

GALEAS Cloud infrastructure

White Paper

Nonacus utilises the largest cloud infrastructure provider, Amazon Web Services (AWS), to deploy a Virtual Private Cloud that GALEAS bioinformatics runs on, this enables Nonacus to enjoy exceptionally high levels of security, resilience, and scalability. The cloud instance is based in UK AWS locations.

Security, Back-up and Redundancy – please refer to [Overview of Amazon Web Services](#) and especially the Security and compliance section. For more information on Virtual Private Clouds and how this benefits security and compliance, please refer to [Amazon Virtual Private Cloud Connectivity](#). Briefly, the AWS infrastructure complies with the following assurance programs:

- SOC 1/ISAE 3402, SOC 2, SOC 3
- FISMA, DIACAP, and FedRAMP
- PCI DSS Level 1
- ISO 9001, ISO 27001, ISO 27017, ISO 27018

All data processed by GALEAS is encrypted both at rest and in transit. The AWS S3 storage service is used, which is designed for 99.999999999% (11 9s) of durability, and stores data for millions of applications for companies all around the world. Furthermore, Globally Unique Identifiers (GUID's) are generated to store both the input and output files in the cloud, thus removing any meaningful human readable information from the filenames (such as sample ID's). The mapping back to concepts such as sample ID is performed on the fly when downloading the results has been requested by the user.

The GALEAS solution has also been independently security assessed using a 3rd party penetration test, as part of Nonacus' ongoing work in achieving ISO27001 certification. In addition, Nonacus is an ISO13485 registered company.

File retention policy – The full file retention policy can be found on the Nonacus website, however to summarise as of January 2024, FASTQ files will be stored in GALEAS only for the time it takes to successfully process them. As these are customer generated items remain the responsibility of the customer to manage the storage of these outside of the GALEAS solution. The resultant BAM, VCF and other file types produced by the various GALEAS bioinformatic pipelines will be stored in GALEAS for a period of 3 months, before being placed in AWS 'cold storage' where the notice required to access these files will be a minimum of 5 working days.

Customer data access statement – Occasionally, Nonacus may require access to customers input data (FASTQ) and resulting output files (e.g. BAM, VCF's) in order to troubleshoot any issues that may arise. If this is required, Nonacus will first seek permission from the customer before accessing any such customer data. Also note that access to such data is restricted by roles and permissions and only Nonacus people that have a legitimate reason to access data (i.e. customer support) are able to do so.

Access to GALEAS is only available via login using username and passwords, using industry standard authentication

Important Note: Please refer to the Nonacus website (www.nonacus.com) for the latest Software license agreement, Privacy Policy and Data Retention Policy, as these may be updated from time to time.

