

A platform that encompasses everything.

The new TANGO High Performance Computing (HPC) is part of a specialised hardware cluster built using a combination of Dell EMC and VMWare, hardware and software technologies to deliver a powerful computational solution.

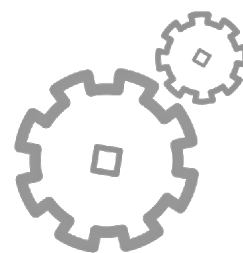
This platform consists of core technologies that allows us easy and fast expansion for the delivery of high performance computational resources.

It has the added advantage of latest generation Intel cores specifically designed for parallel processing with a high core to memory ratio, above that of traditional HPC environments.

About TANGO HPC

TANGO HPC cluster was built utilising:

- Dell PE R730 Servers connected via Dell Z9100-ON 100GbE Software Defined Network switches
- Purpose-built for applications in high-performance data centre and computing environments.



The easily scalable cluster consists of:

- Intel Xeon E5 cores
- 1:9 Core to RAM ratio
- The compute nodes each have 400GB of local SSD storage
- Connected to VMware VSAN node cluster via NFS Virtual Machine gateways hosting storage for scratch and cloud, with each node being capable of 20,000 IOPS
- Message Passing Interface (MPI) for parallel computing jobs has been implemented using RDMA over Converged Ethernet (RoCE) removing the need to run a dedicated InfiniBand storage network utilising the Dell 100GbE backbone
- Big Memory nodes ranging from 256GB to 1TB

Key Benefits



Single high performance software defined network fabric which facilitates easy scalability for high performance data centre and compute environments.



The new Intel Xeon processors E5 v4 product family has had vast improvements to the vector floating-point multiply and scalar divide. It can deliver up to 47% more performance across a wide range of HPC codes based on Intel's internal testing, without the need to recompile existing code.



High core to memory ratio for standard HPC CPU workloads, allowing higher memory jobs to utilise the standard HPC queue, without the need to use Big Memory nodes which are in high demand.

System Specifications

Hardware	Specification
Dell PE R730	<ul style="list-style-type: none">• Intel® Xeon® Processor E5-2690 v4 35M Cache 2.60 GHz• 32GB RDIMM 2400MT/s DDR4 SDRAM• 200GB SSD 6Gbps• Mellanox ConnectX-4 Dual Port 25GbE DA/SFP

Let's get you started.

Talk to us to find a custom solution to suit your needs. Contact the eRSA Team on 08 7228 6210 (9am - 5pm AEST) via email admin@ersa.edu.au or visit our website www.ersa.edu.au/contact.



"eRSA's infrastructure helps us look back on data that we took years ago that's still relevant; having the data still there is just perfect."

DR ANDREAS SCHREIBER



eRSA, enablers of innovation.

eRSA is South Australia's leading research data service provider. eRSA provides "not normal IT" services to researchers and commercial users in South Australia. Founded in 2007, eRSA provides High Performance Computing, Cloud Computing, Big Data Storage, Management and Analysis, Software Development and Consultancy. eRSA is a not-for-profit, incorporated entity. Its members are the University of Adelaide, University of South Australia and Flinders University.

Innovation is expensive and many new organisations, disciplines and research groups find it difficult to fund technological solutions. By using eRSA services, innovators have access to a leading edge technology sandbox on a services basis. We also offer technical support that helps our users get the most out of our services. Our users can also experiment with leading edge technology on a solutions basis without having to make large initial investments in technology. Once they're production ready, they can make the move to invest in permanent technology.

By providing access to a suite of advanced ICT tools and services that are reliable, easy to use and secure, we enable our users to explore new and innovative research opportunities that would not otherwise be accessible.

08 7228 6210 | ersa.edu.au | @eResearchSA

Hedge House
14 Little Queen Street
University of Adelaide
Thebarton, SA 5031

Both the written and graphic content of this document is copyright to eResearch SA Ltd trading as eRSA. The information in this document is of a general nature and does not take into account your individual needs and objectives. While we believe that the information in this document is correct, no warranty of accuracy, reliability or completeness is given and, except for liability under statute which cannot be excluded, no liability for errors or omissions is accepted.

