Storage management

Storage is important in digital pathology. Image data can be subject to any of the 3 (or 5) Vs of data science:

- Variety - Imaging data in pathology is generated during biopsies (macroscopic observations on the sectioning station), brightfield microscopy (high-resolution), immuno observations (multiple channels), and z-stacking.
- Volume - The recorded images are large: think 100k x 50k pixels. Sometimes in 16-bit RGB color resolution. An individual slide can be anywhere between a 100 MB in size (a needle biopsy e.g.), or several GB in size (a solid tumor section samples scanned at 40X magnification)
- Velocity - Data comes in rapidly, with 100s of slides being scanned on a daily basis. This poses challenges in terms of how much pre-treatment and time you can spent on any individual slides.

For these reasons it's important to have tile server solution that is flexible.

PMA.core supports the following storage media:

- local hard disk (think of you conventional C: and D: drives and partitions)
- network storage like SMB shares (must be accessible via UNC \\server\path\to\data routes)
- S3-compliant cloud storage (Amazon AWS, Western Digital HGST, NetApp, Arvados, IBM…)
- Microsoft Azure storage
- FTP server (yup, that free FileZilla File Transfer Protocol is still around and can be now put to new uses for digital pathology applications!)