



Position Description

College/Division:	National Computational Infrastructure (NCI)
Faculty/School/Centre:	National Computational Infrastructure (NCI)
Department/Unit:	National Computational Infrastructure (NCI)
Position Title:	HPC Systems Administrator
Classification:	ANU Officer 8 (Information Technology)
Responsible to:	HPC Systems Manager
Number of positions that report to this role:	-
Delegation(s) Assigned:	-

PURPOSE STATEMENT:

NCI is Australia's leading national provider of high-end computational and data-intensive services, with a highly respected reputation for its services, expertise and innovation. It forms an integral part of the Australia Government's research infrastructure strategy, and is engaged with, and embedded in research communities, high-impact research centres, and research institutions nationally. NCI is an operating unit of the Australian National University and is built on and sustained by a formal collaboration of national research organisations, ANU, CSIRO, Bureau of Meteorology, Geoscience Australia, other research-intensive universities, and eResearch support organisations nationally.

As HPC Systems Administrator, you will play a central role in data-to-day administering, configuring and maintaining a world-class petascale HPC service.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The HPC Systems Administrator will (a) Administer and maintain HPC systems (including operating systems, filesystems, storage, networking, software licenses and other system software), service and security monitoring, and fault rectification; (b) be centrally involved in HPC system hardware deployment, configuration and maintenance; (c) support users and staff of the service through improved access, documentation, training and proactive advice.

The position of HPC Systems Administrator is a member of the HPC Systems Team under the reports to the Manager, HPC Systems, within the portfolio of responsibilities of the Associate Director HPC.

In undertaking their duties, the incumbent to this position will work closely with other members of the NCI team.

The role may at times require work outside standard business hours.

Role Statement:

Under the broad direction of the HPC Systems Manager, the HPC Systems Administrator will perform the following duties:

- Take a leading role in administering and maintaining modern, scalable Linux HPC cluster systems including operating systems, filesystems, storage, networking, backup/recovery, software licenses and other system software.
- Monitor, diagnose and rectify system faults in HPC systems including hardware and system scalability issues.
- Contribute significantly to the planning and implementation of HPC system software and hardware deployment, configuration and maintenance.

- Contribute to analysing and developing overall system configuration and scalable management practices.
- Implement, enhance and administer cluster monitoring and reliability logging infrastructure.
- Liaise with stakeholders and play a leading role in supporting user access, workload and resource management systems and utilities.
- Deploy, configure and maintain HPC system hardware.
- Implement and maintain adherence to, the NCI security policies across HPC and associated systems.
- Comply with all ANU policies and procedures, and in particular those relating to workplace health and safety and equal opportunity.
- Other duties as appropriate to this classification and as directed.

See the [classification descriptors for professional staff](#) and [minimum standards for academic staff](#)

SELECTION CRITERIA:

1. A relevant degree and extensive experience with HPC systems (hardware configuration and deployment, and finding and resolving complex issues with large-scale systems) OR an equivalent combination of experience and education/training.
2. Demonstrated excellent knowledge and extensive experience of Unix/Linux, particularly network and filesystem configuration and management (including performance tuning) in a HPC cluster environment. Sound knowledge and experience of configuring and building Linux kernels and managing Linux distributions, queuing systems and Zabbix would also be highly valued.
3. Extensive knowledge and experience of scripting language(s) such as bash, python or perl suitable for system configuration and management, and C sufficient for improving system packages and utilities.
4. A high level of understanding of scalable, reliable system management, practises and utilities particularly for system provisioning and monitoring.
5. An awareness of the compute resource needs of scientific computing applications, particularly large-scale parallel applications, and a basic appreciation of the service-oriented goals of a large-scale computational facility for the national academic research community.
6. A high level of understanding of and experience in IT security in Unix/Linux environments.
7. Excellent oral and written communication skills; ability to plan and write quality user/systems documentation and reports; and the ability to work with a small team.
8. A high level of understanding of equal opportunity principles and a commitment to the application of EO policies in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the [Background Checking Procedure](#) which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[Professional Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



Pre-Employment Work Environment Report

Position Details

College/Div/Centre	NCI	Dept/School/Section	NCI
Position Title	HPC System Administrator	Classification	ANU8
Position No.	27673	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- 'Regular' hazards identified below must be listed as 'Essential' in the Selection Criteria - see 'Employment Medical Procedures' at http://info.anu.edu.au/Policies/_DHR/Procedures/Employment_Medical_Procedures.asp

Potential Hazards

<ul style="list-style-type: none"> • Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a regular or occasional part of the duties. 			
TASK	regular	occasional	TASK
key boarding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	laboratory work
lifting, manual handling	<input type="checkbox"/>	<input type="checkbox"/>	work at heights
repetitive manual tasks	<input type="checkbox"/>	<input type="checkbox"/>	work in confined spaces
Organizing events	<input type="checkbox"/>	<input type="checkbox"/>	noise / vibration
fieldwork & travel	<input type="checkbox"/>	<input type="checkbox"/>	electricity
driving a vehicle	<input type="checkbox"/>	<input type="checkbox"/>	
NON-IONIZING RADIATION			IONIZING RADIATION
solar	<input type="checkbox"/>	<input type="checkbox"/>	gamma, x-rays
ultraviolet	<input type="checkbox"/>	<input type="checkbox"/>	beta particles
infra red	<input type="checkbox"/>	<input type="checkbox"/>	nuclear particles
laser	<input type="checkbox"/>	<input type="checkbox"/>	
radio frequency	<input type="checkbox"/>	<input type="checkbox"/>	
CHEMICALS			BIOLOGICAL MATERIALS
hazardous substances	<input type="checkbox"/>	<input type="checkbox"/>	microbiological materials
allergens	<input type="checkbox"/>	<input type="checkbox"/>	potential biological allergens
cytotoxics	<input type="checkbox"/>	<input type="checkbox"/>	laboratory animals or insects
mutagens/teratogens/ carcinogens	<input type="checkbox"/>	<input type="checkbox"/>	clinical specimens, including blood
pesticides / herbicides	<input type="checkbox"/>	<input type="checkbox"/>	genetically-manipulated specimens
			immunisations
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:		Date:	