

# Colocation

## Service Guide



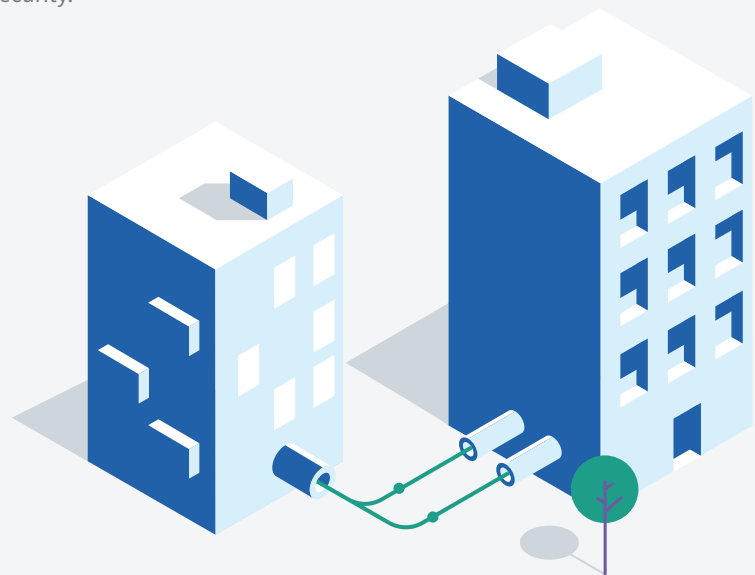
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# Colocation Service Guide

Datacentres are a fundamental part of modern business. While they vary hugely in shape, size and specification, fundamentally they fulfil the same purpose — enabling your critical systems to function and ensuring you can operate as a business.

Whether we are hosting a single server or an entire data hall, our colocation service allows you to benefit from economies of scale and take advantage of our high quality, resilient infrastructure without losing access, agility or control.

You simply install your equipment and we look after the supporting datacentre infrastructure: building, power, cooling and physical security.



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# Customer Scenarios

There are many drivers when it comes to your need for our colocation services. Our customers are typically midmarket or larger enterprises who have a critical dependency on IT. They run a sophisticated and integrated IT environment, with many businesses or departments operating over several sites. As a result, they generate large volumes of data (big data) and have a need for high-speed processing and easily accessible storage solutions.

Here are a few scenarios that our customers are typically faced with.

## Datacentre Expertise

It doesn't matter if you're hosting a handful of servers on-premise or outsourcing your entire server infrastructure, you need to pay attention to the same considerations — connectivity, power, cooling and support. All these elements need a level of expertise that you may not have in-house, due to the size of your IT team or resourcing issues.

At Pulsant, we are experts in delivering datacentre services. We have a UK-wide estate of 10 owned and operated datacentres that we've managed and maintained for many years. We understand what you need to keep your business up and running, and use our in-depth knowledge to deliver high-quality datacentre services that meet your specific business needs.

## In-house Datacentre Requires Investment

Maintaining datacentres requires both expertise and continuous investment. Air-conditioning systems, power distribution, power backup and networking must be looked after and eventually refreshed for the datacentre to continue operating optimally. This is a costly and often complex process (such as updating in a live environment without experiencing downtime) which is difficult to handle in-house.

Maintaining datacentres is our business, our speciality. We take care of the day-to-day operations and invest in innovative upgrades so that you can focus on driving your business.

Our datacentres are continually upgraded and refreshed as part of a wider testing and replacement programme.

Using one of our datacentres means you don't need to invest in an in-house datacentre solution and de-risks datacentre renewal programmes. With economies of scale, you benefit from our high service levels at a reduced overall operational cost.

## Round-the-clock Availability

In today's climate where mobile and remote working add value to your business, you're not likely to be constrained to a traditional 9-5 operating model. As a result, your staff need access to your network and systems 24 hours a day, making availability a key consideration, especially if your customers need access to your systems 24/7.

Supporting your business operations 24/7 is a large task in itself with monitoring systems and staffing required. But by using one of our datacentres, you have access to a highly resilient environment and support round the clock, which builds greater reliability into your systems and allows you to offer those highly available services to customers confidently.

## Data Security an Increasing Concern

Data security is an increasing challenge for businesses. Your data is your intellectual property (IP) and forms the core of your operations. It must be safeguarded from virtual and physical attacks, with proven security controls and processes.

By working with a trusted provider like Pulsant, you can rest assured that we have the right structure in place to ensure your data is safe within our datacentre, adding an additional level of physical security to your existing controls.



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# Key Features of Colocation

## Dependable Environment

### Power

All our facilities provide power from substations (the majority of which are dedicated to the Pulsant facilities) via uninterruptible power supplies (UPS) with generator backup and on-site fuel store. This ensures the datacentre seamlessly weathers power blips on the grid or even complete outages. With multiple local fuel supply contracts re-stocking our emergency supply, we can operate entirely, and permanently, on generator backup should the need arise.

Each site runs a rolling series of power provision failure tests as part of an ongoing maintenance and test programme. These include partial and full load UPS testing and full darken site scenarios where grid power is dropped and full load is taken onto generators and back.

By default, suitable non-intelligent power distribution units (PDUs) with IEC14 kettle type sockets are provided on each supply for every customer's rack area. Optionally you can provide and install your own PDUs.

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**Our facilities provide high levels of physical security ensuring your equipment and data are safe.**

### Cooling

All our facilities provide resilient air conditioning for racks, some including active airflow management, such as cold aisle containment and in-rack baffles. The datacentre environment is held at a constant cool temperature and optimal humidity to ensure the health of both our facility and your equipment.

The environmental control systems including the air conditioning are subject to the same backup power provision as the equipment inside the data halls and so continue to operate where inbound power is compromised.

### Security

Our facilities provide high levels of physical security ensuring your equipment and data are safe. Our datacentres feature secure entry environments, visitor authentication and fully secured interior. All sites are monitored by CCTV throughout the datacentre including the exterior and provide door access control between different building areas and data halls.



## Standard and Bespoke Rack Environments

Server racks are standard 19" (482.6mm) 4 post format with side wall containment and a combination lock security device on the access doors by default.

Racks are of standard unit (U) vertical height of 1.75" (44.5mm) and are available in ½ rack and full rack size depending on location availability.

### ✓ Standard Private Rack

You can install your own equipment into a physically segregated environment

Physical access is restricted by a combination code lock as standard and can be either shared with us or not depending on your preference

### ✓ Standard Shared Rack

Customers may install their own equipment into racks which are shared with other customers

To protect all customers sharing a rack space, physical access will be escorted by Pulsant staff

### ✓ Bespoke Options

We are well positioned to address non-standard requirements, from multiple racks through caged areas and private suites, to complete server halls

If you have specialist equipment that doesn't fit in a standard 19" server rack or where additional privacy or security is required, we can easily accommodate your requirements.

We support hugely varied requirements for bespoke areas and remain extremely flexible in delivering on your needs, whether that's specific security controls, metered power consumption or pay-as-you-go power billing.

## Wholly Owned Facilities

We own and maintain 10 UK-based datacentres and are entirely responsible for the configuration and maintenance of each environment.

We understand that your datacentre presence is critical to many services you deliver as a business, whether that's serving your customers, or accessing your mailbox or applications.

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Having a single supplier who is completely in control of the entire stack is extremely beneficial. We can diagnose a problem via a direct end-user service from the basic datacentre infrastructure down to the power cable to the rack or the hose to a heat exchanger — all without having to engage a third-party organisation. This provides clear ownership of the problem and vastly increases the speed of diagnosis and resolution of issues should they occur.

## Remote Hands and Installation Services

As part of the standard customer support service, our technical engineers are available for 15-minute remote hands technical support in any 24-hour period, per rack, to assist you with maintenance and repair of your equipment.

We also provide a comprehensive remote hands service, for an additional fee, for more extensive hardware fixes, upgrades and installations.

# Elements to Consider

We recommend considering the following areas as part of the colocation service.

This service only provides equipment space and power inside of a managed datacentre environment.

Other services are usually required in addition to simple colocation and must be separately considered, these may include:

- Network connectivity to reach the collocated equipment e.g. internet or private connectivity
- Monitoring systems to monitor the health of the installed equipment
- Out-of-band access to equipment whereby the equipment can still be remotely managed if the primary interface is unavailable e.g. IP KVM, IPMI

Where specified, racks are supplied with dual power capability. We recommend the following configurations:

- Taking power from both feeds and being able to run from either (e.g. dual PSU devices)
- Being deployed in resilient groups of devices whereby each device is powered from each feed but any one of those devices can continue service (e.g. resilient pairs of firewalls or power-stacked switches)
- Using a power switching device that will switch to the operating feed for supply to in-rack equipment noting that these devices themselves become a single point of failure

Racks are arranged in the datacentre with designated “cold” and “hot” aisles. Equipment installed should be designed and placed so that it intakes cooling air from “cold” aisle and vents exhaust air to the “hot” aisle. Equipment installed that is not designed in this way (e.g. most non-rackmount devices) should be carefully placed so as to not overheat nor cause undesired hotspots.

Contiguous rack space can be provided on request. However, when adding additional cabinets at a later date these may not be contiguous.

- Non-contiguous racks can add unwanted complexity and cost and so scaling should be considered as part of the rack allocation requested
- Additional racks can be reserved on request. However, reservations usually carry additional charges and a maximum hold period

Depending on the specification, requested power distribution may have to be installed by you and needs to be considered as part of the installation design.

## Service Dependencies and/or Related Services

Our services are designed to be both flexible and modular so they can directly meet your requirements. Several of our services may be related or even dependent on one another to achieve your desired outcomes.

We will work with you to consider the bigger picture and look at all scenarios that will impact on your specific service.

# Service Scope

There is a degree of diagnostic services needed with any managed infrastructure. This helps identify whether an issue is a hardware or software related or a symptom of a problem with the wider infrastructure.

This requirement has a potentially unlimited scope where infrastructure estates are mixed between being Pulsant managed and customer managed. As such, the scope of any efforts related to diagnosis of a Pulsant-managed service issue is strictly limited to functionality that is entirely contained within Pulsant-managed infrastructure.

If an issue is identified in a managed solution, we will only provide end-to-end diagnostics if the connectivity, hardware and software is entirely managed by us. If elements of the infrastructure identified to be a dependency of the service in question are not managed by us, diagnostic efforts will halt providing reasonable proof that an issue exists on the customer-managed infrastructure.

## Specific Inclusions and Exclusions

This description defines what is included as part of this service. Items not specifically mentioned in this description should, in the interests of safety and clarity, be assumed to be not included.

## Colocation Services

Our specified colocation service will include:

- Rack space as a dedicated space with lockable door or allocation within a shared space
- AC power feed(s) via un-interruptible power supply (UPS) with generator backup
- A secure and controlled datacentre environment maintaining an appropriate stable temperature and humidity of cooling air

**We will allow access to customer dedicated rack spaces and escorted access to customer allocations within shared spaces.**

- Escorted access is provided for two hours in any given thirty-day period during business hours only
- Escorted access outside of these hours, or in excess of two hours, will be charged as additional remote hands time at the applicable rate
- Customers must specify those contacts who are allowed access or who are authorised to approve access requests

**We will provide 15 minutes remote hands support per rack per day, for support intervention with your equipment noting that:**

- The remote hands allowance time does not accrue
- Once the remote hands allowance for the day is consumed the customer will be charged at the standard remote hands excess rate
- The actions taken will follow your precise instructions and we assume no responsibility for the outcome of following those instructions. You should ensure that your equipment is clearly labelled to allow unambiguous instructions to be followed



**Normal activities that can be requested as part of this included allocation are:**

- Reporting of access requests
- Handling access for visitors that have not pre-arranged
- Visual inspection to assess equipment status (e.g. status lights, power lights and cabling) or identifying information (e.g. serial numbers) and report of observations noticed within the rack
- Reboot or power cycle equipment by physical intervention (e.g. use of power switch or removing power feeds) including monitor attachment and reporting of boot faults

### Key facts on our colocation service

As we manage our own facilities we can be extremely flexible with your requirements and though the below is a statement of what is normal, requirements falling outside of these standards should always be discussed and in the vast majority of cases can be provided though may incur additional charges.

- ✓ Find out about our [managed hosting service](#)
- ✓ We won't install or monitor your equipment --- if this is a requirement you have, [talk to us about our managed hosting service](#)
- ✓ We will monitor power draw and won't allow use of redundant power feeds to increase your power draw. For example, 2 x 32A feeds should be considered as a redundant 32A feed and not as a 64A capable power provision
- ✓ We won't allow installations that are not entirely contained within your rack allocation e.g. cables across the floor
- ✓ We won't use your supplied uninterruptible power supply (UPS) units
- ✓ We don't allow storage of flammable materials inside the datacentre e.g. cardboard boxes, packaging materials

- Tape changes: Simple changing of tapes following the customers processes and schedule. Note that tape handling activities, for example transferring tapes off-site or storage of tapes, will be charged at the standard remote hands rate
- Attaching labels to equipment and cables as directed
- Reseating or replacing components where the customer has provided components and where those components are hot swappable or of a modular nature (and do not require specialist equipment or training)
- In-cabinet cabling (chargeable or provided by the customer) can be requested connecting between devices within a rack or to in-rack patch panels
- Inserting or removing removable media
- Minor corrections or other effort by us to contain or treat a breach of acceptable use policies

**Provide remote hands utilisation reports on a monthly basis where additional remote hands has been requested.**

**Provide a rack floor diagram depicting the relative layout of your racks and position within the data hall with updates upon alteration of allocation (customer racks added or removed) within 5 working days.**

**Receive and dispatch parcels noting that:**

- Such deliveries or collections must be booked with us in advance
- We do not provide packaging
- We will store parcels after delivery or prior to collection for up to 72 hours after which additional storage will be charged

**Install, where necessary, datacentre efficiency features e.g. cold aisle containment or in-rack air blanks/baffles, in order to manage the datacentre environment effectively. Where installations may affect your equipment you will be notified in advance of works e.g. in the case of in-rack blank installation.**

**Provide monthly power usage reports where customer dedicated rooms or suites are provide.**



# Remote Hands Services

We are always happy to discuss your specific requirements and offer great flexibility in developing a bespoke service to meet your requirements, whether that's part of our colocation offering or one of our other services such as [managed hosting](#).



## What's Not Included

- We won't perform tasks without clear instructions from you detailing in entirely unambiguous terms how to action the request
- We won't continue to follow instructions without further details from you where the outcome of tasks performed deviates from the expected outcome in the instructions
- We won't assume any responsibility for the outcome of following the instructions provided

## What's Included

We provide a remote hands resource to perform clearly instructed tasks within the datacentre.

Examples of work include:

- ✓ Intra cabinet cabling
- ✓ Hardware replacement of critical or complex items which requires downtime
- ✓ Changes to network connections
- ✓ Remote hands support for major projects being run by you. (Please ensure that we are notified at least 7 days in advance of any projects that will require hands on support from one of our engineers)
- ✓ Preparation of cable diagrams and rack layout documentation
- ✓ Process creation or documentation

We will schedule activities to suit your maintenance windows and minimise downtime, as far as is practical.

We will provide feedback on the completion of tasks requested.

# Technical Data

Datcentre technical specification datasheets are available externally of this document.

## SLA Data - Service

Colocation Services

Measure	Description	Value
Service Hours	The hours during which the service and SLA is provided	24/7/365
Availability	The percentage of the service hours during which service availability is guaranteed not including scheduled maintenance.	With single power feed: <b>99.99%</b> With dual power feeds: <b>100%</b>

## SLA Data - Support

Remote Hands Services

Measure	Description	Value
Critical	24/7/365	Within 15 minutes
Routine	Business hours	Within 30 minutes measured during business hours

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