

Media Release

It's Time for the NeCTAR Research Cloud in NSW

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Intersect Australia delivers on the promise of NSW state-of-the-art research cloud computing capability as part of Time.intersect.org.au big compute.

Intersect announces the commissioning of approximately \$1.5M in investment to deliver 4,500 additional CPU cores to the NeCTAR Research Cloud, (rc.NeCTAR.org.au), boosting national capacity to approximately 32,000 cores. The new processors are online and available throughout NSW and Australia as of today.

The NeCTAR Research Cloud removes the burden from researchers of operating their own physical computer infrastructure. It enables researchers to host websites, databases, virtual labs, applications and online tools without hardware - easily, quickly and flexibly.

The NeCTAR Research Cloud makes critical differences by enabling:

- researchers to respond rapidly with instant access to computing resources and applications
- access anywhere, anytime
- researchers to share computational results easily
- research applications, data and findings to be shared with collaboration partners

Intersect member and customer demand for shared hosted environments grows as researchers increasingly understand the total costs of their IT infrastructure, and as cross-institutional collaboration puts pressure on institutional policies and firewalls.

Intersect's Chief Operating Officer Marc Bailey says, "Contemporary researchers face unique challenges. Climate scientists, for instance, work with gigantic data sets from a myriad of disciplines, use a plethora of tools and need scalable computing and tools right next to the data. Genomics researchers use a boggling array of datasets owned by different custodians and require ready access to differing flavours of compute facilities".

"These types of analyses are technically extremely difficult, expensive and time-consuming in isolation. Time.intersect.org.au parallel, cluster and cloud computing lowers these barriers to adoption for modern research techniques. At Intersect, we aim to be the 'null hypothesis' for Australian researchers when it comes to solving big compute, big storage and big data problems - at our core we are here to help accelerate research productivity".

NeCTAR Director, Professor Glenn Moloney says, "The new Intersect cloud node will support the highly diverse computational and collaboration needs of researchers in NSW and complements Intersect's recognised role as a driver of research innovation, including in the NeCTAR Virtual Laboratory and eResearch Tool programs."

Co-locating the NeCTAR Research Cloud with existing Intersect eResearch infrastructure creates a unique high performance environment. Space.intersect.org.au big storage perfectly complements big compute, all delivered at research-grade internet speeds in a national context by the Australian Academic Research Network, AARNet.

Early adopter and Head of Bioinformatics at the Children's Medical Research Institute, Associate Professor Jonathan Arthur said, "The nature of the problem that we were trying to solve involved

using 560 CPU cores, 2 Terabytes of RAM and 20 Terabytes of disk storage. We needed that level of computational capacity to address this particular problem that involved looking at the genetic makeup of a thousand tumour samples in order to try and identify potential therapeutic targets". He said, "The process has turned out to be very simple and very straightforward, contrary to my expectations. As a result I think we might make more use of the NeCTAR Research Cloud in the future".

Specifications: Over 4,500 local and 32,000 distributed computing cores running Intel x86 OpenStack hypervisors tuned to the needs of research. Easily create multiple virtual machines with up to 16 virtual CPUs. Features Linux operating system flavours including: Centos, Ubuntu, Fedora and Scientific Linux. Researchers can directly access eight national network nodes for additional scale or data proximity.

More information is available at [Time.intersect.org.au](https://time.intersect.org.au)

Intersect Australia is a pivotal part of national research infrastructure created by a consortium of NSW universities and research institutes. We provide robust, innovative and collaborative technology and services to support world-class research in Australia. Intersect delivers storage and analysis platforms, custom engineering, expert consultation and training programs to thousands of researchers every year.

NeCTAR is an initiative of the Australian Government being conducted as part of the Super Science Initiative and financed from the Education Investment Fund, and the National Collaborative Research Infrastructure Strategy

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