

# High Density Data Centres



Nextgen’s new High Density Data Centres support the next generation of rack power density requirements with benchmark setting ‘green’ credentials.

## Overview

Nextgen’s new High Density Data Centres are based on a modern technology approach to data centre power utilisation, management and environmental requirements.

Multiple 24kW density racks can be used in adjacent positions without the need for customised cooling solutions.

Initial deployments are in Melbourne, Perth and Sydney. Sites in other cities are also being planned.

These Data Centres have a Tier III Design accreditation from the Uptime Institute, an internationally recognised authority in the area. This rating underpins our credentials of service reliability, operation continuity, maintainability and fault tolerance.

Nextgen provides diverse cable to these secure locations for connection to our high capacity national fibre network. These sites are also accessible to accommodate services from other Carriers.

## Application

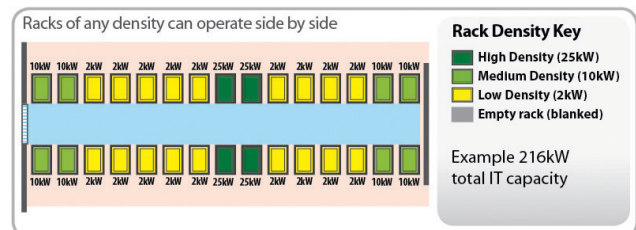
Nextgen’s High Density Data Centres have been developed to cater for increasing demands for “more power” at any rack, while improving energy efficiency in comparison to traditional data centre environments. Customers will be able to readily take advantage of the business benefits and flexibility offered with the new, more efficient data storage and processing equipment that is increasingly becoming available from vendors.

Nextgen’s High Density Data Centres support international trends virtualisation and cloud computing, which is poised for exponential growth. Corporations, Government, Carriers and Service Providers will be equipped to take advantage of new equipment, components and technologies without the need for individual cooling solutions to support higher rack power densities.

## Key Features

- Blade Server Ready ✓
- Low, Medium and High Rack Densities to 24kW ✓
- Low Carbon Footprint ✓
- Tier III Design Resilience Certified ✓
- Secure Metro Locations ✓

Our carbon footprint is reduced with the use of an industry leading free cooling technology, providing some of the markets lowest PUE (Power Utilisation Efficiency) figures in the market. The result is dramatically reduced energy consumption and carbon emissions compared to traditional data centres.



## Credentials and Technology

### Certification

Nextgen's High Density Data Centre facilities have been designed and built to Tier III standards, including dual distribution paths and N+1 components.

Uptime Institute is a globally recognised authority providing benchmark standards and guidelines for Data Centres.

The Tier design certification structure requires that the Data Centre meets with a number of specifications. It incorporates Telecommunications Infrastructure and entry points, building structure, components and location, security for the facility and access, electrical supply for mains and internal construction, mechanical, monitoring and management capabilities.

### Environment Management Technology

The cooling systems, both primary and back-up, use ambient and evaporative cooling and are designed in accordance with

the most demanding international standards including BS, ISO and IEC.

These are based on the internationally recognised BladeRoom design which has been proven to provide some of the most efficient Power Utilisation Efficiency ratings on the market today.

### Price Structures

Pricing is based on a standard product offering which includes the Cabinet or Rack and the power capability and capacity required for the rack position. A power usage model passes the operational cost benefits reflected in the PUE to the Data Centre customer.

Availability of standard racks for high density requirements reduces the need for expensive install charges that are typically required for water-cooled or custom pod installation in other data centres.

## Cabinet and Rack Specifications

	Standard	Option
CABINET: 45RU, Lockable Front and Back with Sides	w600x d1000x h2200	w800x d1000x h2200 w800x d1200x h2200
RACK: 45RU, Open Frame	w600x d1000x h2200	-
PATCH PANEL – Included	1 x 24 Port horizontal	Range of options
POWER CAPACITY PER CABINET/ RACK	2kW to 24kW in standard increments (equivalent to approx 2.5kVA to 30kVA)	
POWER SUPPLY TO CABINET/ RACK via Bus	16A A & B power feed per Cabinet/ Rack, Single Phase	32A A & B power feed per cabinet/Rack Single Phase or Three Phase
POWER DISTRIBUTION UNITS (PDU) Multiple Outlet Choices	12 x 15A A & B vertical power rails	12 x 10A A & B vertical power rails 12 x 20A A & B vertical power rails 12 x 32A A & B vertical power rails
AUTOMATIC TRANSFER SWITCH	-	Rack option to provide uninterrupted switching for single corded equipment  6 x 10A sockets are provided with a 15A maximum
DC POWER	-	50V DC Option
RACK/CABINET FLOOR LOADING	500KG per Rack/Cabinet	-
BLANKING	A mandatory requirement is that customers must ensure all rack spaces are filled with equipment or blanking panels/strips.  Nextgen provides blanking panels free of charge for customers to use.  Non blanked rack spaces will be blanked by Nextgen at customer expense.	
WEB PORTAL ACCESS	Rack Power Monitoring and Reporting	Power Socket Monitoring and Reporting Remote Power Restart Temperature and Humidity Monitoring
NON STANDARD RACKS/CABINETS	Not permitted	
CUSTOMER SUPPLIED RACKS	-	By agreement  Must be Nextgen standard rack types

## Facility Specifications

Building Management	The building management system monitors 24x7 all critical plant including electrical, environmental and fire detection systems and is managed at the Nextgen 24x7 Service Management Centre located in Melbourne.
Uninterruptible Power Supply	N + 1 on separate A + B planes
Emergency Generators	N + 1 Generators with minimum 24 hours fuel on-site
Cooling System	N + 1 redundancy within system utilising Hot and Cold isle separation and containment in the Data Hall
Switchboards	N + 1 configuration
Fire Protection	VESDA (Very Early Smoke Detection) and Gas Suppression
Floor Loading	10kpa
Temperature	24°C, with range 18°C to 26°C.
Humidity	RH 50% with range 35% to 70 %
Meeting Room Facilities	Available on site for customer rental
Staging Room	Available on site for customer rental
Storage Room Facilities	Available on site for customer rental
Loading Bay	Secure environment for the receipt of customer deliveries

## Security and Access

24x7x365 Security Guard	The On-Site Security Guard manages access and receipt of goods.
Building Security	Entry points are swipe card controlled, alarmed and monitored by CCTV.
Site Access Cards	Access cards are issued to customer nominated individuals
Customer Access and Work Processes	All installation and maintenance activities are controlled by a Permit To Work (PTW) process.  All personnel requiring access to the facility must undergo a site Induction.



## Carrier Access

Nextgen Fibre Presence	Dual diverse entry to all Data Centre sites and internally diverse infrastructure to the Nextgen Data Centre
Accessible for Other Carriers to Provide Services	Yes - subject to Carriers conforming to site and Data Centre requirements
Process For Other Carriers to Supply Services to Data Centre Customers	<ol style="list-style-type: none"> <li>External Carrier cables must terminate in the Carrier PoP Room.</li> <li>Carrier must contract with Metronode (Facility Manager) for a presence in the applicable Carrier PoP room including cabling to the PoP Room data distribution system.</li> <li>Carrier must contract with Nextgen to purchase cross connection cables from PoP Room to the applicable Nextgen data distribution system.</li> <li>Carrier NTU's and active electronics must be housed in the Carrier PoP Room rack.</li> </ol>

## Cross Connects

Cross Connection Types	Optical Fibre , Cat 5/5e/6, Copper, Coaxial
Connector Types	RJ45, SC, SCA, LC
Cross Connections to Customer Racks	Must be provisioned by Nextgen via the Nextgen Data Distribution System
Cross Connects Between Adjacent Racks	<p>For Cross Connections between adjacent racks of the same customer, options are:</p> <p><i>For Racks with side removed:</i> may be installed by customer.</p> <p><i>For racks with side panels:</i> must be provisioned by Nextgen.</p>
Cross Connections for Nextgen Data Services	Provided free of charge to the customer rack
Cross Connections for Other Carrier Data Services	Data Centre customers must order Cross Connection for other carrier services from Nextgen (Standard charges apply)

## ABOUT NEXTGEN NETWORKS

Nextgen Networks is a national Telecommunications carrier that specialises in high performance data services. Our customers are other Corporations, Government, Service Providers and other Carriers. Nextgen products include high capacity data transmission services ranging from corporate links up to complete wavelengths, nationwide multi-point Ethernet networks (VPLS Service), Internet and carrier grade co-location offerings. Nextgen owns and operates infrastructure that includes the third largest fibre network in Australia, a latest generation national switched Ethernet data network and co-location centres throughout Australia. Nextgen is a wholly owned subsidiary of the Leighton Group.

Check out the benefits of our award winning data solutions

Phone: 1300 653 351 [www.nextgennetworks.com.au](http://www.nextgennetworks.com.au)