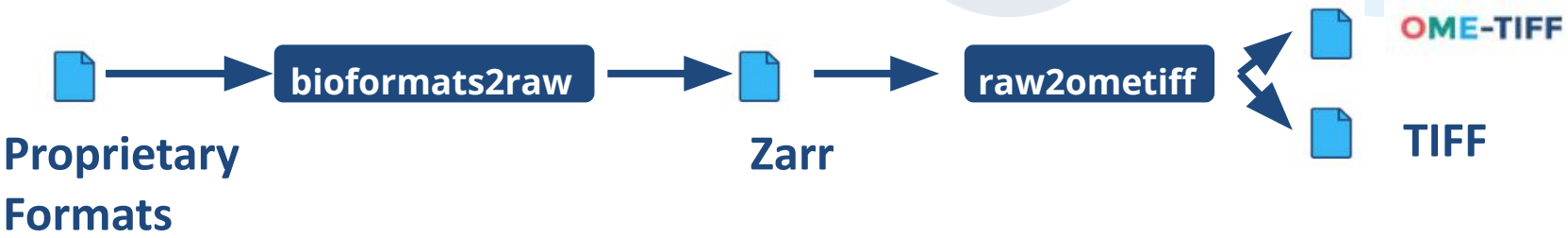
Reading NGFF

- OME ZarrReader
  - A traditional Bio-Formats style reader for OME-Zarr
  - Released as an external reader which can be used with Bio-Formats
  - Development is driven by IDR
  - Future NGFF spec updates will be supported via new releases
  - https://github.com/dgault/ZarrReader

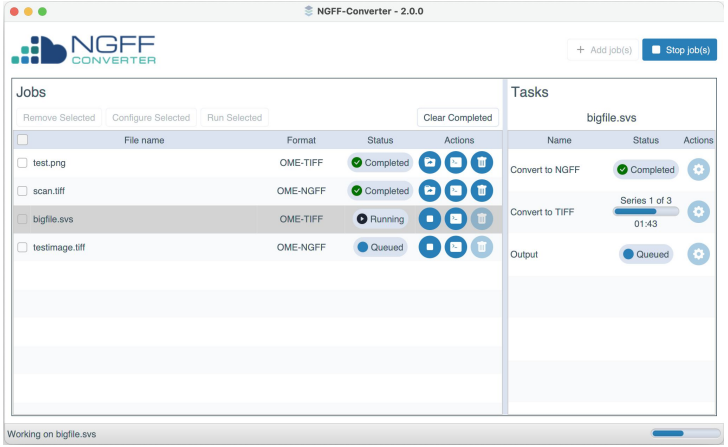
- OMERO Plus
  - An OMERO specific implementation
  - Makes use of OMERO Zarr Pixel Buffer
  - https://github.com/glencoesoftware/omero-zarr-pixel-buffer

Converting to NGFF

- Glencoe Software has developed new tools specifically for NGFF
  - Bioformats2raw
  - Raw2ometiff
  - NGFF Converter
- Benefit from parallel reading and writing for improved performance
- Especially useful for whole slide images
- Automatically generates down-sampled resolutions for image pyramids



NGFF-Converter



EASY TO USE INTERFACE

The intuitive interface was designed with users in mind, providing the essential tools and functionality.

CLOUD OPTIMIZED

OME-NGFF is the cloud-friendly multi-dimensional bioimaging data format, allowing storage and analysis of bioimaging data in the cloud.

FULL CONTROL

Customizable conversion options for the expert user.

UNIFIED DATA

Support for novel OME-NGFF and classic OME-TIFF, both options for unifying data into a common, open format for streamlined data access and analysis.

Future Plans

- Continued development for Bio-Formats
  - Better support for reading and writing 3D data
  - Improved performance for data such as HCS
- Ongoing support for OME ZarrReader
- Support for Zarr in Java ecosystem
  - All the Java implementations rely on the JZarr library
  - The Java tooling must evolve alongside the NGFF spec

Thanks to all contributors

OME

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Presentations available @

https://downloads.openmicroscopy.org/presentations/2024/Dundee