COLOCATION
A BEST PRACTICE
GUIDE TO IT

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AN INTRODUCTION TO COLOCATION

WHAT IS IT?

Simply put, colocation involves renting space from a data centre service provider to house your servers and storage. In reality this is an over-simplification, as colocation involves more than simply renting anything from a rack to a room.

A colocation agreement will include more than the physical space to house your equipment; it will include power and cooling, connectivity, redundancy, physical security and, increasingly, a range of professional and managed service offerings to support your IT and business needs.

Colocation is often seen as the first step towards Cloud adoption, where an organisation moves elements of its IT infrastructure off-premise. The migration of services from on-premises to third-party data centre facilities has been driven by a number of key factors. Principal among them have been the evolution of business IT demands, the emergence of enterprise-class data centre services and the ever-present need to lower costs.

As modern organisations have become more dependent on technology to support everyday business processes, the need for greater resilience, security and availability is being met by off-site facilities.

Modern data centres are purpose-built facilities; with standards of connectivity, security, resilience and environmental control well beyond the typical corporate headquarters or office location. Strict service level agreements and built-in redundancy also support business continuity.

The cost advantages of colocation stem from the freeing up of both physical and human resources on-site. Moving equipment to a data centre frees floor space for revenue-generating activity and reduces the burden of power and cooling on the office location.

IS COLOCATION RIGHT FOR YOU?

For many organisations, colocation offers the ideal hybrid IT environment. Relocating servers and storage to a resilient environment whilst maintaining control over core components of their IT. However, before you choose a colocation partner, you should assess your business and technical requirements and make sure your partner of choice is able to support your objectives – both now and in the future.

BUSINESS-LED REQUIREMENTS

IT is the single, most important enabler in modern business. It underpins the day-to-day operations of virtually every organisation. When evaluating your IT options, it is essential that you put them in the context of your wider business objectives. For example, colocation is a logical choice if you are pursuing any of these strategies:

- A commitment to sustained growth/expansion

- Expanding or changing the role of IT within your organisation

- Increasing the level of business and process integration

- Differentiation through innovation

- Consolidation of core business activities

- Improving long-term business continuity

- Embracing mobile working and collaboration

- Cloud service adoption or migration

TECHNOLOGY-LED REQUIREMENTS

The decision to invest in your own data centre, or to colocate core technologies, cannot be taken in a vacuum. Even if colocation is the right fit for the business as a whole, there are basic technical requirements and limitations to be considered.

Budget will always be a consideration, but so will the physical availability of space and the skill-set of your in-house teams. Unless your existing IT has reached end-of-life, you will need to think about systems integration and maximising the value from your investment in legacy equipment.

The desire to relocate core technology to a data centre is often driven by performance-related objectives. Most often, colocation is seen as the solution to the availability, continuity or security limitations of on-premises IT. However, colocation can also deliver improvements in productivity, performance and collaboration; along with long-term cost-savings.

As business IT becomes increasingly user-centric and adopts policies and experiences from the fast-moving consumer market, it adds a layer of complexity to the infrastructure.

If internal policies or solutions are seen as inhibitors, organisations are exposing themselves to potential risk. Users are spoilt for choice when it comes to Cloud and mobile solutions and will go off-grid if there is a more intuitive option available. The increased use of "shadow IT" is one of the signs that your IT model might not be fit for purpose.

KEY BENEFITS

1. CONNECTIVITY
Your data centre of choice should ideally have multiple connections to Tier 1 providers. This degree of flexibility not only improves business continuity, it allows you to connect to your carrier of choice.

2. SECURITY
One of the key features of modern data centres is their focus on physical security. High fences and security gates are allied with 24/7 CCTV monitoring, motion detection, multi-factor authentication and intruder/proximity alerts.

3. AVAILABILITY
Modern data centres should come with a 100% power-on SLA. In-built resilience for power includes N+1 configured UPS, dual plant rooms with separate power distribution boards and generator back-up with a minimum of 8-hours fuel on-site.

4. DATA PROTECTION
The integrity and security of your data is paramount. Not only from a compliance perspective, but in terms of protecting your organisation from the negative impact of a data breach. ISO certification and PCI compliance add a much-needed level of data security.

5. SUPPORT
Allied to systems availability and security, your data centre provider will offer 24x7 remote, "intelligent hands" support. It will also offer support for third party engineers, a managed firewall and cable and rack migration.

6. GREEN CREDENTIALS
Most data centres are designed with the environment in mind. They leverage a range of technologies, including energy-efficient UPS, heat reclamation and hot and cold air segregation to deliver a low power usage effectiveness (PUE).

TOP 10 ESSENTIALS TO LOOK FOR

When it comes to choosing the right data centre for your collocated hardware there are a number of things to consider, from the technical to the physical.

1. CONNECTIVITY

Data centres that are carrier-neutral will offer a range of connectivity options, as they will feature multiple connections to the major service providers. Whilst a little competition is good, as it helps drive down connectivity costs, too many options can be detrimental. A data centre that has to maintain multiple connections to multiple carriers can incur higher costs that will be passed on to their customers.

If you need to connect to other sites with different set-ups, such as a managed service provider or pure Cloud environment, make sure your data centre offers the right interconnect services.

2. SECURITY

Technology is a valuable asset, so is the data stored upon it. When it comes to choosing a site for colocation, make sure they take your data security as seriously as you do. The physical security of the site is not only important in terms of peace of mind, it may form a part of your compliance obligations.

Regulated industries are required to meet compliance obligations, such as those laid down by HIPAA or PCI-DSS. In order to maintain compliance to these standards, make sure the data centre you chose undertakes a relevant annual third-party audit and certification process.

Sophisticated access and security measures include biometric access controls, 24/7 CCTV, password protection, multi-factor authentication, motion detection, audited swipe-card log-in and ISO27001 accreditation.

3. POWER AND COOLING

Provision of power and cooling to your hardware at all times are two of the core deliverables for a data centre. You should be looking for a service level agreement (SLA) that stipulates 100% power-on availability and strict operating parameters for temperature and humidity.

When you are choosing a colocation partner, look for a data centre that prioritises both quality and efficiency of power supply. If your chosen partner site is designed for high-density operations, it will be able to support your growing demands over time.

4. SCALABILITY

Over time, your technology needs are likely to change. Look for a data centre with the flexibility and scalability to support changes in your demand for power, physical space and connectivity. High density environments will be able to support an increase in demand for power within the same footprint, without needing to relocate your hardware.

Rapid expansion can be supported by carrier-neutral service providers as they provide valuable inter-connect services.

5. CONTINUITY

The resilience of your data centre has wide ranging implications for the business continuity and disaster recovery strategies of your organisation. Facilities with concurrent maintainability feature redundancy for all hardware components, eliminating any single point of failure and ensuring your systems are always available.

When it comes to back-up and disaster recovery, using a remote data centre facility can provide enhanced business continuity. Redundant infrastructure in a different location can deliver failsafe systems availability in the event of a disaster.

6. GEOGRAPHY

The physical location of your data centre is important. For some organisations, close proximity to their data centre is desirable as this reduces latency, plus travel expenses when conducting maintenance. For others, proximity to the end-users is more important.

If you are looking for a disaster recovery site, geographic diversity is required. So a remotely located data centre provides a greater change of continuity.

7. QUALITY

Your colocation provider should, at the very least, have ISO27001 certification. Independent ISO certification is your assurance that your data centre has a formally recognised system in place for information security.

8. SUPPORT SERVICES

Think about the level of support you will need from your service provider. 24/7 remote support should be a given, but look for extended on-site support for third party engineers, a managed firewall and preventative maintenance (depending on the SLA).

9. OTHER SERVICES

If colocation is a part of a wider Cloud adoption strategy, it makes sense to explore the other services available from your prospective partner. If they are able provide additional Cloud, hosted or managed services within the same contract it will shorten your supply chain and reduce complexity in the long run.

10. FACILITIES

Although not a primary consideration, the additional facilities offered by your data centre can add value. For example, secure on-site parking, furnished meeting rooms, a service lounge, technical workspaces, bathroom and shower facilities.

Across the UK, organisations of all types are opting to outsource elements of their ICT; in the form of Cloud, hosted or managed services. It is easy to see why, as the appeal of reliable access to enterprise-class technologies and services at a predictable monthly cost is strong.

As users demand improvements in performance, availability, security and reliability you might ask why organisations are choosing to outsource such critical services. Rather than seeing these as internal issues, more and more organisations are turning to managed service contracts to help improve service levels whilst maintaining financial and strategic control over their infrastructure.

CHOOSING A COLOCATION PROVIDER

When it comes to choosing the right colocation provider for you, here are six key considerations:

- Where are you located?
- How much bandwidth do you need?
- How much space do you need?
- What connection speeds do you need?
- How often will you need to access your equipment?
- What level of support do you need?

If proximity is important, shortlist the service providers in your chosen geography and visit the facilities to get a first-hand impression. If you are looking for more geographic diversity for back-up and DR but still want the convenience of access, identify other geographies within an hour of your main site that meet both criteria. Talk to the on-site technicians as they will become a part of your extended technical team.

Compare pricing and service level agreements to see who offers best value for the level of service you require. Remember, colocation is not strictly a price consideration.

THE HIDDEN COSTS

Colocation costs are not limited to the physical amount of space you rent. In addition to your footprint costs, which will feature economies of scale, there are other charges to consider. Charges may include:

- Rack space
- Power
- Internet breakout
- Bandwidth
- Support
- Back-up
- Firewall
- Set-up fees

Speak to your potential provider to get a quote for the services you will need.

COLOCATION CHECKLIST

As you go about evaluating potential suppliers, here's a useful checklist of things to consider:

SPACE	HOW MANY RACKS OR CABINETS DO YOU NEED?
POWER	HOW MUCH POWER (KW) DO YOU NEED FOR NOW AND IN THE FUTURE?
CONNECTIVITY	IS THE DATA CENTRE CARRIER NEUTRAL? DO THEY PROVIDE INTERCONNECTIVITY?
SECURITY	WHAT MEASURES ARE IN PLACE TO PROTECT YOUR EQUIPMENT AND DATA?
LOCATION	DOES THE GEOGRAPHY OF THE PROVIDER SUPPORT YOUR BUSINESS NEEDS?
RESILIENCE	WHAT DISASTER RECOVERY AND BUSINESS CONTINUITY PLANS ARE IN PLACE?
SCALABILITY	CAN YOUR POTENTIAL SUPPLIER SUPPORT HIGHER DENSITY CONFIGURATIONS?
SLA	WHAT SERVICE LEVELS DO THEY OFFER, WHAT ARE THE PERFORMANCE GUARANTEES?
COMPLIANCE	WHAT CERTIFICATIONS DO THEY HOLD? ARE THEY INDEPENDENTLY AUDITED?
SUPPORT	DO THEY OFFER 24/7 SUPPORT AND ACCESS TO YOUR INFRASTRUCTURE?
ENVIRONMENT	ARE THEY AN ENERGY EFFICIENT SUPPLIER WITH THE RELEVANT GREEN CREDENTIALS?
SERVICES	DO THEY OFFER LONGER TERM SUPPORT FOR HYBRID OR CLOUD COMPUTING?
COST	DO THEY OFFER VALUE FOR MONEY AT THE PERFORMANCE POINT YOU DEMAND?
FACILITIES	DO THEY OFFER THE CONVENIENCE OF ON-SITE SERVICES, WORKSPACES AND AMENITIES?