The Bunker Secure Data Centre

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The Newbury Data Centre

The Newbury Bunker was built for the US forces on the Greenham Common Air Base as a command and control centre protecting people and technology from Nuclear attack. The construction and security standards are what you might expect of such a purpose built fortress. It has concrete reinforced walls, steel doors, EMP and tempest shielding. Layered on top of this physical inaccessibility is a 24-hour watch, CCTV and a series of sophisticated access controls.

Power

The building benefits from a 415V 3-phase supply that delivers 500 Amps per phase to the main switchgear. Back-up power is provided by an auto start (pre-heated) 650kVA, 3 phase 415V generator which will take the full electrical load within 20 seconds should it be required. The generator is fuelled from a 1700 litre daily tank which is automatically replenished from a 25,000 litre bulk storage tank. At full load this enables the set to run for in excess of 40 days.

The UPS systems will cover the transition from mains to generator power and is sufficient to run the bunker for 3 hours.

Cooling

Cooling and air conditioning is provided by a combination of existing plant (air handlers and extract systems) and spot cooling. Spot cooling is delivered via multiple compact systems each with its own condenser system, achieving required N+1 redundancy and allowing for seamless maintenance.

Fire Detection and suppression

Each Suite is protected by a fire detection system. Once occupied suites are upgraded to client specified standards. A choice of advanced detection (VESDA) and suppression systems are available (FM200, inert gas, Vapor). We favour Firetrace which is a cost effective, localised suppression system

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Network Connectivity

The Bunker currently benefits from diverse connectivity from a number of Tier 1 bandwidth providers. Clients also have the flexibility of installing their own connectivity. BGP4 routing is employed to provide resilience against individual line failure.

Electro Magnetic pulse protection

An EMP is an electromagnetic field that changes in intensity at up to 50kV per nanosecond. Although the high-energy pulse is short, the energy to be dissipated is sufficient to destroy unprotected communications and other electronic equipment.

EMP weapons are easily made and can be used to destroy unprotected computer equipment by malicious attackers.

Areas within the bunker are protected from attack from EMP weapons by high energy surge arrestors, screening of cable runs and screening by means of continuously welded 3mm thick steel shield, or faraday caging.

Tempest Protection

All electronic circuits generate an electrical disturbance, signal or noise. This noise is known as Radio Frequency Interference (RFI). RFI generated by data processing equipment can be detected and interpreted using sensitive espionage devices at great distance. Tempest is a protection measure that prevents this "electronic eavesdropping" by containing all emanations to the locality of the equipment generating them. Many suites benefit from tempest protection.

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Security

The bunker features top-of-the-line security systems that incorporate closed circuit TV cameras, random security patrols and restricted floor access, The bunker is by its very nature a high security facility, built to the highest standards for the US Forces. A team of security staff, many of whom are ex military or police, maintains regular random patrols of the site. Monitored infrared CCTV cameras cover the site and include a 'last motion picture captured' facility, with thumbnail archives.

Entry to the bunker itself is via internal steel, double locked doors. All entry to the bunker is monitored and recorded by security or technical staff, both physically and via the CCTV system. Other security mechanisms are in place both on and off site, to enhance the above systems.

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