# Position Details

## Technical Services- CSOF6

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| The following information is for applicants |
| Advertised Job Title | Senior HPC Systems Engineer |
| Job Reference | 70955 |
| Tenure | IndefiniteFull-time |
| Salary Range | AU $113,338 to AU $132,811 per annum plus up to 15.4% superannuation |
| Location(s) | Pawsey Centre - Kensington, Western Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Head of Scientific Platforms |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 1-3 |
| Enquire about this job | Contact Mark Gray via email mark.gray@csiro.au or phone: +61 8 6436 8958P*lease do not email your application directly to Mark Gray. Applications received via this method will not be considered.* |
| How to apply | Apply online at <https://jobs.csiro.au/> Internal applicants please apply via **Jobs Central**If you experience difficulties when applying, please email careers.online@csiro.au or call 1300 984 220. |

### Role Overview

The Pawsey Supercomputing Centre is a tier-1 high-performance computing facility accelerating scientific discoveries for Australia’s researchers. Located in Perth, Western Australia, Pawsey is currently serving scientists across the nation in domains such as radio astronomy, energy and resources, engineering, bioinformatics and health sciences. Pawsey supports Australia's commitment to the Square Kilometre Array (SKA) and Australian pathfinder projects (ASKAP and MWA).

The Centre is managed through a long-standing and successful unincorporated joint venture of the CSIRO, Curtin University, Edith Cowan University, Murdoch University and The University of Western Australia, and supported by funding from the Western Australian and Federal governments.

The Pawsey Supercomputing Centre has recently announced its new supercomputer as part of the biggest upgrade to the Pawsey computing infrastructure since the centre opened in 2009. The new supercomputer will deliver up to 50 petaFLOPs, or 30 times more compute power than its predecessor systems Magnus and Galaxy, to help power the future high-impact Australian research projects. The upgrade of the Pawsey’s computing infrastructure will also include the deployment of large-scale object storage for scientific data. Pawsey is also involved in multiple future technology evaluation projects including quantum computing.

https://pawsey.org.au/about-us/capital-refresh/

As a member of the Scientific Platforms Team at the Pawsey Supercomputing Centre, the Senior HPC Systems Engineer will be responsible for providing leadership in the deployment and operation of Australia’s peak supercomputing facility. The role will be crucial in designing, building and operating new services for Pawsey’s next-generation infrastructure supporting computation and data movement at extreme scale. The role will require effective communication with Pawsey staff and key stakeholder groups from a broad range of disciplines. A technical aptitude, strong interpersonal skills and a demonstrated interest in emerging technologies will be essential in working to build the next generation of supercomputing facility at Pawsey for Australian researchers.

### Duties and Key Result Areas:

* Provide mentoring and technical co-ordination for the Supercomputing Operations team.
* Project manage system refreshes, including end-to-end participation in procurement and migration processes.
* Facilitate effective integration across Pawsey infrastructure leveraging modern technologies.
* Provide systems support and technical leadership for operation of Pawsey supercomputing infrastructure, including HPE-Cray supercomputers, high speed interconnect and high-performance storage systems.
* Co-ordinate and manage the operation of Pawsey systems including large scale testing, monitoring and reporting of performance metrics.
* Undertake problem solving at a high level for systems and workflows.
* Ensure effective response to system support issues via request tracking.
* Manage faults and maintenance interactions with vendors.
* Ensure effective documentation for systems support and operating procedures.
* Contribute to knowledge sharing across the technical operations team.
* Liaise with users and their communities/representatives regarding delivery of system services to meet their requirements.
* Participate and contribute to relevant training in the use of Pawsey facilities and services.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Required Competencies:**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious, proposals/ideas.
* **Resource Management/Leadership:** Provides leadership that fosters an environment that encourages new ideas and provides support for the development of emerging skills. Creates trust by displaying consistency, understanding, integrity and patience. Plans, seeks, allocates and monitors resources to achieve outcomes.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. Relevant degree or equivalent experience in a computing field.
2. Significant experience in administration and management of supercomputing systems in a research or operational environment.
3. Demonstrated experience managing and optimising HPC interconnect technologies.
4. Experience with automation and configuration management tools such as Ansible and Puppet.
5. Knowledge of, or experience with the management of orchestration technologies such as Kubernetes.
6. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks with independence and self-motivation in support of scientific research.
7. Demonstrated ability in contributing novel ideas and approaches in support of scientific or technical investigations.

## **Desirable:**

1. Strong understanding of key supercomputing technologies, including accelerator architectures, HPC interconnects, hierarchical storage, resource scheduling/policies, use and provision of web services, portals, cloud technologies, scripting, workflow tools and scientific workflow management,Linux system programming and kernel performance tuning experience.
2. Experience in providing services to research domains, including engaging with researchers to determine requirements.
3. Experience in the operation of Ceph and/or OpenStack.
4. Demonstrated leadership of groups of technical professionals.

Special Requirements

The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

The successful candidate must be willing and able to travel interstate and internationally as required and be available to work after office hours from time to time.

## **About CSIRO:**

We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!

Find out more about the [Pawsey Supercomputing Centre](https://pawsey.org.au/)

Find out more about CSIRO [Scientific Computing](https://www.csiro.au/en/Research/Technology/Scientific-computing)

CSIRO is a values-based organisation. We expect our employees to demonstrate behaviours aligned to our values of:

* 1. People First
	2. Further Together
	3. Making it Real
	4. Trusted