

New instrumentation for cryo electron microscopy (cryoEM) has significantly increased data collection rate as well as data quality, creating bottlenecks at the image processing level. Current image processing model of moving the acquired images from the data source (electron microscope) to desktops or local clusters for processing is encountering many practical limitations. As a consequence, scientists are investigating how different technologies can support the next generation of image processing software. These technologies include processing technologies such as graphical processing units (GPUs), and platforms such as clouds. Here, we present how this new computational paradigm can be effectively used by extending our current integrative framework for image processing, creating ScipionCloud. This new development has resulted in a full installation of Scipion both in public and private clouds, accessible as public "images", allowing users to deploy servers on the cloud with all the required preinstalled cryoEM software and just using a Web browser for all Graphical User Interfaces. Furthermore, we have profiled the performance of different configurations on Amazon Web Services and the European Federated Cloud, on architectures with and without GPU's, and compared them with a local facility.