



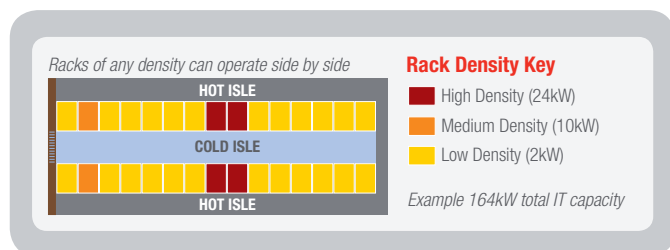
Nextgen's new High Density Data Centres support the next generation of rack power density requirements with benchmark setting 'green' credentials.

Overview

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

Standard product bundles include various rack sizes, blanking components, security, dual power, dual intelligent power distribution units (PDU's) with customer web portal monitoring and management as a complete service package.

Nextgen's standard product supports multiple 24kW density racks in adjacent positions without the need for customised cooling solutions.



Initial deployments are in Melbourne and Perth. Sites in other cities are 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 physically diverse fibre connectivity to these secure locations for connection to our high capacity national fibre network. Data connectivity from other Carriers is also supported.

Key Features

- ✓ Low, Medium and High Rack Densities to 24kW
- ✓ Low Carbon Footprint
- ✓ Remote Customer Power Socket Control
- ✓ Comprehensive Secure Customer Portal
- ✓ Tier III Design Resilience Certified
- ✓ Vendor and Carrier Neutral

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 new, more efficient data storage and processing equipment.

As a vendor neutral facility, customers have the flexibility to select and utilise their integrator of choice for IT equipment support.

Nextgen's High Density Data Centres support international trends of virtualisation and cloud computing, which are 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.

HIGH DENSITY DATA CENTRES

Energy Efficiency

Our free cooling technology delivers a reduced carbon footprint and PUE (Power Utilisation Efficiency) that is amongst the lowest in the industry.

The New Data Centres aim for a PUE of less than 1.3 and have been proven to deliver figures of better than 1.1. Traditional data centres often operate between 1.7 and 2.4. The table below demonstrates the carbon impact and cost saving derived from a more efficient PUE based on a 6kW rack over a 12 month period.

Data Centre Efficiency Savings Table

Description	Power Utilisation Efficiency Figures (based on a 6kW rack)		Savings
	PUE 2	PUE 1.3	
Electricity used per Year	105,120kWh	68,328kWh	39,792kWh
Annual Power Cost Impact (based on a rate of \$0.17c per kWh) *	\$17,870	\$11,616	\$6,255
Annual Carbon Footprint Impact	63 Tons	42 Tons	21 Tons

*Note that achieved PUE at a site will vary according to customer application and weather conditions. Savings listed are illustrative only.
* Actual power unit price is dependant on location and applicable retail power rates at the time.*

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 that utilises a free air cooling technology. Under extreme climate conditions the system intelligently deploys direct expansion (DX) air conditioners to maintain operating environmental standards.



Reporting

Nextgen's standard product includes "intelligent" A + B power distributions units in each cabinet to provide customers with comprehensive reporting, monitoring and management capabilities. These include:

- Rack Power Monitoring - Total kW usage per PDU and cabinet.
- Socket Power Management - PDU socket usage reporting.
- Remote power socket control including restart, restart sequencing with individual or grouping capabilities.
- Socket naming to allow customers to label the socket with the equipment it uses.
- Rack Environmental Monitoring - Temperature and Humidity monitoring options which incorporates sensors installed into the rack at customer selected locations.

This information is accessed via Nextgen's secure Web portal that provides customers with various access levels. Nominated individuals can be provided various access levels to reinforce security control and audit requirements.

Price Structures

Pricing is based on a once off and fixed monthly recurring charge for a fully functioning cabinet at the ordered power capacity, as outlined in this document.

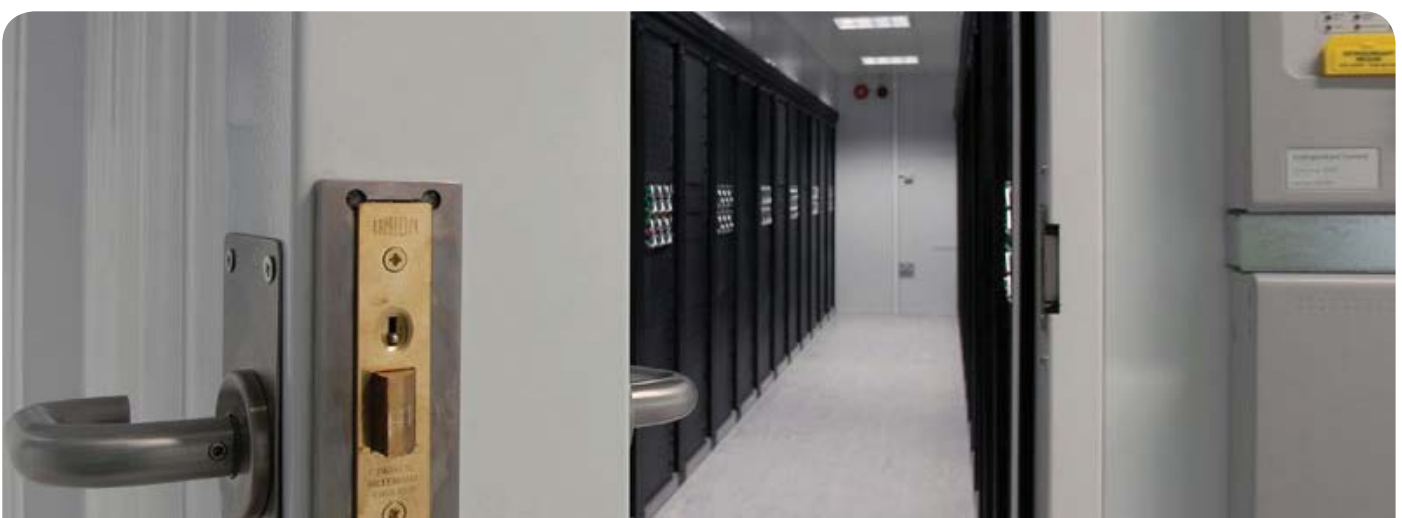
Consumed power including support for the environment and administration is separately charged monthly in arrears.

Facility Specifications

Description	Information
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.
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 Fire Suppression within Data Hall areas.
Floor Loading	12kpa.
Temperature	Supply air temperature nominally 24°C, with range 18°C to 27°C. Compliant with ASHRAE Standard Class 1.
Humidity	Range of 40% to 70 %RH Compliant with ASHRAE Standard Class 1.
Meeting Room Facilities	Available on site for customer rental. Additional fees apply. Bookings managed via Nextgen's Permit to Work Process.
Staging Room	Available on site for configuration and testing of equipment prior to installation.
Storage Room Facilities	Available on site for customer rental. Additional fees apply.
Loading Bay	Secure environment for the receipt of customer deliveries.
Office Space	Dedicated customer office space available on request which can be customised to requirements. Additional charges apply.

Security and Access

Description	Information
24x7x365 Security Guard	The sites are manned 24x7x365. Onsite personnel manage access and receipt of goods.
Building Security	Entry points are swipe card controlled including biometrics for entry to Technical space and Nextgen data halls. All entry points are alarmed and monitored by CCTV.
Site Access Cards	Access cards are issued to customer nominated individuals. Photographic identification must be provided.
Customer Access and Processes	All installation and maintenance activities are controlled by a Permit To Work (PTW) process. All personnel requiring access to the facility must undergo online Data Centre and onsite Induction training which is valid for three years.

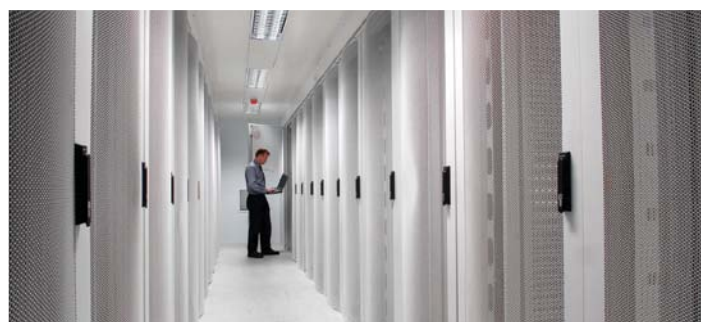


Carrier Access

Description	Information
Nextgen Fibre Presence	Dual diverse entry to the 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"> External Carrier cables must terminate in the Carrier PoP Room. 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. Carrier must contract with Nextgen to purchase cross connection cables from PoP Room to the applicable Nextgen data distribution system. Carrier NTU's and active electronics must be housed in the Carrier PoP Room rack (ie, these are not permitted in customer racks).

Cross Connects

Description	Information
Cross Connection Types	Optical Fibre , Cat 5/5e/6, Copper, Coaxial.
Connector Types	RJ45, SC, SCA, LC.
Cross Connections Between Adjacent Racks	<ul style="list-style-type: none"> Cross Connections between adjacent racks of the same customer may be installed by the customer utilising the cabinet cable management tray only (ie, not overhead cable management trays) Installation guidelines are provided and must be adhered to. Nextgen can supply this service on a quote for works basis.
Cross Connections to Customer Racks (including customer non adjacent racks)	Must be provisioned by Nextgen via the Nextgen Data Distribution System via the shared overhead cable management trays.
Cross Connections for Nextgen supplied Data Services	Provided free of charge to the customer rack.
Cross Connections for Other Carrier Data Services	Data Centre customers must order Cross Connections from Nextgen for other Carrier services (standard charges apply).



Cabinet and Rack Specifications

Description	Standard	Option (Additional Charges may apply)
CABINET: <ul style="list-style-type: none"> • 47 RU • 80% perforated, Bi Lock Lockable, Front and rear doors including sides. 	<ul style="list-style-type: none"> • w600 x d1000 • w800 x d1000 	<ul style="list-style-type: none"> • w600 x d1200 • w800 x d1200
PATCH PANEL – Included	<ul style="list-style-type: none"> • 1 x 24 horizontal (1RU) 	Additional patch panels can be supplied on request.
POWER CAPACITY PER CABINET/RACK	2kW to 24kW in 1kW increments (equivalent to approx 2.5kVA to 30kVA).	
POWER RESERVATION	<ul style="list-style-type: none"> • Individual Data Hall modules in the facility have overall power capacity limits. Power additional to these limits may be provided in other areas (ie, in different Data Halls). • Customers may reserve an allocation of power in a specific area of the Data Centre. When capacity is approaching limits, reserve customers will be offered a take or pay option. • Customers are encouraged to plan and reserve power capacity to ensure future availability. 	
CABINET SPACE AND POWER RESERVATION	<ul style="list-style-type: none"> • Reservations of specific rack locations and associated power may be made. When a specific Data Hall is approaching physical and/or power capacity, Nextgen may offer reserve customers a take or pay option. • Customers are encouraged to plan and reserve cabinet and power capacity to ensure future availability of contiguous and adjacent availability. 	
POWER SUPPLY TO CABINET/ RACK via Bus	<ul style="list-style-type: none"> • A & B power feed per Cabinet/ Rack • Power supply to rack will vary dependant on customer power density requirement. Duplicated A & B power feeds required to deliver maximum power ratings 	
POWER DISTRIBUTION UNITS (PDU)	<ul style="list-style-type: none"> • 10A IEC13 and IEC19 outlets on A & B vertical power rails 	<ul style="list-style-type: none"> • Adapters for Aus style outlets can be provided on request • Other variations are available on request
AUTOMATIC TRANSFER SWITCH		<ul style="list-style-type: none"> • Rack option to provide uninterrupted switching for single corded equipment • 6 x 10A sockets are provided with a 16A maximum • Up to three units as required
DC POWER		<ul style="list-style-type: none"> • 50V DC Option
RACK/CABINET FLOOR LOADING	750KG per Rack/Cabinet.	
BLANKING	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Rack Power Monitoring and Reporting including A & B PDU's and rack totals 	<ul style="list-style-type: none"> • Power Socket Monitoring, Management and Reporting including power restart sequencing • Remote power recycling per socket • Temperature and Humidity Monitoring • Additional options available on request including IP camera installation and access notification
NON STANDARD RACKS/CABINETS	By agreement with Nextgen.	
CUSTOMER SUPPLIED RACKS	By agreement with Nextgen.	

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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 multipoint Ethernet networks (VPLS Service), Internet, satellite and carrier grade co-location offerings. Nextgen owns and operates infrastructure that includes one of the largest fibre networks 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

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