# JOB DESCRIPTION

Job Title:	Linux & HPC Systems Administrator
Location	SPC's Headquarters, Noumea
Work Unit:	Information and Communication Technology Section
Reports To:	Team Leader – Systems and Security
Job Purpose:	The role will provide leadership in the design, implementation, maintenance, and support of SPC's High-Performance Computing (HPC), Linux systems. This includes configuring, deploying, and managing Linux operating systems and high-performance computing environments. The role will work collaboratively with our research departments, SPC staff and ICT team as well as incorporate day-to-day system administration responsibilities.
Date:	January 2023

Organisation Context:
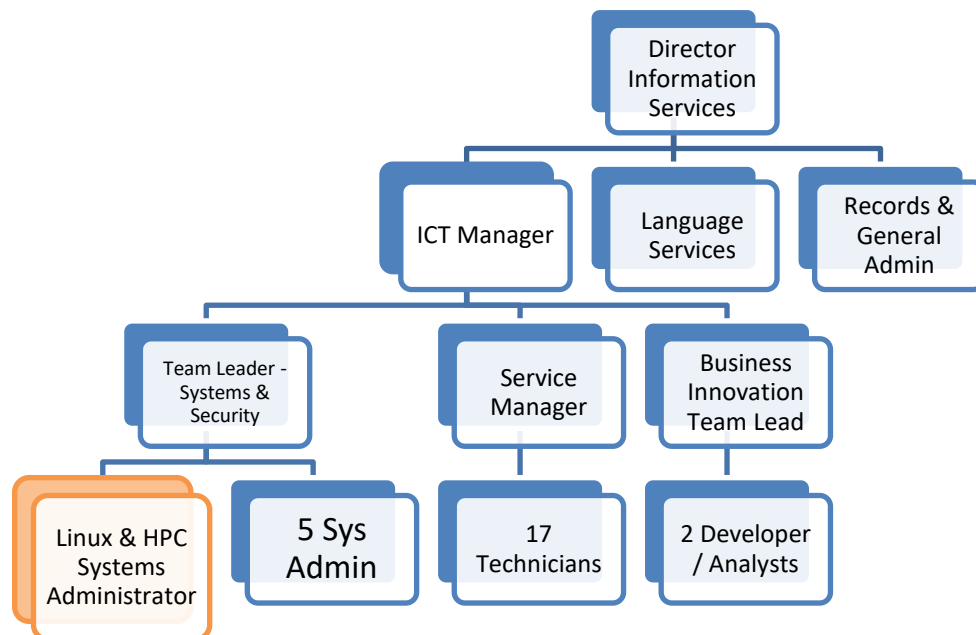
Key Result Areas:

The position of Linux & HPC Systems Administrator encompasses the following major functions or Key Result Areas:

1. Provide administration and support of Linux based systems, websites, and high-performance systems (25%)
2. Administration and Support of SPC ICT Systems (20%)
3. Provide technical leadership in ICT systems infrastructure related discipline(s) (20%)
4. Perform review, build and testing of technology solutions (20%)
5. Implementation, operational support, monitoring and optimization of ICT infrastructure systems (15%)

The requirements in the above Key Result Areas are broadly identified below.

Jobholder is accountable for	Jobholder is successful when
Provide administration and support of Linux based systems, websites, and high-performance systems • Support SPC divisions and programmes with their ICT related HPC requirements. • Continuously analyse and provide improvements to existing infrastructure. • Monitor performance, health, and availability of systems. • Perform regular maintenance and updates. • Communicate system unavailability with divisions as required.	• Implement, maintain, and replace relevant and required infrastructure for SPC divisions and programmes in a timely manner. • Systems are kept current and patched from known vulnerabilities. • System deployment addresses the complete aspect of ICT systems lifecycle. • Security and integrity of the SPC corporate network and data communication systems is assured. • System failures are analysed for design faults, and knowledge used to improve design. • Faults are communicated to the relevant stakeholders and resolved within a timely manner.
Administration and Support of SPC ICT Systems: • Provide operational support, monitoring and management of all ICT systems (desktop environment, server, networking, and storage infrastructure). • Perform regular maintenance, routine backups, and disaster recovery procedures. • Monitor the corporate ICT helpdesk to identify emerging issues • Administer the supplier compliance with terms of contracts	• Systems management and administration is performed to industry best practice standards ensuring minimal down time and achieving 99.9% availability for core ICT infrastructure services. • Integrity of backup and recovery systems and procedures are maintained and provide quick recovery times. Backup and recovery systems and procedures follow SPC corporate data retention and media management policies. • Service requests are managed and prioritized effectively, handled with efficiency, and resolved/addressed using appropriate solutions. • Sustainable and reliable supply and support relationships with external vendors that follow SPC corporate policies, procedures, and quality assurance requirements.
Technical leadership in ICT systems infrastructure related disciplines • Participate in the development, preparation, and delivery of training opportunities to enhance the knowledge and efficiency of SPC ICT Technical staff. • Provide specialist knowledge relating to ICT with key internal and external stakeholders to maintain existing systems and ICT infrastructure.	• SPC staff are appropriately trained and competent in delivering and supporting the services offered by the ICT Section. • ICT solutions are an enabling factor in achieving SPC strategic goals. • There is effective collaboration and advice on infrastructure related requirements with various SPC Division enabling them to deliver projects.

Perform review, build and testing of technology solutions	ICT Infrastructure systems deliver on expectations in terms of performance and budget constraints.
• Defines scope, plans, and produces deliverables for assigned projects.	• ICT project planning, design and delivery are performed to consistently high standards.
• Identifies and documents detailed business and system requirements for assigned projects. Collaborates with senior ICT staff to ensure plans and identified solutions meet needs and expectations.	
• Participate in the development and use of endorsed SPC project guidelines and standards, and apply those techniques to manage, implement and deploy approved ICT infrastructure projects.	
• Ensure that supporting processes are documented and stored in a central location.	
Implementation and Optimization of ICT systems	• ICT systems are implemented to specification and are consistent with SPC ICT policies and procedures.
• Implements approved ICT solution designs.	
• Performs analysis and review of implemented systems and develops, tests, and implements performance tuning and optimization.	• Changes are effectively communicated to affected users, stakeholders and interested parties.
• Design, develop, test, and implement systems management tools and automation tools which enable efficiencies in operational support of ICT infrastructure systems.	• Changes are appropriately managed to ensure minimal impact on the availability of ICT services.
• Ensure that process documentation is current.	• ICT systems operate at optimum efficiency enabling SPC staff to take full advantage of deployed technology solutions.

Note

The above performance standards are provided as a guide only. The precise performance measures for this position will need further discussion between the jobholder and supervisor as part of the performance development process.

Work Complexity:

Most challenging duties typically undertaken:

Service Delivery

- Prioritisation of service requests and maintaining operational efficiency while also working on project-initiated tasks.

Design and Implementation

- Understanding business and technical requirements and developing solutions with limited resourcing to satisfy these requirements.
- Explore, identify, evaluate, develop, design, and implement appropriate technology solutions to support SPC strategic goals and objectives.

Technical Leadership

- Keeping up to date with current technology trends.

Functional Relationships & Relationship Skills:

Key internal and/or external contacts	Nature of the contact most typical
External - • Suppliers • Integration partners	• Requests for quotes, purchasing and servicing of ICT equipment and licensing. • Management of Software Licensing. • Discuss technical solutions.
Internal - • SPC Staff – End Users • SPC ICT stakeholders • SPC ICT staff	• Responding to service requests. • Notification of changes to production systems. • Understanding requirements and needs. • Regular feedback and communication with ICT stakeholders on service delivery/project status. • Technical mentoring and training of ICT support staff. • Collaboration and Peer Review of solution designs. • Work with division scientists to understand and deliver appropriate solutions • Regular analysis of existing HTC network and ability to plan and implement cost-effective improvements and extensions

Person Specification:

This section is designed to capture the expertise required for the role at the 100% fully effective level. (This does not necessarily reflect what the current position holder has.) This may be a combination of knowledge / experience, qualifications, or equivalent level of learning through experience or key skills, attributes, or job specific competencies.

Qualifications

Essential:	Desirable:

Specialized degree in IT, computing, science, or maths
• Advanced troubleshooting with System Administration in Linux
	• Recent industry certifications on one or more of the following platforms:
	   o Microsoft
	   o VMware
	   o Linux (i.e., CompTIA or similar)
	   o AWS or Azure
	• Industry recognized certification
	• Industry recognized project management and/or IT service management certification, e.g.
	   o ITIL
	   o Prince
	   o COBIT 5

Knowledge / Experience

Essential:	Desirable:
• At least 4 years' experience with Linux OS administration, configuration, troubleshooting and scripting. • At least 4 years' experience in website or application admin and deployment such as Docker, Kubernetes, and Drupal. • At least 4 years' experience in medium-sized LAN and WAN environments running Windows Server technologies, IIS, System Centre, and AD. • Cloud virtualisation system experience such as Amazon EC2/S3 or Azure. • Experience with distributed source code version systems and issue triage platforms such as GitHub. • Proven work experience with an ITSM platforms, experience with ServiceNow a plus. • Proven work experience with Microsoft Windows, Linux (CentOS/Ubuntu), and Mac OS X operating systems. • Practical work experience in the installation, configuration, and deployment of network equipment. • Demonstrated ability in the provision of user training and support, particularly for SPC standard office automation and customised applications. • Experience in good customer care, with additional focus on the support of remote	• Support of desktop systems and applications in both English and French languages in a multi-disciplinary organisation. • Scripting using Bash, Cron and Python to assist with automation • Familiarity with cloud endpoint update management tools (i.e., Automox, Ivanti etc) • Application and web development experience using .NET technologies, Apache, and containers • Postgres / MySQL databases • Administration and user experience with HTcondor, Slurm workload or TORQUE resource manager • Knowledge of modern and emerging technologies (AI, Machine Learning, Blockchain) • Good working knowledge of English (for French speakers) or French (for English speakers).

users and logistical arrangements, which are common in small Pacific Island countries. • Excellent command of English or French.	

Key Skills /Attributes / Job Specific Competencies

The following levels would typically be expected for the 100% fully effective level:

Expert level	Linux OS administration Web server administration Microsoft Windows Server technologies Managed Microsoft Desktop Environment HPC (High Performance Computing) or HTC (High Throughput Computing) -
Advanced level	HTML/CSS, JavaScript Scripting (Bash, Python) Linux system administration including good command line knowledge
Working Knowledge	Enterprise Storage technologies Enterprise Backup, Restore and Archiving technologies VMware virtual infrastructure technologies: Automation and scripting application packaging and deployment tools Enterprise End-Point security technologies Enterprise messaging and collaboration technologies Thin-Client and Remote Desktop technologies Linux Server Management VEEAM Backup Software Network infrastructure design, implementation, and support for small to medium sized enterprise environments: - LAN and WAN design and implementation - Network security - VPN and wireless technologies Server, Storage, Networking, and Application Virtualisation concepts and technologies Programming languages Database Administration: - MSSQL, MySQL ITIL/MOF or similar framework Change Management Report Writing Linux Mac OS X and current Apple Mac hardware
Awareness	Software Life Cycle Management SPC Rules and Policies

Key Behaviours

*All employees are measured against the following **Key Behaviours** as part of Performance Development:*

- Change and Innovation
- Interpersonal Skills
- Teamwork
- Promotion of Equity and Equality
- Judgement
- Building Individual Capacity

Personal Attributes

- Attention to detail
- Patient and respectful
- Passionate and inquisitive about technology

Change to Job Description:

From time to time, it may be necessary to consider changes in the job description in response to the changing nature of our work environment – including technological requirements or statutory changes. Such change may be initiated as necessary by SPC. This Job Description may be reviewed as part of the preparation for performance planning for the annual performance cycle.