



JT Five Oaks Data Centre

Facility Product Description

JT's Data Centre Hosting Service provides a resilient and highly secure computer room environment with protected incoming power supplies and a fully resilient network providing the latest IP and networking solutions.



Data Centre specification

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

- Designed and maintained to Tier 3 status
- 24x7x365 dedicated on-site security guard
- Dual Redundant UPS (minimum of 15 minutes battery autonomy at full load)
- Multiple Redundant Generator backup (minimum of 24-hour diesel supply)
- Bulk fuel storage increasing the on site diesel supply to a minimum of 72 hours
- 2 KW AC electrical power included with each rack (Additional power available on request)
- Fully redundant air conditioning system (configured to a N+1 setup)
- VESDA – Very Early Smoke Detection Apparatus
- FM 200 Gas Suppression
- Temperature and humidity sensors

- Water detection sensors
- Digital CCTV monitoring deployed throughout critical and operational areas
- Building Management System monitored 24x7x365 by the JT operations centre
- Pin and proximity card readers installed throughout
- Door contacts and PIR sensors fitted
- Intruder alarm
- On site certified Data Centre Specialists

Secure Solutions

JT's Data Centre service is fully accredited:

- ISO 27001
- PCI-DSS
- SOC 2



Rack specification

- Rack sizes start at 600 x 1000mm up to 800 x 1200mm
- Dual power distribution sockets (2x 32-amp single phase circuits. Three phase circuits available on request)
- 2 KW power is included with each rack
- Dual power distribution units (PDU's) with amp metre and C13 & C19 as standard. Other configurations available on request.
- Dual redundant UPS (minimum 15 minutes battery autonomy at full load)
- Earth continuity
- Ethernet or fast Ethernet presentation provided. VLANs can also be provided.

Data Centre - Air conditioning

Climate control for the Data Centre is provided by 6x 50 (KW) DX units and 6x 60 (KW) DX units. Each one of these units circulates 5.6 cubic metres of air per second. This will provide a total cooling for the Data Centre of 660 (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 4x air conditioning units have been installed.

Electricity

JT operates its own dual 1.5mva electricity transformers deployed in a live standby configuration which provides resilient power to the entire site.

Data Centre

Each cabinet is supplied with 2x 32 amp single phase supply via STS's (Static Transfer Switches) and separate CPDU's. Provision has been made to accommodate all individual power requests including 3 phase supplies.



Generator

The Data Centre is supported by 4x 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.

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.

Alarmed components	Action taken	Monitoring
Engine run	Immediate action	24x7x365
Engine fail	Immediate action	24x7x365
Low fuel	Immediate action	24x7x365
Low water	Immediate action	24x7x365
Battery charger fail	Immediate action	24x7x365

Test	Frequency
Off load	Monthly
On load (via load bank frame)	Yearly
Full load (via black start test)	Yearly

Fuel Storage

Each generator has its own integral 24 hour fuel tank. In addition, a dedicated standalone bulk storage tank has been installed to maintain a minimum of 72 hours diesel supply.



UPS

2x 800 KVA , 3 phase in, 3 phase out, full on-line, double conversion UPS units, each supplies minimum of 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.

Fault monitoring

JT's Network Operations Centre monitor all alarms on a 24 hour a day basis. If a component within the Data Centre facility goes into alarm status, support personnel in conjunction with JT approved professional contractors are despatched to investigate.

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 our JT approved contractor and are checked at six-month intervals.

JT approved contractors generate 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.

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 nonconductive 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



Fire detection

The facility is protected by a sophisticated particle detection system, the Very Early Smoke Detection Apparatus (VESDA) LaserPLUS 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 LaserPLUS has a sensitivity range of 0.005-20% obscuration/m. These systems are constantly monitored by the JT Network Operations Centre (NOC).

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.

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 telephony lines and Internet Backbone bandwidth services.

Lightning protection

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 & 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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