Improved High Performance Computing usability and uptake through the utilisation of Remote Desktops

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ABSTRACT

This presentation highlights how the implementation of the open source STRUDEL software (ScienTific Remote User DEsktop Launcher) has greatly improved the usability and uptake of CQUniversity's High Performance Computing (HPC) facilities. The software was developed by Monash eResearch under the Characterisation Virtual Laboratory (funded by NeCTAR). The highly customisable software has enabled CQUniversity researchers to utilise a simple, user-friendly, point-and-click interface tool for launching and connecting to graphical HPC desktop environments.

We will share some of the positive effects that have been observed on user engagement and HPC usability. Many CQUniversity researchers had only ever been exposed to a 'windows' graphical environment. Through the automation of many of the manual processes for connecting to the HPC with a graphical environment, STRUDEL has significantly reduced the barriers of entry, particularly for those not familiar with HPC or command line interfaces. This has provided a stepping-stone for users to begin using HPC so they can access the full range of capabilities offered by these superior computing facilities, when compared to their personal computer systems.

Remote HPC desktops are one of the key strategies that CQUniversity has used to increase research capability and research outputs. This has resulted in a significant increase in unique users utilising the university's HPC Facilities. During the presentation, a demonstration will be provided of the way STRUDEL has been used to reduce the complexities associated with providing a graphical HPC environment. We will particularly explore STRUDEL's ability to establish a graphical interactive session on standard HPC compute nodes for large and complex program execution/simulation, by requesting HPC resources through the HPC Scheduling system.