

Introduction

Simply-Sol.com Ltd have servers located in Manchester City Centre ServerBank. It is connected to a 2.4Gb DWDM ringed network which connects to two separate POP's within London docklands, via the East and West coast of England, thus giving a very fast connection speed to the Internet. The Data Centre is located in an old Bank Of England building where the bullion vault has been converted to a Data Centre to offer a high level of physical security and resilience to keep the systems alive. The datacentre is manned 24 hours a day by experienced systems engineers who are skilled in both network and operating system technologies.

Fire Prevention

Fire prevention is provided by a Vesda system. This system is a fire suppression gas (Inergen) detection system, which detects the sub-micron particles that are released during the very early stages of a fire. Detectors are housed beneath the floor and on the ceiling and also extend to the generator and car park areas above the Data Centre. An alarm sounds when materials within the Data Centre begin to warm up, alerting the Data Centre staff to any potential issues before a major problem occurs. This alarm is also connected directly to the Greater Manchester Fire Department whose nearest station is located less than 1 mile away. The system is staged on three alert's, one immediately a problem is detected up to 30 seconds when the gas is released. The Inergen gas is converted to 75% carbon dioxide to suppress and fire within the Vault area.

Power

The supply is distributed from the Manchester City Centre ring main, diversely routed through two 11Kva transformers, one owned by our supplier the other owned by the electricity provider. The UPS is provided via eight parallel 120Kva battery units sharing the load current equally. This provides 480Kva to the Data Centre with 100% redundancy and has an instantaneous electronic change over switch. In the event of a power failure this UPS system provides full load for 3 minutes until the generators come on line. ServerBank has 3 diesel generators, these are synchronised to mimic the mains supply, however only 2 of the 3 generators are needed to supply full load to the Data Centre. The generators are 880Kva three-phase and provide at least 36 hours (17000 litres) worth of fuel which is held on-site. Customers can specify single, redundant or triple redundant feeds to their solution.

Climate Control

This is provided by six Airedale fan coil units complete with two supply air fans, cooling coil, 3 compressors, filter section and a trend controller. The cooling capacity of each unit is 122kw. The six units will provide 624kw of sensible cooling. The units are linked to roof mounted condensers each with three circuits of gas and liquid refrigerant. The control of the units is all-integral using the return air temperature to stabilize the air condition. The air is discharged into the floor void where it is drawn through the cabinets to provide suitable cooling. The return air is pulled from the room into the fan coil unit, where it is cooled and the cycle is repeated. 3 of the six units are only in use at anyone time leaving 3 redundant, the 6 units run in rotation to maintain three in a live state. The units cool the Data Centre to a constant temperature of between 17.9 to 18.4 degree C. Alarms indicate the Data Centre Operations staff if these temperatures are exceeded

Floor

The floor is raised above flood level with sump pumps providing extra protection if required. The floor is rated at 1000kgs per sq meter and houses data cable trays separated from the power cable trays.

Power Supply Rack

Each rack can be provided with, 16Amp (Single, double or triple redundancy), 32Amp (Single, double or triple redundancy) or three-phase redundant supply all connected with 'commando style' sockets. All electrical systems within the Data Centre are monitored, maintained and installed by our own internal electrical engineers.

Data Centre LAN

The LAN is based on Cisco architecture with customers able to specify single or redundant network connections, which then connect to the Backbone network, which has no single point of failure. The ServerBank is also a second switch site for MaNAP (Manchester Area Network Access Point) to which the network is connected for peering with other ISP's.

Security

The Data Centre is monitored with over 70 cameras through our own security bridge housed within the Data Centre. The building is an old Bank of England site with the old Bullion vault providing the housing area for the servers. The vault itself has over 30 cameras within it providing no blind spots and is surrounded by a Faraday Cage. Access is gained via two interlocking gates; the inner gate cannot be opened unless the outer gate is closed. In between the two gates is a 12ton Bomb Proof Vault door which can be closed air tight in the event of a fire to enable the gas suppression system an optimum working environment. The inner vault is surrounded by 7ft thick granite & steel loaded concrete walls, which in turn are surrounded by a 2ft bomb blast corridor and again further 7ft thick granite & steel loaded concrete walls. This vault is below street level and is sealed against flooding.

