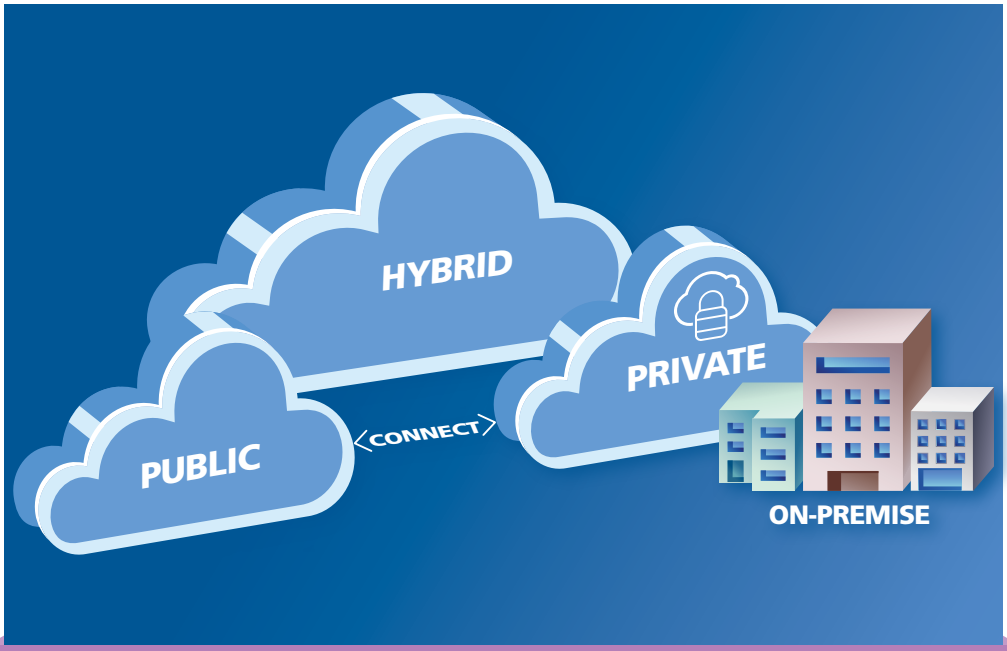
Breathe Easy –
Private Cloud



- Simplifying the Cloud for SME, Mid-Market Business and Schools
- Easy and Cost-effective
- Anytime, Anywhere Access
- Your Infrastructure in our Cloud, or we can provide the hardware
- High Availability … always available
- Secure Systems, Easily Accessible by You

breathetechnology
infrastructure | support | security | cloud

WHAT IS **PRIVATE CLOUD**

Everyone talks about Public Cloud. Systems like Microsoft Azure and Amazon AWS.

It may not be perfect for everyone … but it's a real game changer for many small to medium businesses and schools.

The concept really gained traction after our working habits changed during the COVID-19 pandemic.

Many organisations now have a hybrid working model or have their staff work from home.

Cloud services grew even more popular than before as it provided new levels of flexibility and offloaded the burdens of ownership and maintenance. We got used to paying a low monthly subscription for IT rather than big CAPEX spends when your servers required updating.

Many organisations with hybrid working models didn't really want to have server rooms full of equipment anymore.

However, the reality when trying to move to a public cloud like Microsoft Azure is that it is very expensive! It is also not flexible; you have to do things the Microsoft way. Additionally, the systems are what we call consumption-based. This means, like your electricity bill, it will fluctuate based on usage.

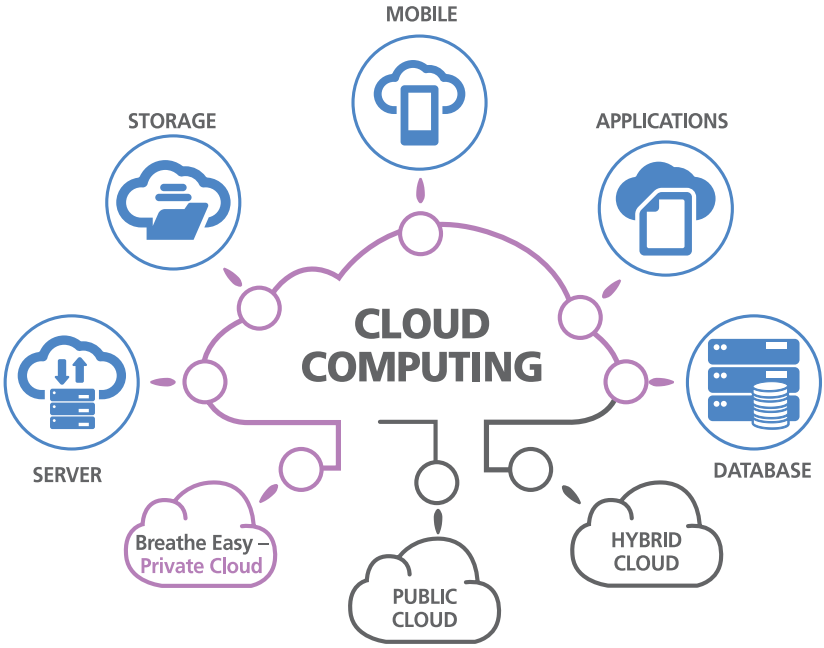
Additionally, there is the cyber security situation. As we have all moved online, so have the cybercriminals. All organised crime is now online. Private Cloud allows you to host mission critical system off the organisations network in a more secure environment. Additionally, it creates the perfect onsite and offline backup environment that meets the latest standards. Gov/NCSC guidelines.

https://www.ncsc.gov.uk/blog-post/offline-backups-in-an-online-world

Private Cloud Market

The private cloud market had an istimated value of $60.3 billion in 2020. Expected to maintain a compound annul growth rate (CAGR) of 29.5% from 2019 to 2025, it is estimated to reach a value of $205.4 billion by 2025.

- Several georgraphic regions are driving demand int he private cloud market:
- The U.S. market had the largest market, with an estimated value of $10.6 billion in 2020
- The Chinese market is the second largest, forcast to grow at 19.4% CAGR, reaching a value of $22.2 billion by 2027
- Japan and Canada are forecast to grow at 17.3 and 16.9% over the period from 2020 to 2027
- Within Europe, Germany has one of the highest CAGR rates at 13.9%
- The Asia-Pacific regio, led by Australia, South Korea, and India, has one of the highest growth rates, with a CAGR of 27% from 2020 to 2027.



Differences between **Private Cloud, Public Cloud, Hybrid Cloud** & **traditional Co-location**

Public Cloud

Systems like Microsoft Azure *(Office 365 is part of this)* or AWS *(Amazon Web Services)*. Cloud services are a no brainer, but some **Public Cloud services become very expensive and complex,** nor do they offer much flexibility as to how you want to work. Finally, the location and ownership of your data is another topic of discussion, which the Breathe Technical team can assist with.

Hybrid Cloud

A combination of Private and Public Cloud. This has become a very common way of working and works well. Often, there might be some on-premise IT equipment remaining too.

Traditional Co-location

This is where the concept of Cloud started. Big data centres that would host your equipment. Often in aircraft hangers or ex-military bunkers. You would pay them for rack space. This was measured in U's and then specific resources such as your power consumption is billed in Watts. Every function is billed based on consumption. Typically confusing and too complex for most small to medium businesses and schools. These facilities are super secure but the end user experience isn't great if you need to physically access your equipment. They aren't very customer friendly or in easily accessible locations.

Private Cloud

A modern new generation approach that has all the benefits of Public Cloud and Co-location, but is much more cost-effective, easy to work with and has great customer service. A no brainer for SME's, Mid-Market Businesses and Schools.

At Breathe many of our customers were looking at the following scenarios:

1. **They realised that they could work from home completely.** Often gaining extra flexibility and increasing their recruitment reach as staff no longer needed to be within commuting distance of the office. Not forgetting the significant savings on office premises and related costs.

2. **The organisation didn't need as many offices**. They were looking at a model where they could keep the HQ and remove the satellite offices, making savings while maintaining a pysical presence, with meeting rooms. Some staff could be office based while, others were home based.

3. By rotating the team with some staff working from home and others visiting the office, there could be a real **reduction in office space**. Some call it *'Smart Working'*, a new take on hot desking.

4. If you only have one physical site to start with, such as a SME Business, Primary School or a Corporate downsizing office space, there is a need for a **secondary location for a backup** and **disaster recovery setup.** It may be as simple as a secondary location with a copy of your data and server backups, or a full business continuity solution, allowing failover of your systems in the event of a disaster.

5. Some have **specific systems that they would like to be accessible at all times and high availability is important.** These systems are accessed by their staff as internal resources or it is used for sharing information with customers and business partners. They would like to offload the responsibility to ensure that these systems are always available without the cost and headache of providing the solution themselves.

6. **IT equipment ages** and there is often a significant cost and professional services involved in refreshing these systems. By using cloud services, you could completely offload this cost and burden with a viable long term strategy.

Most of these scenarios and questions around the location and costs of IT can be answered with a single solution.

Cloud Computing. This may be in the form of a Hybrid Cloud or Private Cloud network. However, Private Cloud has a strong story.

It's Cloud ... but it's simple and cost-effective.

Losing the Server Room

If you no longer need the dedicated secure space of a server room and can remove it from your list of requirements, it saves money and makes the demands around your work space much simpler.

Apart from the physical space for the server room, you need to consider; good internet connectivity, power supply, UPS and possibly generator failover, air-conditioning, physical security such as locks and key cards, environmental monitoring for heat and humidity, CCTV, cabling, cabinets etc.

All of these have a cost and a management overhead.

Our response was …
Breathe Easy – **Private Cloud**

The concept?

Essentially outsourcing your IT Space/Server Room … all the benefits of the Cloud, but simpler and more cost-effective than Public Cloud or Traditional Co-location.

We wanted to create a simple, cost-effective place for you to host your IT, offloading the headache and giving you the flexibility to run your organisation in the way you would like … without the worry of where to put the IT.

Additionally, for a low cost you can move your IT into a hosting environment with all the bells and whistles that meet most business requirements and could pass any audit.

This is why Private Cloud was born….

It is more flexible

- You don't have to work in the MS Azure way. You could host your own equipment. Let's say you change your office space. We take care of the moving process and make sure you can work as usual. Like co-location, which the big, unfriendly data centres used to do if you wanted to host a mission-critical server.
- However, if you would like only virtual resources and not to own any physical hardware, you are able to pay a low monthly fee for virtual resources that you never have to replace. The private cloud owner takes on this burden and provides "IT as a Service" (ITAAS).
- Private Cloud is more flexible than systems like MS Azure because you can have either co-location, ITAAS or a mix of the two!

It is more friendly

- It's simple. And that's the point. If you look at a quote from a data centre provider for co-location, showing you the hosting types, power consumption costs, connectivity options and costs, various limited support options, etc., it's complex. Most people don't really understand it. Private Cloud is simple and shows a basic line item cost in plain language.
- Specifying your system in Microsoft Azure is even more challenging. It works very differently from traditional Microsoft systems. There are so many things to consider to ensure you build in the right functionality, storage, security, consumption, or usage. Private Cloud takes all those things away, and provides a simple straight forward cost.
- Then, when you need some help specifying your system or help afterwards, you contact Microsoft or the data centre, which again is not easy. With Private Cloud you are in the capable and customer focussed hands of the IT Support provider owns the Private Cloud. A very different experience indeed.

It is more cost-effective

- It is significantly more cost-effective than both data centres, Microsoft Azure or Amazon AWS to host your own equipment or to have IT as a Service. Breathe has done extensive benchmarking and can provide more details on request.

Hybrid cloud is what most organisations will use in the future. It's a combination of private and public cloud. One scenario would be your email and Office 365 with Teams and SharePoint. Your other servers are in a private cloud.

You could move your systems to the cloud and get the following benefits:

1. You no longer have to keep the equipment in a server room with the right cooling, power, connectivity, and security. Like outsourcing the server room.
2. Massively reduced upfront (CAPEX) costs for buying and owning servers and networks.
3. Significantly increased security and meet the latest .Gov guidelines for Offsite/ Offline Backup.
4. Significantly increased redundancy … No more single points of failure.
5. No future costs and effort to update and replace old hardware.
6. You're always on the latest version of software.
7. All your IT at a low monthly service fee.

Private Cloud Features

- ISO9001 (Quality) and Iso27001 (Security) certified
- Dedicated resources in our secure Private Cloud Environment
- Bomb Proof Security Glass Enclosure
- 2 Locations. Data Centre 1 – Cambridge, Data Centre 2 - Suffolk
- Enhanced Cyber Security
- Redundant Air-conditioning
- UPS & Generator Power for Redundant Power
- Environmental Monitoring
- CCTV
- Monitored Alarm System
- 99.9% Uptime Guaranty (Maintenance Pre-Booked)
- No Sharing of IT Hardware resources as with Public Cloud
- All Data Held in the UK – GDPR Compliant
- Instant Technical Support Access
- Personal access to your equipment when you need it
- 24/7 Monitoring
- Highly Flexible. Options for Co-Location and Cloud Resources like Azure

3-Most common execution scenarios:

1. You relocate all of your IT equipment to the Breathe Easy Private Cloud Facility
2. We provide you with storage, virtual servers, security and backup on our infrastructure
3. We host new IT equipment for you, that's paid for at a low monthly fee rather than paying for everything upfront (reduced CAPEX) and you own the equipment.

Backup As A Service (BUAAS)

In the past, we would focus on protecting systems from external threats such as hackers or malware. Typically, all data resides on servers behind the firewall, and the data is scanned by anti-virus software.

In today's world, our data lives on servers and in the cloud, and our end users work from different locations. Everything is no longer behind the firewall, and we need to ensure that we protect what we now refer to as the distributed network.

Additionally, we need to think further than protecting ourselves and accept that at some point we will have a compromise of some description. It's highly likely based on the high amounts of Cyber-attacks against schools and businesses alike. The suggestion is to ensure we have the correct systems in place and we secure things within reason, as it can become an endless process. At Breathe, we advise our clients based on the latest advice from the National Cyber Security Centre (Gov).

The NCSC has seen numerous incidents where ransomware has encrypted not only the original data on disc but also the connected USB and network storage drives holding data backups. Incidents involving ransomware have also compromised connected cloud storage locations containing backups. The NCSC provides the following guidance:

1. The offline rule

At any given time, are one or more backups offline?

The purpose of an "offline backup" (sometimes called a "cold backup") is to remain unaffected should any incident impact your live environment. You can do this by:

- only connecting the backup to live systems when absolutely necessary
- never having all backups connected (or "hot") at the same time.

With at least one backup offline at any given time, an incident cannot affect all of your backups simultaneously.

Using cloud storage to hold an offline backup is a good idea because it guarantees physical separation from your live environment. Crucially, when your offline backup isn't in use, it also needs to be digitally disconnected.

2. The recovery rule

Is the data in cloud backups restorable and recoverable?

While all measures can be used to try and prevent a security incident from affecting your backups, it's best to have a backup plan for your backups. Some cloud storage services allow you to restore modified data back to an older version and recover deleted data for a limited time after it was deleted. If ransomware does manage to affect your cloud backup, you can use these features to restore it to its last known-good state. When choosing a cloud storage provider, you should check that these features are included in the service.

3. The 3-2-1 rule

Is critical data saved in multiple backup locations?

It is vital to keep multiple backups and to logically separate them. Maintaining resilient backups means that if one is compromised, at least one other remains. The most common method for creating resilient data backups is to follow the "3-2-1" rule; at least 3 copies on 2 devices and 1 offsite. This strategy is popular because it scales effectively (including the use of the cloud for an offsite backup) and can give you confidence that your critical data is safe from a localised incident. However, it does not require any backup location to be offline – hence the need for our first offline rule.

4. The regular rule

Is critical data backed up regularly?

Finally, backups should be created on a regular basis. The more frequently backups are created, the less data there is if you're forced to recover. Not only should your backups be created frequently, they should also be regularly tested to ensure they work as expected.

The simple solution in order to meet the guidelines is to either host a backup appliance in the private cloud or subscribe to it as a service.

The Costs

Some of our customers host all their IT equipment for the price they were paying for their fibre leased line, internet connection.

Never mind the premises required, connectivity, Power, UPS, aircon, CCTV, Environmental Monitoring etc.

Our pricing is simple to understand and includes all the facilities. We do not price the rack space and then add everything as an extra, such as power or bandwidth.

You get everything included in a low monthly cost.

Our Technical Services

Breathe can assist you with the relocation and set-up of your IT equipment in the Breathe Easy – **Private Cloud** facility. **It's an End-to-End service that will ensure you are working.** This can be done after hours to avoid the impact of down time on your organisation.

If you require new systems, we can help you specify, procure and then install your IT equipment in the Private Cloud Facility.

Finally, ongoing support is quick, friendly and cost-effective. Maintaining the Cloud Hosting of your equipment is included in your service fee. Additional IT Support is available if you would like that too.

Our Team is based in the same premises, ensuring ultra-fast response times.

Other Cloud Services that we can offer?

- Fully Featured, Cost-effective Cloud Telephony, starting at £7.99 per user per month
- MS Azure – Complete Cloud Servers and Infrastructure
- Office 365 including MS Exchange Online, Teams and SharePoint
- Expert SharePoint Migration and support
- Business Hub Solution for SharePoint, centralising all your software and documents on an intuitive user interface that becomes the centre point of resources for your staff
- Cloud Backup and Disaster Recover
- Cloud Security for Email (Anti-malware and Anti-spam)
- Cloud Security scanning for data held in the Cloud, such as SharePoint
- Virtual Firewalls for the Cloud

Want to know more?

The times are changing, and the way we work is too. We would love to speak to you, to discuss how our 'Private Cloud' could support your organisation's goals.

Call us for a friendly informative conversation.

www.breathetechnology.com
(live chat available)

Cambridge HQ Tel: 01223209920

Lucy@breathetechnology.com

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