In 6 Weeks to Your Private Cloud

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1. Overview Private Cloud

In numerous surveys, IT decision-makers and opinion-makers identified the cloud as the undisputed leader among the technology trends. Cloud computing is expected to continue to grow in the upcoming years. «No matter which industry you are in (Government, Start-ups, Agriculture, Healthcare, Banking), plan Cloud migration as the entire world moves to Cloud sooner than later.» predicts the Medium publication "Towards Data Science" in a summary of software trends in 2021.

The rapidly increasing popularity of cloud hosting and the increased demand from our customers for a private cloud was reason enough for us to summarize the most important information on the subject of the private cloud in a white paper.

In the first chapter, we define what a private cloud is, compare it to the public cloud and show the advantages of a private cloud for SMEs.

1.1. Difference between Private and Public Clouds

A private cloud is a personal pool of resources for a single client. These resources are stored in a dedicated infrastructure (on-site, via a dedicated server or in a data center of an external partner).

Private clouds are hosted on private servers and the resources and networks are completely isolated from other users. Users are given absolute control over the virtual network and business-critical workloads and data are isolated from other users of the cloud infrastructure. Only one company has access to the private cloud at a time.

The public cloud, on the other hand, is a multi-client-capable platform on which computing resources can be rented on demand from an external provider and shared with other companies or users.

Cloud resources are available worldwide via the Internet and enable instant provisioning and scaling of services without capital investment in dedicated infrastructure located off-premises. IT environment requirements can change rapidly, especially in growing start-ups and SMBs, depending on the project volume or team development. If a small business grows into a medium-sized company, cloud-based servers eliminate the need to upgrade servers and cloud-based servers, there is no need to purchase new servers and software at every milestone.

1.2. Advantages of a Private Cloud for SMEs
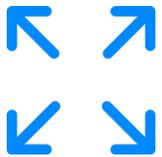
The requirements for applications and the IT environment can change quickly - not only during exceptional years such as 2021 - depending on the volume of projects or team development. One of the biggest advantages of a cloud-based infrastructure is its high scalability. During the pandemic, the cloud was shown to play an important role not only in upscaling, but also in downscaling. This means that IT infrastructure can be easily adapted in the event of falling demand or less traffic.

Among the most important advantages of private clouds over public clouds include higher data protection, higher safeguarding against failure as well as greater control over their own data or applications.

The high security standards and customized offerings of a private cloud often seem more expensive at first glance than the prede-signed offerings of hyperscalers such as Amazon or Microsoft. However, a study by Tech Target from 2020 shows that the horrendous costs of private clouds are largely a myth and that more than half of all larger companies do not ultimately save any money.

Find a summary of the advantages of a private cloud for SMEs below:

Increased Security:

With a private cloud, you can secure your virtual network environment. This includes IP addresses, subnets, and network gateways. For example, you can isolate a database on a private subnet that is not connected to the Internet. In the event of an IT catastrophe, you won't lose valuable data because it is stored off-site.

Flexibility:

With a private cloud server, access to the rented cloud resources is possible at any time and from anywhere in the world, the only requirement is an Internet connection.

The possibility of remote work and flexible working hours can be a great advantage when recruiting new employees - especially digital natives. Flexibility in working hours and location requires a stable IT infrastructure that is tailored to the individual needs of the user, which is guaranteed with a private cloud from Xelon.

More performance:

Private clouds enable users to prioritize the network traffic of selected applications to optimize their performance and avoid congestion and bottlenecks.

Data protection:

A private cloud is separated at a network level from other clouds, so you can control your data yourself. It also prevents company data from being mixed with the data of other cloud customers.

Further advantages of a private cloud for

Cost Efficiency:

After the high security standards mentioned earlier, the low investment costs are often the main reason why SMEs decide migrating their IT infrastructure to a private cloud. User-friendly payment models and careful planning guarantee, that you only pay for the resources you actually use. Cloud-storage is usually billed on a monthly basis and is therefore the best option for companies to avoid huge upfront payments.

Time saving:

Does recruiting suitable IT specialists involve a lot of effort for you? Working with a cloud hosting provider eases the struggle of recruiting new IT talent, saving you valuable time.

In turn, since all updates to your apps are done in the cloud by the provider, you save time - and thus labor costs - and can always use the latest licensed application versions, without any license fees. In addition to integrated security programs automatic recordings, continuous operation ("Business Continuity") and emergency planning are often included in the packages of cloud service providers.

2. Migration

A cloud migration is the transfer of data and apps to a cloud infrastructure. In the following, we will show you which questions you should answer before migrating to the cloud, what the most important phases of the migration are and what distinguishes the right cloud provider for SMEs.

2.1. The Most Important Questions before the Migration
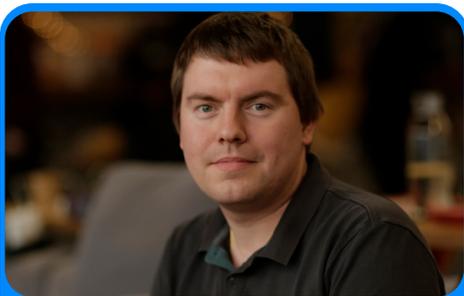
Matias Meier, Head Technology und Partner, Xelon AG

Matias Meier, Head Technology and Partner at the Swiss cloud provider Xelon, provides tips for successfully migrating your IT infrastructure to a private cloud.

Before migrating your IT infrastructure, you should answer the following questions:

- How much power is needed? Are there load peaks?
- Which servers and virtual machines do you want to migrate?
- How much is your business expected to grow in the next 24 months? What are your long-term growth goals?
- How much expertise does your company have?
- How much time and financial resources can you invest in your IT infrastructure?

Matias advises, «If the requirements for your private cloud are not yet clear, you can also start with a public cloud and collect data on usage.»

2.2 The Steps in Migrating to a Private Cloud

Migrating workloads and applications to the cloud is a complex process that requires careful preparation and precise implementation. The renowned market research company Gartner describes the five phases of the relocation process as follows:

1.   **Rehost:** The first stage is also known as «lift and shift» and consists of moving data to a cloud server.

2.   **Refactor:** The second relocation phase involves the optimization of data. The architecture of the apps remains untouched, but their compatibility with the cloud-based software is ensured. Only if this step is carried out correctly the potential of the cloud can be fully exploited.

3.   **Revise:** This pre-migration phase requires architectural adjustments to the applications, including code changes.

4.   **Rebuild:** The old codes are discarded and the transition to new codes is completed. This relatively time-consuming task should only be performed if the existing software no longer meets changing business requirements.

5.   **Replace:** The migration of the native applications into the cloud-based environment and the old data is fully integrated into the new IT system.

The biggest stumbling point in cloud migrations is the transfer of data. Challenge: regardless of whether the transfer takes place via the Internet or whether the data is physically brought to the storage location, data transfers should not be underestimated. Experience shows that data transfers often take longer than expected.

The design and architecture of your data may not match the cloud data model meaning that adjustments need to be made prior to the migration process. For this case, Xelon provides a simplified migration process.

2.3 Migration Timeline

A cloud migration strategy should include the goal, timeline and foreseeable obstacles. Determine what data will be transferred to the cloud, take care of data backups, and calculate migration costs and future operating costs. Further, the cloud migration project plan should state which migration tools and services will be used. Assign tasks and responsibilities to everyone involved and define the order in which the data or applications will be migrated.

This is how this process can look like with Xelon:

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Workshop: Elicit requirements* examine existing infrastructure.	Create checklist with requirements	Collaboratively plan migrations (timing, systems to be migrated)	Migration is prepared by the provider	Data transfer to the private cloud	**Your private cloud is ready**
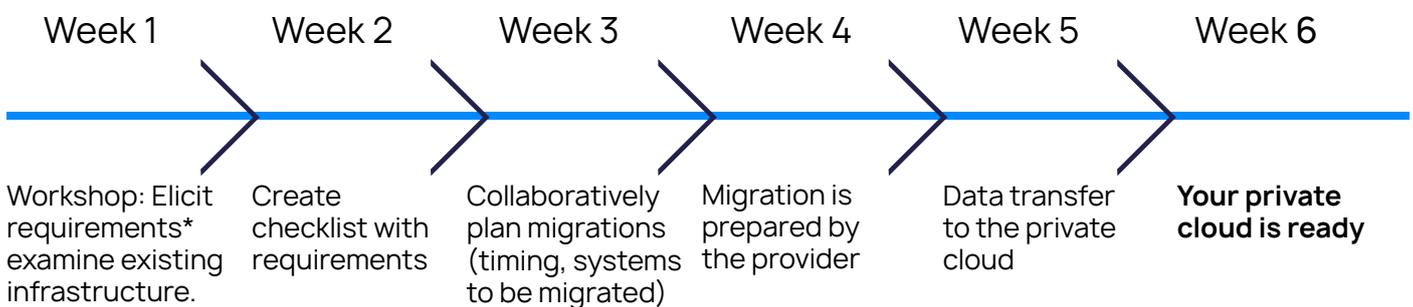
A necessary step after a successful cloud migration involves extensive testing of the new system. It must be ensured that the migration and subsequent integration went correctly, ensure that all devices work as planned and access authentication meets data security standards.

Xelon supports SMEs and IT service providers in bringing their infrastructure to the cloud. In the process, the existing infrastructure is migrated 1:1 to the cloud. Ideally, the end customer will not even notice the migration and the day-to-day work will not be affected, while the IT infrastructure can be run and expanded more easily in the background.

3. Finding the Right Cloud Partner

Most companies go for a big player when choosing a cloud infrastructure provider. However, hyperscalers such as Microsoft Azure or Amazon Web Services can often not cover all customer needs. Especially real-time support from a personal contact, cloud migration services, monitoring, backups, contingency planning and continuous operations are often not offered by hyperscalers.

Below is a checklist you should go through before choosing a cloud provider:

✓ Support:

If your IT team does not have the necessary experience with cloud migrations, you should choose a cloud provider that offers personal support. In most cases, hyperscalers cannot cover all customer needs, especially real-time support from a personal contact is often not available.

✓ Market understanding:

Cloud providers who are familiar with the Swiss market and its peculiarities and speak the language of their customers help companies set up a private cloud that is tailored to the company's individual needs.

«It is important to us that we understand the initial situation precisely and can develop suitable solutions in collaboration with the customer. As the collaboration progresses, we strive to provide the best possible support for the customer and offer regular updates and support for any adjustments.» explains Xelon CEO Michael Dudli.

✓ Accompanying the migration

Before migrating to the private cloud, a good cloud provider will work with you to determine what data should be transferred to the cloud, help you with data backups, and calculate migration costs and future operating costs. A necessary step after the migration involves extensive testing of the new system. It is important to ensure that the migration and integration went correctly, so that all devices work as planned and access authentication meets data security standards. This monitoring is ideally done by an experienced cloud provider.

✓ Flexibility:

In recent years, scalability has become a buzzword not only in the start-up scene. Only if the business model and IT infrastructure are scalable is it possible to continuously acquire new customers and improve the position on the market. The predefined IT infrastructure packages of hyperscalers rarely meet all the requirements of growing SMEs, start-ups and SaaS providers and usually cannot be adapted. Local providers like Xelon, on the other hand, evaluate the individual needs of their customers in a personal meeting. How much computing power is actually needed on a day-to-day basis? Are there peak loads? Are there plans to expand the portfolio and the team in the foreseeable future and to expand the IT infrastructure accordingly? These questions need to be answered when creating an IT concept.

✓ Corporate location:

In times of data leaks and perfidious hacker attacks, most companies probably want to know where their data is stored. Hyperscalers such as Microsoft and Amazon are often based in the USA, where access to data is practiced by means of the American Patriot Act at US companies without judicial control. This is not permitted in Switzerland. Local providers like Xelon follow Swiss data protection laws and can therefore guarantee the highest data security standards. Our infrastructure is located in ISO-certified data centers in Switzerland and all customer data is subject to Swiss data protection laws.

4. Conclusion

Highest security standards, flexibility and cost efficiency: A private cloud offers numerous advantages for SMEs. A well thought-out migration strategy, step-by-step implementation and rigorous monitoring are essential for a successful cloud migration, which ultimately ensures higher functionality and lower IT operating costs.

Xelon provides you with a stable cloud infrastructure. Access your private cloud from anywhere in the world at any time, the only requirement is an internet connection. Thanks to reliable hosting, IT teams can access all files from a wide range of devices and easily test new applications. The cloud is accessible around the clock, allowing flexible working hours and minimizing downtime.

Xelon HQ: Dashboard Private Cloud
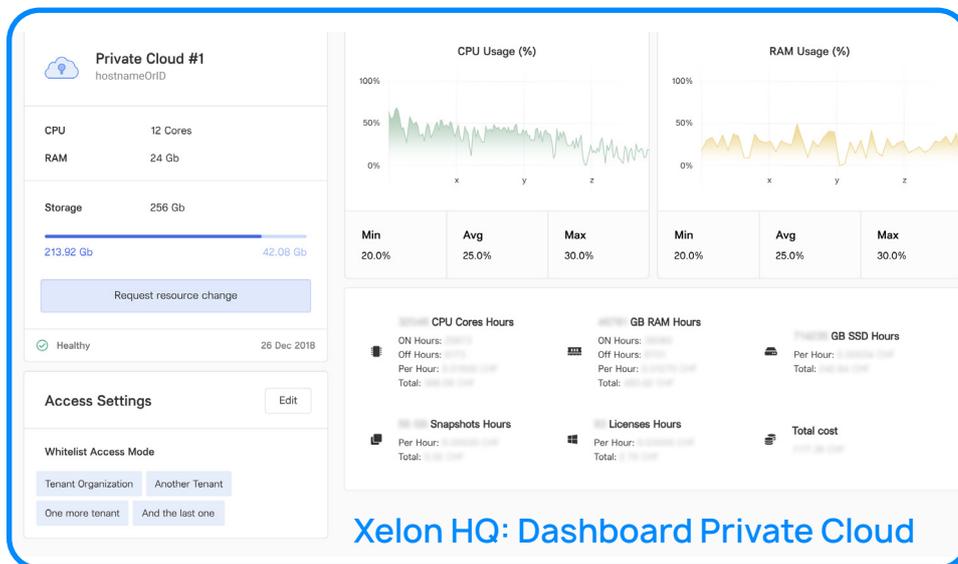
Cybersecurity is in good hands, too. In addition to integrated security programs, automatic recording, continuous operation and emergency planning are also included in Xelon's private cloud package. We are responsible for both software and hardware and perform regular patching of the systems, which minimizes security risks and ensures the best possible functioning of the systems.

Start the journey to your private cloud now!

Are you curious about whether a private cloud is right for your business? Would you like to know how to proceed with a cloud migration? Do you need a stable and secure IT infrastructure for your systems and applications? Contact us for a non-binding consultation.

Tel: +41 41 552 28 50
E-Mail: contact@xelon.ch