

# DIGITALNETWORK PREMIUM DATACENTRE SPECIFICATIONS



*Updated July 2007*

## **At a quick glance:**

- Added redundancy and security of service through Multi-homing - we balance the load across three upstream providers so that if one supplier has an outage, we have two other suppliers to provide continuity of service
- Avoidance of any possible congestion on the network – we maintain excess bandwidth headroom over and above our customers maximum utilisation
- Protection from voltage drops, spikes or frequency variations through our Uninterruptible Power Systems (UPS) that isolate the load from the AC mains supply
- Greater redundancy through Dual Transformer Power Feeds sourced from two separate transformers in the local power grid. Both feeds are 3 phase
- Protection from fire risk – our Internet Data Centre (IDC) has a Very Early Smoke Detection Apparatus (VESDA) fire detection system with a three-stage alarm
- Physical Server Security - our IDC has under-floor air conditioning featuring humidity controlled High Velocity Air Conditioning (HVAC) based in two fully redundant externally situated process water cooler systems. This ensures your servers are kept at optimal temperatures and humidity is maintained at 65% as per best practice

## **Power Supply**

Core to the operation of a carrier class Data Centre is the source of power. The systems required to keep the core equipment and client servers online at all times must be robust, reliable and redundant. DigitalNetwork's power supply infrastructure is very sophisticated, automatically checking for the cleanest power supply source before deciding whether to opt for mains, UPS or generator.

In 2005 DigitalNetwork invested heavily in the power sources to our Data Centre and we are now able to offer redundant power supplies with the following key features:

- A & B Power Supplies
- Centralised UPS
- Dual auto-start generators

### **A & B Power Supplies**

DigitalNetwork's Data Centre is sourced with dual power supplies and our core network is linked to both. If one source has a power outage our core automatically fails over to the other supply without interruption. Colocation customers have the choice of either having either single or dual independent power supplies.



### **Centralised UPS**

Uninterrupted power supply (UPS) is provided by two totally independent centralised Chloride UPS systems that are directly connected into the two independent mains power feeds supplied to the server cabinets. UPS battery cells can be replaced without any disruption to your servers. The UPS is maintained and tested by external specialists.

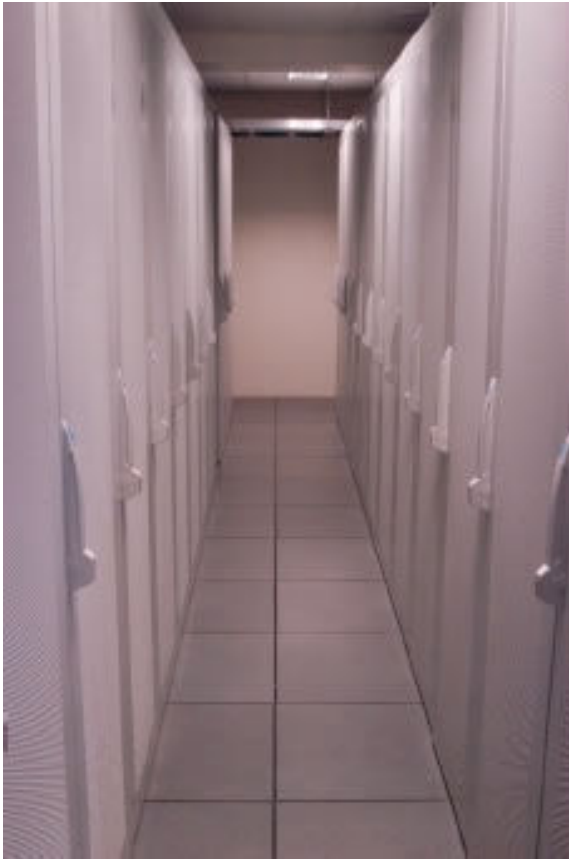
### **Auto-start Generator**

The Data Centre facility has dual diesel generators backing up each of the mains power supplies that come into the Internet Data Centre. These generators automatically kick into action within seconds in the event of interruption of the mains power supplies. The generators are regularly maintained and tested by external specialists.



## **Rittal Cabinets:**

All collocated server(s) are housed in top-of-the-range, lockable and individually-keyed Rittal TS series cabinets, providing excellent physical security for your server. These cabinets have easy front and rear access, and moveable internal rails. Half rack (22U) and full rack (47U) options are available along with 24x7 client access (conditions apply).



## **Access & Alarm System:**

Access security is monitored 24x7 by a dedicated security firm and closed circuit video surveillance cameras.

## **Air Conditioning**

### **Under floor air circulation**

The Data Centre cooling system is designed to provide optimum operating conditions for a server farm environment. The HVAC (Heating, Ventilation and Air Conditioning) system ensures the environment is constant, providing appropriate airflow, temperature and humidity. The system is powered by separate process coolers and independent external multistack chillers, designed for scalability and growth.

Air is circulated via the raised floor system in the colocation areas for maximum effectiveness in keeping your servers at the optimal temperature (i.e. 20°C +/- 3°). Air conditioning ensures that humidity is also kept optimal: between 35% and 65%. Too much humidity would result in condensation on equipment, while too little would result in a buildup of static electricity.

The system is capable of cooling up to many times the capacity of the Data Centre. The air-conditioning system is regularly maintained and tested by external specialists.

## Fire Detection

### VESDA Fire Detection

The data centre has a VESDA (Very Early Smoke Detection Apparatus) fire detection system with three-stage alarm including direct connection to the Fire Brigade providing early warning of any fire risks. The fire station is less than 1km from our facility.

## Network Overview

### Network Configuration

DigitalNetwork provides redundancy throughout our IP network, so the network is very reliable. Our internet data centre has the type of layout and configuration that you would expect to find in any advanced internet facility, with separate communications, colocation, UPS and diesel generator rooms.

### Telecommunications:

Telecom New Zealand and TelstraClear supply two (2) 155mb independent fibre connections that connect the data centre to the backbone of the internet. Vector Communications supplies a third 1 Gbps fibre circuit. DigitalNetwork has a primary and secondary circuit to each of our upstream international bandwidth suppliers for maximum redundancy purposes. These connections are in addition to copper capacity from both, providing full Telco diversity through redundant entry ducts to the building (i.e. The fibre and copper connections from the respective Telcos enter the building at different entry points).

### Network Peering Policies

DigitalNetwork peers with Auckland Peering Exchange (APE) and also with the Wellington Internet Exchange (WIX).

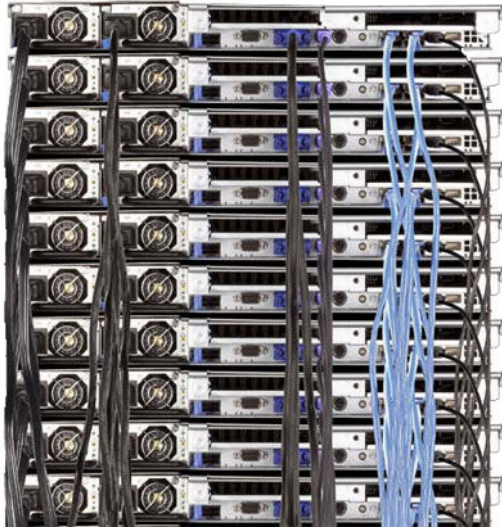
### Cisco routers & switches

DigitalNetwork only uses high quality Cisco hardware for routers and switches, DigitalNetwork is a Cisco & Microsoft partner.

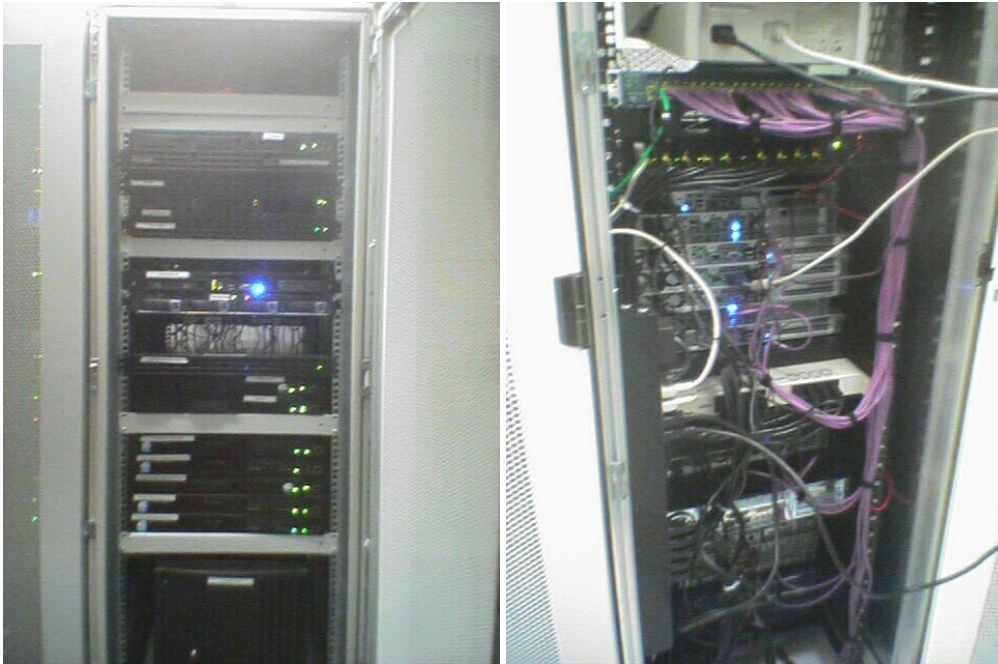


### Dedicated servers

DigitalNetwork only uses high quality and reliable Dell and Gigabyte server hardware.



**10 x Dell 1U rack servers**



**A typical rack front and back**



**Gigabyte 1U rack server**