Upper Campus Data Centre

As part of the university's drive to meet the expanding needs of Research and Teaching & Learning, UCT has completed a comprehensive upgrade to the Upper Campus Data Centre. Commissioned in early 2025, the facility now delivers a secure, modern, and energy-efficient environment with 99.982% availability.



Key attributes



- N+1 UPS redundancy
- N+1 cooling redundancy
- 99.982% uptime
- Secure cabinet configurations: full / half / quarter

Power



- Fault-tolerant design & concurrently maintainable
- Resilient diesel generators to support full load
- Smart Power Distribution Units for power management to socket level
- Real-time power monitoring & alerting

Infrastructure



- 43U cabinets, 1200mm deep for improved airflow and access
- Perforated doors for improved cooling
- Unique cabinet locks with auditable biometric key control
- Full / half / quarter cabinet options available

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Environment



- Concurrently maintainable design with elements for fault tolerance built into asset levels
- Energy-efficient systems aligned with industry standards
- Independent temperature monitoring at cabinet level automatically adjusts cooling units to avoid hot spots
- Controlled temperatures
- Relative humidity maintained
- Positively pressurised, dust-free environment
- Optimum environment for High Performance Computing & GPU-based computation

Connectivity



- Redundant connectivity routes throughout facility
- Single & multimode fibre supported
- Certified cabling vendors
- Structured cabling managed by ICTS

Fire protection



- Proactive fire detection with suppression systems
- Early warning multi-zone monitoring
- Independent power for fire systems

Security



- Access by pre-authorisation & biometric fingerprint authentication
- Segregated service and data centre areas
- 24/7 video surveillance & alarm
- Full audit trail of access events

Monitoring



- Building monitoring system for all facilities
- 24/7 alarms & alerts
- Intelligent video surveillance

Provisioning



- Colocation in shared / private cabinets ensures each user's apparatus receives necessary network, security, & performance services from shared data centre hardware while remaining logically isolated
- Hardware vendor agnostic
- Preventative and predictive maintenance
- Non-disruptive servicing aligned to industry standards

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