

# FACILITY OVERVIEW

# S1 SYDNEY



## Where Sydney connects to the world

Situated in Macquarie Park approximately 15km from Sydney's CBD, S1 offers five storeys of next-generation data centre space that showcases the very latest in energy-efficient data centre design.

Customers at S1 have access to the growing carrier and vendor neutral ecosystem that hosts a number of high-profile corporations, including some of the world's largest, who run their cloud platforms from the data centre.

S1 is one of the few Australian data centres to achieve the Uptime Institute's industry-benchmark Tier III certification for design and facility – an endorsement that S1 will support extremely high levels of service availability.

## About VMvault

VMvault provides specialist cloud services to customers from a wide range of industries. We combine state of the art technologies and equipment to provide a secure, reliable and robust platform which enables us to meet the magic 5 nines of uptime – 99.999%.

Our clients range from small businesses with 10 staff, right to up to large multinational corporations and government departments. VMvault has the capability to host almost anything in the cloud, with the knowledge and experience to do this efficiently and cost effectively.



Australia's leading independent **DCaaS** Data-Centre-as-a-Service provider.

## Building Overview

- Five storey 17,650m<sup>2</sup> building.
- Total technical space approximately 5,600m<sup>2</sup>.
- 2,800 rack capacity.
- Average 1,450m<sup>2</sup> per data hall.
- Office and common areas approximately 1,450m<sup>2</sup>.
- 1m raised floors in data halls and service corridors.
- Floor is reinforced concrete with 14.4kPa floor load capacity.
- Built to the Australian Earthquake Loading Standard AS1170. Importance Level 4 (IL4).

## Power

- Initial available power of 12MVA, increasing up to 20MVA.
- IT load capacity of approximately 11.5MW.
- Minimum N+1 redundancy on power supply.
- Multiple power distribution units (PDUs) providing N+N final circuit distribution to IT racks.
- Harmonic distortion controlled and monitored by UPS systems.
- Full N+1 main electrical infrastructure extending to N+N at PDU level.
- Ultimate 12+1, 1670kVA Diesel Rotary UPS [DRUPS] units on an Isolated Parallel bus for 100% no break IT and mechanical power.
- Diverse main feeders delivered at 11kV.
- Minimum 24 hours' onsite fuel supply.

## Cooling

- N+1 high efficiency water cooled chillers, cooling towers and pumps.
- Dual primary pipework header and distribution system.
- Secondary pipework distribution serving data hall equipment valved and looped providing dual path.
- Multiple redundant water pump and compressor configuration.
- Water storage for cooling towers.
- Leak detection system.
- Server heat load approximately 2000W/m<sup>2</sup>.
- N+2 Computer Room Air Conditioning (CRAC) units per data hall.
- CRAC units supply temperature control and floor pressure control.
- All CRAC units are fitted with dual power supplies.
- CRAC units fitted with high efficiency electronically commutated fans.
- All CRAC units are located in secured plant corridors outside the data halls.
- Average cold aisle temperature of 22 +/- 2 degrees.
- Average cold aisle relative humidity of 50% +/- 15%.
- All mechanical plant is fully backed up by DRUPS.
- Building Management System (BMS) for monitoring of major mechanical systems.

## Telecommunications

- Diverse connectivity and underground cable pathways to the building.
- Dedicated interconnect rooms for cable connections.
- 100% carrier and vendor neutral.

## Security

- Individual credential checks prior to authorisation.
- 24/7 onsite security personnel.
- Biometric fingerprint security for data centre access.
- Anti-cloning access card encryption.
- Secure lifts between floors.
- Intruder-resistant glass, steel mesh and solid concrete walls.
- Secure loading dock for deliveries.
- Extensive coverage of motion sensitive CCTV cameras.
- Remote monitoring and control of rack access via ONEDC®.
- Monitoring of news and weather for external security risks.

## Sustainability

- Water cooled chiller technology with variable speed compressors.
- Indirect water-side free cooling.
- Rain water for cooling towers.
- Dedicated area for potential future installation of onsite generation plant (such as tri-gen or other technologies) to significantly reduce CO<sub>2</sub> emissions.
- Energy efficient lighting (fluro or LED) meeting AS1680.2.2 standard.
- External walls insulated to reduce heat transmission.
- Variable speed compressors, pumps and fans.
- Direct free air cooling for data halls on the upper level.
- Low volatile organic compound (VOC) materials and paint.
- Target PUE is 1.3 at peak load.

## Fire Suppression and Monitoring

- Inert gas fire suppression system.
- Leak detection systems.
- Emergency warning systems throughout the building.
- Water mist suppression system in DRUPS enclosures.
- Distributed fire alarm controls equipment to avoid single point of failure.
- Fully addressable analogue fire alarm system comprising Fire Indicator Panel (FIP), mimic panels, heat detection and MASDs systems.

## Certifications and Standards

- Uptime Institute Tier III certification of design documents.
- Uptime Institute Tier III certification of constructed facility.
- Certified to ISO 9001:2008 for the design, development and provision of secured data centre infrastructure and associated services.
- Designed by ASIO T4 accredited consultants with ASIO T4 security and future requirements of the Protective Security Policy framework (PSPF) in mind.
- Designed in accordance with the Telecommunications Industry Association's (TIA) 942 standard (Tier III).

## Customer Services

- Meeting rooms and offices for shared customer hot-desking, private suites, purpose-built NOCs or SMCs, or temporary offices for the project management of larger installations.
- Sound-resistant boardroom, featuring floor-to-ceiling backboards for workshops and planning sessions; and staging rooms for testing equipment installations.
- Chill-out room featuring fully functioning kitchen, flat screen 75-inch TV, lounge, gaming console, two fully reclining massage chairs, Foxtel® and free Wi-Fi.