



Data Centre Services

JT Five Oaks DATA CENTRE

Facility Product Description

JT's Data Centre Hosting Service provides a secure computer room environment with protected and backup power, security and bandwidth.

Data Centre specification

JT's Data Centre provides a secure, environmentally controlled and protected facility, with reliable connectivity providing:

- 2 KW AC electrical power to each rack
- Dual fed UPS (15 minutes battery autonomy at full load)
- Generator backup (72 hour diesel supply)
- Fully redundant air conditioning system
- VESDA early warning fire detection
- Temperature and humidity sensors
- Water detection sensors
- FM 200 Gas Suppression

Rack specification

All racks are lockable and designed to accommodate multi-vendor servers and are compliant with IBM, Compaq, Dell, Hewlett Packard and Sun:

- Earth continuity
- Dual power distribution units (16 amp circuits)
- Dual power strips per unit
- Dual redundant UPS (15 minutes battery autonomy at full load)
- Cable management strip per unit
- 600 x 1000mm rack space

All racks in the Data Centre are connected to a centralised switching environment with 10/100 Mbps Ethernet or fast Ethernet presentation provided. VLANs can also be provided.



Contact our Business Solutions team

T: 882 345
E: business.solutions@jtglobal.com
W: www.jtglobal.com/datahosting



Data Centre Services

Data Centre - Air conditioning

Climate control for the Data Centre is provided by 12x Denco 60 (KW) DX units. Each one of these units circulates 5.6 cubic metres of air per second. This will increase the total cooling for the Data Centre to 720 (KW). The air conditioning in the Data Centre is retained at an N+1 situation ensuring that if one air conditioning unit fails there is sufficient cooling capacity provided by the other air conditioning units.

Power room - Air conditioning

The power room has its own air conditioning units, which are independent of the cooling system for the Data Centre. To ensure that the UPS is kept in the optimum climate four Denco 60 (KW) DX units have been installed.

These combined units provide 240 (KW) of cooling and maintain a standard airflow of 22 cubic metre per second.

Electricity

JT has its own electricity substation, which is dedicated to providing the power supply to the whole site.

Data Centre

The power to the facility is fed by dual 1.5 mva transformers. Each cabinet is supplied with 2x 16 amp single phase supply via separate CPDU's. Provision has been made to accommodate all individual power requests.

Generator

The Data Centre is supported by four on site generators which are contained within their individual acoustic housings separate to the Data Centre. Each unit is rated at 560 KVA.

In the unlikely event of a generator failure these units are configured to N+1 to provide total power resilience.

Fault monitoring

JT's network operations centre monitors all alarms on a 24 hour a day basis. If a generator fails in any of the alarmed components detailed above, a member of the JT power team is despatched to investigate the alarm.



Alarmed components	Action taken	Monitoring
Engine run	Immediate action	24/7/365
Engine fail	Immediate action	24/7/365
Low fuel	Immediate action	24/7/365
Low water	Immediate action	24/7/365
Battery charger fail	Immediate action	24/7/365



Data Centre Services

Generator maintenance

All JT's generators are maintained by a dedicated power team. The power team are responsible for the maintenance and fault finding on all of JT's sites. The table below details the type of test and frequency of testing of the generator.

Test	Frequency
Off load	4 weekly
On load	13 weekly
Full load	Yearly

Fuel storage

9800 litres of diesel fuel is stored on site in tanks buried at a depth of 2 metres with spill grills surrounding the pump area, which are connected to a separator tank.

- The pumps are on a fail-safe system, which ensures a shut down of valves and pumps should a fault be detected.
- Lighting to the area is provided by a gas sealed system to prevent accidental ignition of fuel.
- The ventilation pipes are installed 5 metres above the pumps.
- A single isolation switch is located 25 metres away from the pumps, which shuts down the facility.
- Fire extinguishers and sand are located by the pumps.
- The facility is checked bi-annually by the States of Jersey Fire Service to ensure all fire safety standards are observed and maintained.

UPS

2x Chloride 800 KVA , 3 phase in, 3 phase out, full on-line, double conversion UPS units, each supplied 15 minutes battery autonomy with 400 sealed for life batteries. The UPS equipment has been configured with 12 pulse rectifiers and 5% harmonic input distortion filters.

The UPS units have been configured as a N+1 UPS having both static and manual by-pass capabilities. In addition there is a further external, total wrap around 800 amp rated by-pass system, complete with its own independent mains supply.

The power output of the system is configured as 800 KVA maximum to provide 100% redundancy; the run time is 15 minutes per UPS at 100% load, which is variable to the level of applied load. Every 3 months the level of applied load and characteristics are examined on the UPS, on a 24/7/365 day basis.

Security systems

The facility is protected by a Siemens Alarm combined intruder and door access control system, utilising door contacts and dual technology movement detectors, which all report back to a centralised Siemens system with its onward connected signalling.

Access is controlled by HID proximity fob readers with entry into the Data Centre by combined individual fob and PIN code. In addition, a digitally recorded CCTV system is installed with cameras viewing all entrances into the Data Centre.

All information recorded by the system is downloaded and stored on to a hard disc digital recording system. The systems are maintained by Computer Protec and are checked bi-annually at six-month intervals.

Computer Protec provide JT with reports of maintenance visits detailing the status of the system and highlighting any errors found. As well as CCTV, security guards patrol the Data Centre on a 24/7/365 basis.

Data Centre Services

Fire detection

The facility is protected by a sophisticated particle detection system, the Very Early Smoke Detection Apparatus (VE SDA) LaserPLU S system has been installed. This system detects fire at the earliest possible stage by drawing in air through a network of air sampling pipes. The detection chamber uses a Class 1 laser to achieve the optimum response to a vast range of smoke types. Using unique detection principles, the LaserPLU S has a sensitivity range of 0.005-20% obscuration/m. These systems are constantly monitored by our Network Operations Centre (NOC).

Gas suppression

In addition to protection provided by the VESDA laser system, the Data Centre is equipped with an FM-200 Fire Suppression agent.

FM-200 has zero ozone depleting potential, and is typically deployed where an electrically non-conductive medium is needed, and people compatibility is an overriding factor. FM-200 is a colourless, liquefied compressed gas. It is stored as a liquid and dispensed into the hazard as a colourless, electrically non-conductive vapour that is clear and does not obscure vision. It leaves no residue and has acceptable toxicity for use in occupied spaces at design concentration.

FM-200 does not displace oxygen and therefore is safer for use in occupied spaces without fear of oxygen deprivation.

FM-200 is chosen to protect occupied areas such as computer rooms and the telecommunications market as it out performs the majority of other gaseous systems in terms of speed of reaction to fire. Fm-200 is effective within 10 seconds of initial discharge.

Benefits and Features

- Fast and effective
- No significant reduction in oxygen levels
- Clean gaseous agent leaving no residue
- Zero ozone depleting potential
- Short atmospheric life span
- Electronically non-conductive
- Safe for use in fully occupied areas
- Extensively tested, recognised and approved worldwide

Telecommunication connectivity

The facility has been designed to provide complete building and network diversity to avoid any single point of failure. To this end, services are fed into the building from two separate routes as follows: Services from North boundary extensive fibre cables are fed from the Data Centre to JT Central Exchange.

There is also a secondary routing from the Data Centre to our on-site service distribution room, these then branch out to 3 other JT network facilities. Services from West boundary extensive fibre cables are fed from the Data Centre to our on-site service distribution room, these then branch out to 3 other JT network facilities.



Data Centre Services

The facility is connected to the JT network and as such the complete JT portfolio of connectivity services (both fibre & copper) is available and includes all types of private circuits, ADSL services, telephony lines and Internet Backbone bandwidth services.

Lighting protection

The installation was conducted by VM & RW Bacon Ltd who have over 100 years of service and experience in design of specialised Earthing Systems for Sub – Stations, Generators, Computer suites, and Telecom installations. Soil resistivity testing was conducted as part of the design to establish the most suitable Earthing system for the particular ground conditions. The Lightning Protection system complies with BS 6651-1999 Protection of structures against Lightning and BS 7430 “Earthing”.

Service level agreement

A standard Service Level Agreement is included with this service (see JT Colocation Service Level Agreement).

Terms and conditions

The JT Colocation and JT Data Services available at this facility are provided under and subject to, the JT Colocation and JT Data Services Terms & Conditions of Service. Customers are strongly advised to read these Terms & Conditions on our website, before applying for the Service.



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