

# TOP TEN TIPS

for an efficient data centre

## Few organisations have the luxury of tearing down their existing data centre and building a new one from scratch.

The good news is that there are a number of steps that can be taken to improve the performance within the existing set up and maximise efficiency – from considering how air comes into the data centre to how it is cooled, how racks are arranged and where cables are run.

But before any investment is made, organisations must understand the current levels of performance. Adopting data centre power monitoring is essential to this and can now be implemented without a complete re-fit and whilst allowing normal, uninterrupted IT operations.

This will provide a baseline upon which incremental changes to design and investment in new technologies can be measured.

Having done that, here's ten areas you should be able to realise immediate benefits.

### 1 Aisle Management

The most obvious step – although one that still has not been taken by a disconcerting number of organisations - is to configure cabinets in hot and cold aisles.

### 2 UPS Systems

Install high efficiency UPS systems and consider using UPS's in smart or line interactive modes. New models of UPS are generally 96% efficient in online mode with output power factors of 0.9, and in some case 1.

### 3 Containment

Install hot or cold aisle containment systems.

### 4 Power Management

Install voltage regulators and/or power factor correction equipment.

### 5 Air Management

Fit blanking panels to any cabinet free U space and fit brush sealed grommets or blanks to any holes within a raised access floor, if it is being used as a supply air plenum.

### 6 Virtualisation

Replace legacy servers and storage with new high efficiency equipment; for example, leverage virtualisation to maximise performance of the equipment you already have.

### 7 Air Supply

Avoid the mixing of cold air supplied from the air conditioning systems with hot return air from the IT equipment.

### 8 Free Cooling

Install indirect or direct free cooling. It could save you as much as 90% compared to traditional cooling costs.

### 9 Temperature Management

Increase the room (or cold aisle) temperature to between 24°C and 27°C. Understanding of this is now becoming more widespread, however too many data centre managers still think that their room should be set at a temperature of below 19°C.

### 10 Lighting

Look at the lighting within the data centre. Although this will not provide the large energy efficiency gains that can be achieved in other areas, the lights in a data centre will only need to be on for limited periods

