**Technical Information on the DPUK Data Portal Analysis Environment**

DPUK allows approved researchers access to cohort data using a virtual desktop infrastructure. Users will download VMware Horizon Client to their local PC in order to connect to the DPUK infrastructure, using two-factor authentication. This involves a mobile authenticator passcode as a first step, and username + password combination as a second step.

**Desktop Specification**

DPUK will facilitate free access to standard desktops mentioned below for **2 users per project,** with charges applicable to any additional users on a cost-recovery basis. Access to Large or XL large desktops can be provisioned on Justification of needs in replacement of the standard desktops. Please contact DPUK’s Data Project Manager, Emma Squires (emma@chi.swan.ac.uk) for further information on any charges.

(Please see the below **Technical Specification section of the Application Form** on how to request technical set-ups on your application form)

DPUK deploys a standard Windows desktop setup for researchers seeking to access and analyse data. The standard desktop has the following specification: Windows 10, 8GB RAM, and 4 CPUs. Pre-loaded with R, RStudio, SPSS, SAS, Stata, Anaconda Navigator for Python, Jupyter Notebook, Eclipse, Matlab, SQL Server Management Studio, Microsoft Office and Gitlab.

Statistical software, such as R and Python, can connect to its official library/package/index directory to enable configuration of software on a per-user basis. As standard, DPUK will endeavour to provide the most up-to-date version of software for use within the analysis environment.

Should you wish to use software that is not currently available on DPUK, please contact the Data Portal team via <https://helpdesk.hiru.swan.ac.uk> or helpdesk@chi.swan.ac.uk and we will look to provision the software needed for you. You are also able to bring in your own software and install it within the DPUK environment. This can even be done if a licence is required for the software – although, please contact us at the above links to advise, if this is the case. Should an older version of software be necessary for analysis, again, please contact us via the above links. In some cases, it may be necessary to provide a dedicated user desktop with the required software, whereas in other cases DPUK would seek to provide the software within the shared desktop suite.

DPUK can provide a larger scale Windows 10 desktop, which contains the same pre-loaded suite of software, however has 32GB, RAM, 8 CPUs. There is a final extra-large Windows 10 desktop, which contains 128GB RAM and 16CPUs, which is likely to be more suitable for studies in the machine learning and statistics relying on heavier computation loads. Access to these desktops instead of the standard desktop will require a justification from the project before they can be provisioned.

A range of Linux (Ubuntu) set-ups are also available, with a Standard 8GB 4 CPUs Linux desktop that can be provisioned as standard and a Large 32GB RAM 8 CPUs desktop and an XL 128GB 16 CPUs desktop available on request and with a justification of need.

2 free-to-access Linux desktops per project can be made available, as with the Windows desktops.

Access to High Performance Computing and GPU usage for analyses within various domains is possible, and we would request that this is specified in the hardware/software requirements of the technical specification form. Access to GPU/HPC can be provided on a cost recovery basis. For costs please contact Data Project Manager, Emma Squires (emma@chi.swan.ac.uk).

General storage is scalable according to the study requirements, with basic access to data stored on our systems free to all users. Studies needing large amounts of storage outside of the standard shared network shares to bring in their own larger scale data will be subject to potential extra costs, which will be discussed with researchers as part of the set-up of the desktop.

Research teams accessing cohort data have a shared folder (study number and name on a shared drive) to be able to share collaborative work and individual researchers have their own personal directory to save their private files.

**Technical Specification section of the Application Form**

On the DPUK application form, there is a technical specification section. We would like all applicants to highlight the type of study planned, select which desktop specification they feel will be required for their study, and if there are any bespoke requirements needed (such as the installation of software that we do not provide as standard listed above). Having this information at an early stage will allow the Data Portal technical team to discuss the build of extra requirements and tailor the system to the user(s).

**macOS**

macOS Users will be likely to need to change their settings at point of logon. After completing the two-factor authentication, you will be presented with your choice of desktop to access. Before selecting the desktop, you should explore which is most optimal for you. This is done by selecting the cog symbol in the top right of the window. Where ‘Connect via’ appears, please select one of three options (Microsoft RDP, PCoIP, VMware Blast) to confirm which allows connection. To provide a solution to the ‘Ctrl+Alt+Delete’ issue with macOS devices, the virtual desktop has a ‘Send Ctrl+Alt+Delete’ function in the floating menu bar at the top of the desktop. Please note as a general point: disconnecting (simply closing the virtual desktop) does not shut down the desktop, but selecting disconnect and log off will do so however).