



Licensing and usage models for modern enterprises – on-premises or cloud-based?

We are in the middle of the digital transformation.

Hardly a single company is not thinking about its digital future and the challenges it faces – or rather hardly a single company is not being forced to do so. More and more business and development processes are being digitally recorded from start to finish. Human and machine are being interconnected across systems and data in order to automate and simplify processes.

1 The future of IT infrastructure

Companies can only succeed in the digital transformation if their digital core is ready for it. A powerful ERP system is the central prerequisite with which companies and employees can successfully manage the digital transformation towards the Internet of Things.

On the one hand, this involves the question of which tasks must be performed by hardware and software in order to contribute towards the success of the company. The other – and increasingly important – question looks for ways to host the digital core or ERP system. On the one hand, it is conceivable to purchase every new program in its entirety and operate it on your own responsibility. If necessary, the required hardware equipment may have to be added in order to use the software. In this type of provision, companies perform each extension and necessary maintenance services independently.

On the other hand, cloud solutions are becoming increasingly widespread on the market. This means that usage rights for storage space, computing power or software are made available via the internet and no longer stored locally. Depending on the operator model, responsibility for the usability of cloud applications is transferred completely to the service provider.



The future of IT infrastructure

The following section deals with on-premises solutions and the different variants of cloud-based solutions, their advantages and disadvantages, questions of applicability and data protection.

Results of a survey by the Federal Statistical Office:

61%

of the companies surveyed used cloud services in 2018 to store their data externally.

33%

of those surveyed used them to operate a corporate database.

19%

used them to increase their computing capacity.



2 **On-premises and cloud:** variants for IT solutions

The distinction between on-premises and cloud is only a rough classification. A glance at the details reveals that there are several other variants under these generic terms:

On-premises in own operation

In this model, the customer purchases software and runs it on their own hardware. The licensee is fully responsible for maintenance, operation and servicing as well as possible troubleshooting. Should further development or adaptation of the software be necessary, they must take care of it themselves or purchase necessary services additionally. On-premises with operation on Hyperscaler Here, a gigantic number of servers are connected to a network by an external service provider. Hyperscaler enables simultaneous access by a huge number of users; it can compensate for significantly fluctuating workloads. This form of scalability can make working with Big Data much easier.

On-premises through hosting

In this variant, a server is provided, for example for storage space or computing power. The server can be used by one or more customers.

Private Cloud (expandable)

In this variant, the cloud is set up for a company or organization. The customer receives their own server and their own network environment; access is therefore very limited and can be extended to certain suppliers or business partners if necessary. Companies usually choose this variant when highly sensitive areas are involved and data protection and the security of the IT infrastructure are of overriding importance.

Public Cloud (Standardized)

On-premises and cloud: variants for IT solutions

Here, an IT service provider or software company operates its programs and services in an open cloud environment that is accessible via the internet. Although services and networks are publicly accessible, this variant is no less secure, which is guaranteed by appropriate security technologies.

Often, the services are already specialized for certain tasks. This pre-scaling makes them more cost-effective; users can choose appropriate functions from pre-defined offers on a subscription basis. In practice, mixed forms of cloud variants, known as hybrid clouds, are often found. However, a hybrid cloud is only considered a hybrid cloud if the approaches are actually “mixed” at one point – for example if sensitive data is stored in a private cloud but applications are made accessible via a public cloud.

If there are different cloud solutions for different functions without any form of overlap, these are classic isolated applications. Sometimes, cloud variants are differentiated according to the service model.

Software-as-a-Service (SaaS) refers to a model in which – as the name suggests – the software is provided via the cloud.

In the **Infrastructure-as-a-Service (IaaS)** model, computing power or storage capacity, for example, is provided as infrastructure via the cloud.

And in the **Platform-as-a-Service (PaaS)** variant, the customer receives a complete environment in which software developers can test or further develop their applications.

3 Advantages and disadvantages of on-premises



Advantages

With on-premises, control remains entirely with the respective company. The dependency on the manufacturer, for example on a server or a tool, is thus reduced to a minimum. In addition, all data remains on the company's servers and therefore under the company's own responsibility. The purchase costs for such a solution are incurred only once, namely with the investment. Last but not least, employees can also access the data or the application independently of internet access.



Disadvantages

With the on-premises variant, responsibility after the warranty period lies entirely with the company. Software must be loaded onto the company's own infrastructure and operated there. The IT department or appropriately trained employees are thus solely responsible for its functionality and must also invest the appropriate amount of time to keep it up-to-date. Scaling of on-premises solutions must also be carried out by the company's own IT department. In the event of damage or major expansions, additional costs must be expected; moreover, the companies themselves are liable. Last but not least, on-premises variants are dependent on the company's own infrastructure. Companies must provide air conditioning or an emergency power supply, for example, which causes additional costs.



Advantages and disadvantages of cloud solutions



Advantages

Unlike on-premises, there are no high investment costs for hardware or security equipment such as fire detection systems or air conditioning units. This significantly reduces the investment risk and instead shifts the expenses to ongoing operating costs. These costs can also be regulated even further thanks to the scalability of cloud solutions, because an application from the cloud can be individually tailored to the needs of the company. Unused blocks can be omitted, which reduces costs. The service provider also keeps the cloud setup up to date and takes care of updates. They are also responsible for troubleshooting, also – unlike with on-premises models – after possible warranty periods have expired. This relieves the service provider's own employees of much of their responsibility for the functioning of the IT. Another major advantage of cloud solutions is their accessibility. Cloud-based software can be used by a company's employees regardless of location, provided that access rights are set correctly. The same applies to the retrieval or processing of data. Contrary to widespread prejudices, data security is guaranteed – more on this in the next section.



Disadvantages

Dependence on the infrastructure is also a major disadvantage of cloud solutions. Here, however, it is access to the internet or its stability. If internet access is guaranteed, however, cloud solutions depend far less on such infrastructure conditions than on-premises variants. In contrast to these, however, companies are completely dependent on the service provider for software or hardware from the cloud. This applies all the more to data protection and security issues – so a corresponding amount of trust is required here. Last but not least, cloud solutions generally offer standardized processes and best practices; there is little room for in-house developments.

4 Data protection and data security

Cloud solutions have a reputation for not being very secure. According to this, data would be much less secure if it were to be saved on external servers than if it were stored on a hard disk within the company building. Anyone who, according to this prejudice, wants to have their data in a secure place, should therefore rely on an on-premises solution.

But are these concerns really justified?

- The location of the cloud server is important. Anyone who knows the country can get an overview of the legal situation regarding data protection and security that applies there; it is commonly known that the supposedly stricter German or European data protection laws do not apply everywhere. Although the GDPR claims that the data of European citizens and companies is protected everywhere, whether this legal claim can be fully enforced everywhere in the world is another question.
- Before choosing a cloud provider, it is also important to check whether it has certain certifications. They may also work according to certain rules (e.g. ISO standards) or offer other more detailed information – preferably in German – about their cloud model.
- Legitimate cloud providers take their responsibility very seriously and pay close attention to the security of their hardware or software. What is important at this point is the question: Can your company really guarantee data security better than a highly professional and specialized cloud provider?

Data protection and data security

- A significant security risk is – not unlike on-premises variants – the human factor. Anyone who wants their data to be protected in the cloud should remember to train their employees regularly and comprehensively on IT security issues and make them aware of the importance of these topics. The supposed lack of data protection in cloud variants compared to on-premises is therefore more a myth than reality.

The cloud is insecure? Not true –
results from the Cloud Monitor 2018:

50%

thought that data security has increased significantly with cloud products.

60%

stated that they had registered incidents or at least suspected incidents in their internal (on-premises) IT systems.

< 50%

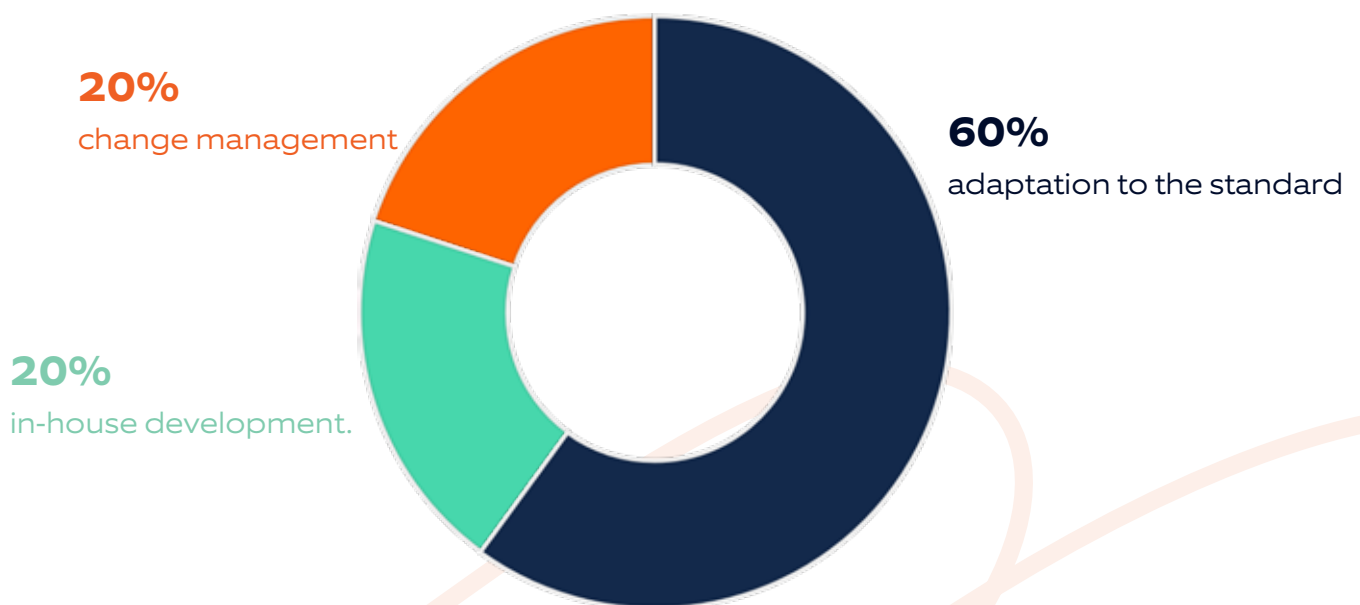
of cloud users had themselves registered an incident or suspected it.



5 **Cloud solutions in practice:** an application scenario

The starting point of a cloud orchestration can be a completely new setup or the restructuring of an existing IT landscape. Sometimes, it makes sense for companies to start afresh – for example, when the majority of processes have become too complex or obsolete and alignment with proven standards can save important time and promote collaboration. But it also makes sense to implement a cloud-supported ERP in the event of an international acquisition or when setting up a sales company abroad. In both cases, companies can scale the number of users quickly and easily or consider country-specific, legal characteristics in isolation, for example when – as is the case in India and Brazil – complex legal tax requirements apply. By fully standardizing in the cloud, companies must be prepared for the fact that some processes will have to be reconceived.

Generally speaking, the rule of thumb is:



Cloud solutions in practice: an application scenario

The company considers in advance which existing functions of its ERP system it wants to continue to use. It also wants to optimize communication with suppliers and design the platform in such a way that both sides benefit. For example, if the company orders a specific component from a supplier, the supplier should be able to process the order in its entirety on the corresponding cloud platform and create invoices there using forms. Both the invoice and the delivery status are immediately available to the ordering company and can be further processed without major problems. Delivery problems or complaints should also be able to be solved in the cloud.

Many new business models are conceivable with the help of a cloud landscape – here are a few examples. Conversely, the customer's perspective should also be considered. Imagine, for example, whose business model is based on a very complex tendering and procurement process outside the ERP system to cover legal requirements, standards and tender-specific information. The sum of all this information is not required in the ERP.

A user-friendly interface makes it possible to automatically create an order from the complex information, which only contains the relevant information. The cloud ERP system not only reduces transaction costs, but also accelerates, standardizes and automates all business processes. If, for example, the master data management or product data management of the ERP must be brought up to the latest state of the art, the updates are automatically and silently installed in the background.

The company itself does not have to take any action and communication with the supplier is not disturbed.

6 Before deciding on a solution:
What are the most important selection criteria for getting started?

More and more companies are opting for cloud-based services. According to Bitkom, by 2018, 66% of companies will already be using cloud computing. However, before a company obtains programs, storage space or computing power via cloud services, it should answer a few basic questions.

- Which functions and which security aspects should the cloud service fulfill?
- Can the existing IT infrastructure be expanded with cloud solutions or would a complete rebuild make more sense?
- What country is the provider from? What security regulations apply there? Can support be offered in the local language?
- How long has the preferred provider been on the market? Can they also offer the service and possible services in the long term?
- Is the own internet access stable and suitable for a cloud solution? Can it provide access to the cloud for all participants in the company?

Contacts

Would you like to learn more about this topic? We will be happy to advise you:



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About Nagarro ES

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