

# Virtual Infrastructure for Scientific Analysis (VISA)

## Sustainability sheet



The VISA platform provides **remote data analysis services** in a web browser and enables desktop sharing between multiple users. It can be deployed on common cloud infrastructure as a general-purpose solution for remote data analysis.



	<p><b>Target audiences</b></p> <ul style="list-style-type: none"> <li>- PaN facilities users</li> <li>- instrument scientists</li> </ul>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>- Makes access to data, analysis software and compute resources as easy as possible using a web browser and harmonised across facilities, either with remote desktops or Jupyter Notebook environments</li> <li>- With VISA, users <b>access huge datasets</b> and experience the <b>same powerful compute resources</b> as if they were working at the facility</li> </ul>
	<p><b>Accessibility</b></p> <p><a href="#">VISA is accessible at ILL to registered users</a> (1)</p> <p>Central VISA source code:</p> <ul style="list-style-type: none"> <li>- <a href="#">VISA demo</a> (2)</li> <li>- <a href="#">VISA web</a> (3)</li> <li>- <a href="#">VISA API server</a> (4)</li> </ul> <p>Local deployments at other PaN facilities are accessible to their users</p>	<p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>- <a href="#">For developers and end-users</a> (5)</li> <li>- Local implementations are documented at the facility level</li> </ul>
	<p><b>Feedback mechanism</b></p> <ul style="list-style-type: none"> <li>- Bugs in the VISA source code or feature requests can be reported making a pull request or creating an issue on the <a href="#">appropriate Git repository</a> (6)</li> <li>- There is a <a href="#">Slack server</a> (7) used as a forum for VISA contributors (developers)</li> </ul>	<p><b>Licence</b></p> <p><a href="#">LGPL-3.0 License</a> (8)</p>
	<p><b>Competitors</b></p> <p><a href="#">ESCAPE Science Analysis Platform</a> (9)</p> <p><a href="#">OSC's Open OnDemand</a> (10)(11)(12)</p> <p><b>Technology readiness</b></p> <ul style="list-style-type: none"> <li>- Central VISA is <b>in production</b> at ILL. It is also in production at <a href="#">ESRF</a> (13) and in the process of being adopted at several other PaN facilities (14)(15)</li> <li>- The adapter framework for local infrastructure is at the <b>pilot</b> stage, with a <b>MoU</b> in drafting to organise a sustainable community around its wider use and evolution</li> </ul> <p><b>EOSC integration status</b></p> <p>ILL's VISA is <a href="#">onboarded</a> (16), as well as some <a href="#">local deployments</a> (17)</p>	



ExPaNDS and PaNOSC have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 857641 and No 823852.

	<p><b>Plans and conditions for long-term sustainability</b></p> <ul style="list-style-type: none"> <li>- ILL will sustain VISA for its users in the long-term, with ILL-oriented further developments</li> <li>- A <b>VISA MoU</b> between 10 facilities from both ExPaNDS and PaNOSC partners is being drafted to define how community developments will be organised in the future for local deployments at other PaN facilities</li> <li>- Monthly meetings are already taking place</li> </ul>
	<p><b>Exploitability potential</b></p> <ul style="list-style-type: none"> <li>- VISA has a wide potential as a domain-agnostic virtual data analysis environment in EOSC and for remote experiments</li> </ul> <p><b>Conditions to increase exploitability</b></p> <ul style="list-style-type: none"> <li>- Define rules to onboard new facilities in the VISA MoU</li> <li>- Share implementation good practices, e.g. scientific software images distribution</li> <li>- Include VISA in the portfolio of the PaN cluster competence centre foreseen in the OSCARS project</li> <li>- Connect to projects like <a href="#">eRImote</a> (18) to promote VISA for remote experiments</li> <li>- Link to the <a href="#">PaN software catalogue</a> (19)</li> </ul>

## Links

- (1) <https://visa.ill.fr>
- (2) <https://github.com/ILLGrenoble/visa-demo>
- (3) <https://github.com/ILLGrenoble/visa-web>
- (4) <https://github.com/ILLGrenoble/visa-api-server>
- (5) <https://visa.readthedocs.io/en/latest/>
- (6) <https://github.com/ILLGrenoble>
- (7) <https://tinyurl.com/visaslack> - please note the invite link to Slack expires so this tinyurl only works sporadically
- (8) <https://github.com/ILLGrenoble/visa-web/blob/main/LICENSE>
- (9) <https://projectescape.eu/services/esfris-science-analysis-platform-esap>
- (10) <https://openondemand.org/>
- (11) <https://doi.org/10.21105/joss.00622>
- (12) <https://doi.org/10.5281/zenodo.6323791>
- (13) <https://visa.esrf.fr>
- (14) <https://visa.xfel.eu>
- (15) <https://visa.desy.de>
- (16) [https://marketplace.eosc-portal.eu/services/eosc.ill.visa - virtual\\_infrastructure\\_for\\_scientific\\_analysis](https://marketplace.eosc-portal.eu/services/eosc.ill.visa - virtual_infrastructure_for_scientific_analysis)
- (17) e.g. [https://marketplace.eosc-portal.eu/services/eosc.desy.desy\\_visa](https://marketplace.eosc-portal.eu/services/eosc.desy.desy_visa)
- (18) <https://erimote.eu/home>
- (19) <https://software.pan-data.eu/>



ExPaNDS and PaNOSC have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 857641 and No 823852.