

Scipion: Towards an electron microscopy integration

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Integrating
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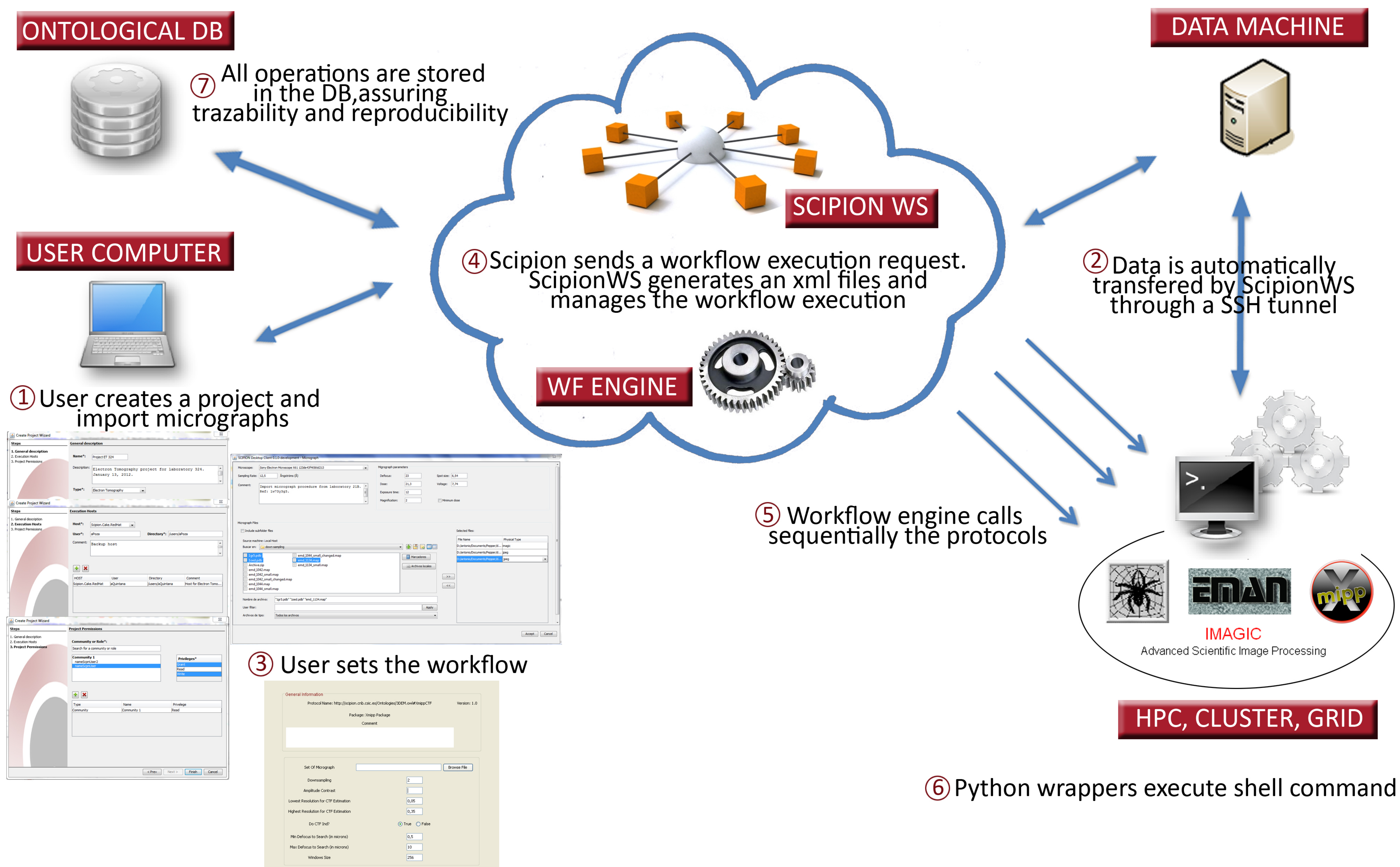


What?

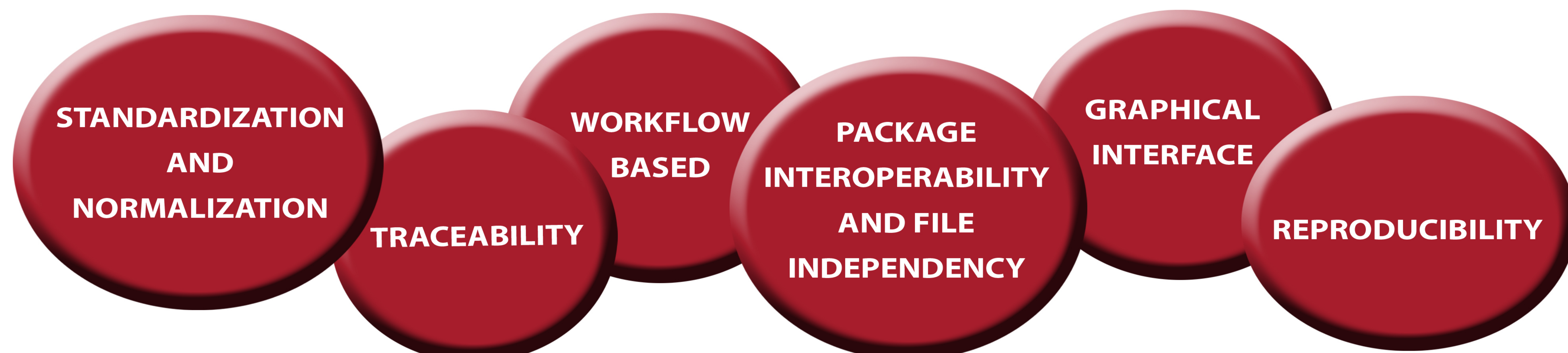
Structural biology aims at the visualization of microscopic biological structures with the ultimate goal of understanding the molecular mechanisms. Current software suites for the analysis of this kind of images are actually composed by hundreds of small programs, each one performing an "atomic" task. Several attempts have already been done towards data, packages and workflow integration. EMDDataBank is probably the most successful project on data integration while IPLT [1], SPARX [2] and, lastly, Appion [3] are

some important precedents regarding workflow integration. Scipion is designed as a decentralized and decoupled application mainly developed in Java connected to an ontological database. Users can access Scipion from a desktop application connected to a web services platform. Scipion WS platform can be defined as the Scipion brain as it is in charge of the main tasks. Finally, Activiti workflow engine will invoke sequentially the 3DEM algorithms through some Python wrappers.

How?



Why?



References;

[1] Philippsen et al. J. Structural Biology, 157 (2007) 28-37

[2] Hohn et al. J. Structural Biology, 157 (2007) 47-55

[3] Lander et al. J. Structural Biology, 166 (2009) 95-102