**Request for dedicated Secure Computing Space for DS&AS**

**(Interim Arrangement)**

As you are aware, the Data Science & Analytics Section (DS&AS) is currently being established and is expanding its capacity to support advanced analytics, machine learning, and data-driven decision-making across the Institute.

To efficiently support and execute upcoming projects, the section is requesting a dedicated and controlled computing environment on the existing server.

This request will be on interim basis as a solution as the section hopes to mobilize budget for its own infrastructure in the near future.

This will have a strategic benefit to the institute in terms of productivity through reduction of turnaround time of analytics work requiring large datasets, improve data security through role based access controls and audit trails, support institutional research and external partnerships for example grants requiring secure environments, facilitate computational efficiency for ML, simulations and modelling tasks and as well as strengthening data governance compliance (Data Protection Act, GDPR equivalents, research ethics)

This initiative is not meant to duplicate ICT systems or move toward independence. ICT will remain the technical authority for infrastructure, cybersecurity, backup policies and system administration. The DS&AS will only manage data analysis workloads and research environments within the ICT guidelines.

What we seek here is a collaboration with ICT for a technically compliant setup that aligns with institutional policies and standards.

To proceed, we request a meeting/consultation with ICT to gather the following information on the current server setup:

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| --- | --- |
| Item/ Area | Needed information |
| Server Specs & Capacity | Total CPU cores, RAM, storage capacity, usage/load metrics |
| Virtualization Capability | Is VMware, Hyper-V, or Proxmox available? Can we create a VM? |
| Storage Options | Dedicated partition or secure shared storage allocation |
| Operating Environment | Supported OS options (Linux/Ubuntu preferred for DS workloads) |
| Network Access | Internal access options and internet policy for research tools |
| Security & Governance | Backup policies, user authentication options, access logs |
| Compatibility | Support for RStudio Server, Python, Docker, PostgreSQL |
| Policies | ICT server usage policy to comply with |

The section foresees the following roles and responsibilities of the two-collaboration sections within the institute:

|  |  |
| --- | --- |
| Div./Section | Role |
| ICT | Server provisioning, access control, system security, monitoring |
| DS&AS | Managing analytical workloads, data governance, documentation |
| Joint | Approve configuration, maintain compliance and uptime |

It is important to emphasis that this is a short rum implementation expected to last up to 1 year as the DS&AS submits a budget proposal for dedicated infrastructure in the upcoming procumbent cycle or through grants. This interim setup will enable work continuity without waiting for capital purchases.

As a next step, it will be imperative for us to engage in a brief technical consultation meeting before 14th of this month where we can discuss the joint development and the technical implementation plan as well as the guidance on ICT policies to comply with.

For coordination:   
Name: Patrick Waweru Mwaura  
Position: DS&AS

**Request for Secure Computing Space for DS&AS (Interim Setup)**

Dear ICT Team / ICT Head,

I hope you are doing well. As the current lead of the Data Science & Analytics activities in our institution, I am writing to request your support and collaboration in establishing a dedicated, secure computing environment (on an interim basis) using our existing server infrastructure.

To be clear, this is *not* an attempt to override ICT’s authority. ICT will remain fully responsible for infrastructure, cybersecurity, backups, and system administration. What I am asking for is a governed space under ICT supervision where DS-type workloads (analytics, modelling, and data collecting and processing) can run without interfering with existing systems.

**Purpose**

The DS&AS (though in its inception) is crucial to our institution’s capacity in data-driven decision-making, reporting, modelling, research support, and innovation. Given the computational demands ahead, having a controlled space will let me deliver on the mandate efficiently.

**Benefits**

1. By provision of this interim environment, the Institute stands to gain:
2. Shorter turnaround for analytics tasks involving large data
3. Reduced interference or overload on the main ICT server
4. Environment separation to avoid software conflicts
5. Enhanced security with role-based access and auditing
6. Compliance with data governance rules, research ethics, and data protection
7. Better support for grants and external partners needing secure compute

**Interim nature & authority**

This arrangement is intended to be temporary, expected to last up to one year, while I mobilize resources and budget for a fully independent DS&AS infrastructure. In this period, I will lead this initiative but fully coordinate with ICT.

**Information requirement for planning**

To plan the setup jointly, I request a meeting (preferably before the 14th) to gather:

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| --- | --- | --- |
| Area / Domain | Information Required | Notes / Clarifications (Linux vs Windows) |
| Server Specifications & Capacity | CPU model, number of cores; total & free RAM; total & free storage; historical usage metrics (CPU, memory, disk I/O) | On Windows, include system overhead (e.g. services) and paging file use |
| Virtualisation Capability | Which hypervisor is installed (e.g. VMware, Hyper-V, Proxmox, KVM); ability to create new VMs; whether CPU virtualization (VT-x / AMD-V) is enabled | On Windows, check whether Hyper-V is enabled; on Linux, check for KVM, Xen, etc. |
| Storage Options | Is it possible to allocate a dedicated partition, logical volume, or separate disk; I/O performance (read/write throughput, latency) | On Windows, consider NTFS / ReFS, volume shadow copy; on Linux, LVM, ext4, xfs, etc. |
| Operating Environment / OS Support | Which OS versions are supported; whether additional OSs can be installed (Linux or Windows); any OS constraints or licensing | If current OS is Windows, request whether Linux VMs or containers are permitted |
| Network Access & Connectivity | Internal network segmentation (VLANs), firewall rules, ports allowed, internet access policy, routing | On Windows, include firewall / Windows firewall rules; on Linux, include iptables / ufw / firewallD |
| Security & Governance & Backup | Existing user authentication (Active Directory, LDAP, local accounts); audit / logging; backup schedule; recovery plan; encryption policies | On Windows, include Windows Backup, Volume Shadow Copy, audit logs, group policies; on Linux, include cron backups, rsync, journald, logrotate |
| Compatibility & Tools | Whether the environment supports or can be adapted to tools you need: RStudio Server, Python, Docker, PostgreSQL, Jupyter, Shiny, etc. | On Windows, note whether Docker for Windows / WSL are supported; on Linux, native support is usually easier |
| Policies, Procedures & Change Control | ICT’s server usage policy; process for change requests; maintenance windows; approval flows | Include requirement that DS setup must abide by these policies |
| Monitoring & Maintenance | Monitoring tools in use (e.g. SNMP, Nagios, Windows Monitoring); alerting, metrics, who is responsible | On Windows, might include Performance Monitor, Event Viewer; on Linux, tools like top, munin, Grafana |
| Licensing / Costs | OS licensing status; extra license costs for VMs or additional OSs | Important if adding Windows VMs might require additional licenses |

**Responsibilities**

|  |  |
| --- | --- |
| **Party** | **Role** |
| ICT | Provide the computing environment, control access, enforce security, monitor systems |
| Myself (DS) | Run analytics workloads, manage data governance, document workflows |
| Joint | Approve any adjustments, ensure policy alignment, monitor uptime & performance |

**Next Steps**

I suggest we meet before the 14th to review these items, jointly plan the configuration, and agree on ICT policies to follow. I appreciate your partnership and look forward to working together to deliver results.

Thank you for your support.

Regards,  
Patrick Waweru Mwaura  
Lead – Data Science & Analytics Activities