POLARIS DATA CENTRE

AUSTRALIA'S MOST ADVANCED IT FACILITY

POLARIS
DATA CENTRE

GREATER SPRINGFIELD | By Springfield City Group

OVERVIEW

- Purpose designed and built to the highest standard achieving 100% uptime
- 14,000m² building over 5 levels
- 6,992m² of raised floor Data Centre area over 3 levels
- Scalable, redundant power and cooling capacity ranging from 800W/m² to 1500W/m² on average and up to 60kw
- 1500kg/m² raised-floor loading capacity across all data centre floors
- 24x7 manned security and facilities management
- Biometric man-traps on each Data Centre floor
- Secure loading dock with vehicle trap
- Full security camera monitoring
- Located in a safe location over 25km radial distance to Brisbane CBD
- Linked through a diverse dark-fibre network connection to Brisbane CBD, and local optic fibre connections across Springfield Central
- Configured to act as a Carrier Interconnect Exchange for Springfield Central tenants
- Multi-carrier enabled
- High-speed Internet backbone connectivity
- Designed in consideration of new generation blade server and data storage technologies

SITE LOCATION

- Located in a safe location not susceptible to geopolitical events or natural disasters (flood, earthquake, volcano, tsunami)
- Over 25km radial distance to Brisbane CBD
- Situated well above the 100 year flood level for the region
- Connected to the diverse Springfield-Brisbane Dark-Fibre Network
- Street position limits possible vehicle rams
- Onsite diesel tanks and water storage tanks are stored underground
- Within 500m of the new Telstra Exchange in Springfield
- Close proximity to Universities and other training institutions offering access to a highly skilled workforce
- Close proximity to Orion Shopping Centre and other retail outlets in Springfield Central

ELECTRICAL

- Diverse underground 33kV Energex feeders from bulk supply sub-station fed from Powerlink 110kV
- N+1 dedicated underground Energex 11KV feeders from separate 33kV/11kV transformer buses via diverse path
- N+2 Redundant 11kV/415v distribution transformers
- N+2 Redundant 1.7MW UPS modules for data centre load
- N+2 Redundant 400kW UPS modules for essential mechanical load
- N+2 Redundant 2750kVA standby diesel emergency power with balance of essential supply to mechanical plant
- Dual redundant vertical distribution cabling to data centre floors
- Dual redundant horizontal power supply to each rack
- Final rack power distribution 2N

MECHANICAL

- N+2 Main chillers, cooling towers and pumps
- Dual redundant piping systems to all equipment
- N+2 Computer Room Air-Conditioning Units (CRAC) per Data Centre floor
- 100% standby power generator support to mission critical mechanical services
- Support for 2N High Density Cooling Solutions

SELF SUFFICIENT

- 48 hours onsite supply of diesel in event of mains power failure
- 48 hours onsite supply of water for cooling towers and fire suppression in event of mains water failure

SECURITY

- 24 x 7 x 365 onsite manned security
- Defence level Intruder Resistant Building (DSM compliant)
- Separate security access control zones between Data Centre and Plant Levels
- Biometric access control measures employed within each Data Centre floor man-trap
- Video surveillance to all entries, external, lift lobbies, and data centre floors with digital storage and 24/7 monitoring
- Bullet-proof glass to main foyer
- Secure lift access to all Data Centre floors
- Vehicle Trap (capable of handling a long rigid vehicle) in secure loading bay
- Separate secure foyer with access logging for entering the Data Centre security zone
- Building plant room is a core part of the Data Centre security zone

FIRE SUPPRESSION & DETECTION

- N+1 Inert Gas Fire Suppression system (with capacity to cover entire Data Centre floor)
- VESDA type smoke detection system to all floors in the building
- Leak detection on all Data Centre floors and Plant Areas
- Distributed Fire Alarm control equipment to avoid single point of failure
- Four security monitored and alarmed fire escapes

SUITABILITY

The Polaris Data Centre has been designed to deliver the following capabilities for your ICT solution:

- Primary Data Centre
- Secondary Data Centre
- Disaster Recovery Site
- Internet Data Centre (IDC)
- Carrier Interconnect Exchange

BUILDING CAPABILITIES

- Combined building capabilities provides 100% availability
- Physically separate, diverse building entry points for telecommunications, mains water and power
- Capable of modular fit-out and installation of additional UPS, Chillers and Cooling Towers without tenant interruption as power and cooling loads increase
- Ability to provide scalable, redundant power and cooling infrastructure up to 1500W/m^2 across the raised-floor area
- All floor slabs water-sealed and designed to support 1600kg/m^2
- Dual carrier 'meet me' (Intermediate Distribution Frame – IDF) rooms, with redundant vertical cable risers
- Fire proof Store Room
- Secure Loading Bay with dock-leveller
- Secure Store Room adjacent to the Loading Bay
- No ramps are deployed in the facility
- Secure Facility Room for unpacking and assembling equipment prior to locating in clean, secure Data Centre areas
- Site management workshop for onsite building support and maintenance staff
- Redundant building risers
- Office accommodation available on most Data Centre levels, external to the biometrically secure raised floor area
- Boardroom on ground floor
- All horizontal network cabling to CAT6 standard with predominantly single mode optic fibre vertical cabling
- Lightning arrestors and rods, with earthing to remove impact on sensitive ICT equipment
- Onsite Facilities Manager
- Ability to sub-licence technical space from 50m^2 to 6999m^2

DATA CENTRE FLOORS

- Biometrically secured man-traps on each Data Centre floor
- Slab loading capacity of 1600kg/m2
- 4.5m floor to ceiling height
- Average temperature of 23°C ± 1°C
- Average relative humidity of 50% ± 5%
- 600mm raised floors with under-floor chilled water distribution
- Overhead power, telecommunications and networking cabling in flexible trays
- APC InRow cooling units provide flexible, high-capacity cooling
- Inert gas fire suppression with associated gas extraction system and dampers
- Windowless floors except in common areas (office and lift foyer area per floor)
- Two high load lifts servicing Data Centre and Plant level (including loading bay) access to the main foyer

DARK FIBRE CONNECTIVITY

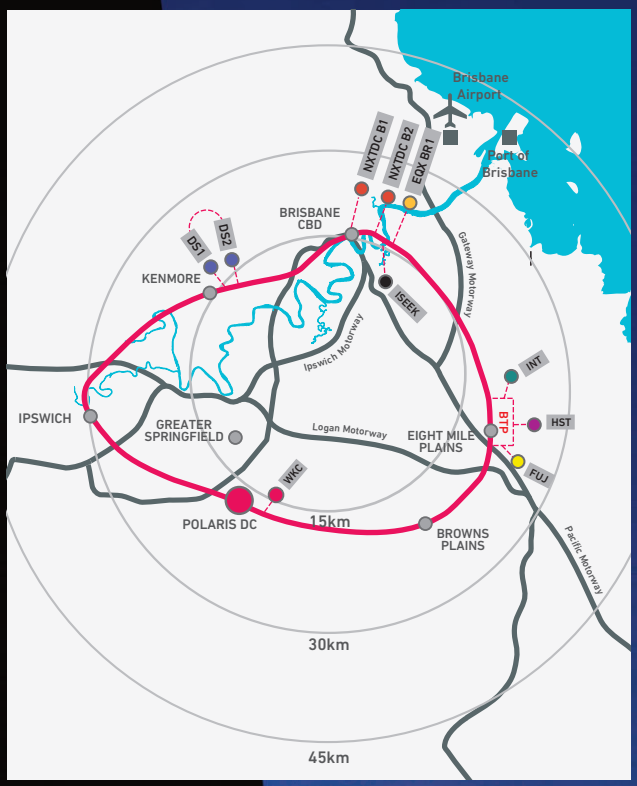
The Polaris Data Centre is connected to the Springfield-Ipswich-Brisbane Ring of Fibre Network "ROF". The network is a strategically designed 720 core, single-mode dark fibre network that is geographically diverse, measuring 140 Kms. It has dedicated and preconfigured spurs into Datacentres at Springfield, Eight Miles Plans, Kenmore and Brisbane City for rapid deployment. Capacity is available as dark fibre pairs or tubes under a termed lease or IRU.

LOCATION

Greater Springfield is a fully master planned city located in South East Queensland. Significant private and public expenditure over the next five years will see significant improvement in travel options with highway extensions, duplications and a new rail link connecting with the City Train network.

The heart of Greater Springfield is it's CBD, Springfield Central, which lies 26km from the Brisbane CBD and 17km from the Ipswich CBD.

Existing highways link Brisbane (30mins), Brisbane Airport (45mins), Ipswich CBD (15mins) and the Gold Coast (1 hour).



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