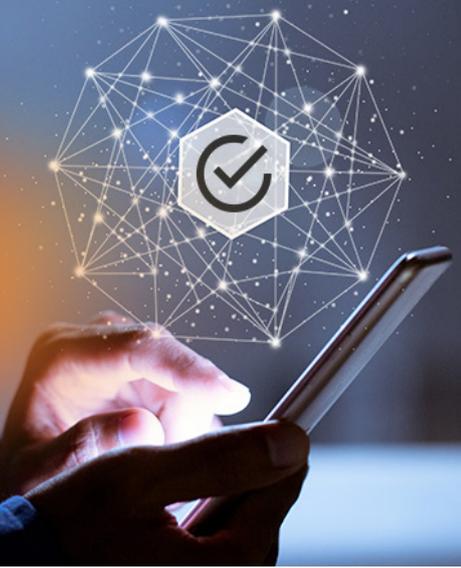


# Setting up a new data center in just 30 hours

Public-sector client needs resources quickly for an urgent online application process



**“In this project, the Public Cloud by T-Systems demonstrated its own strength: a data center upgrade implemented with incredible speed and at limited costs. The customer was most impressed by the high-performance platform, which reveals the public cloud’s potential and makes people think about other possible use cases.”**

Ralf Poggemann, Portfolio Unit Public Cloud, T-Systems

Economies all over world are suffering from the impact of the coronavirus pandemic. In late March 2020, the Ifo Institute calculated the costs of the crisis for Germany, which may be as high as 700 billion euros. Production shortfalls and short-time working arrangements during a two-month shutdown will cause the Gross Domestic Product to fall by between 7.2 and 14 percentage points. The economic collapse puts one million jobs at risk. The public sector has responded to the challenge with comprehensive support schemes both at federal government and state level. These include immediate aid, liquidity support, guarantees, and tax relief measures. Many small and medium-sized enterprises rely on a quick pay-out of the funds. To speed up the process, new and quick ways of applying for and receiving funds must be found.

## The Challenge

After the public sector’s remarkably rapid response to the current crisis, the challenge was to implement the funding schemes just as quickly. The authorities wanted to ensure that businesses can easily access the funds. The target date for providing the digital solution was March 30. An important aspect to consider was that, to apply for funding, companies need to upload documents to the platform that can be as large as 30 MB. A high-performance internet connection of

## At a Glance

- Pandemic triggers massive recession in Germany
- Fast operational implementation of funding schemes
- Digital solution for application and pay-out process
- Prompt provision of a scalable, reliable cloud platform

the web service was therefore an essential requirement. However, the final load tests carried out by the developers—on the weekend before the system was due to go live—showed that the planned local operating platform would not be able to cope with the expected high demand. In no time at all, a scalable solution had to be found to ensure the reliable operation of the application by increasing the existing data center capacities during periods of excessive demand.

# Reference in detail

## The Solution

It was obvious that only a public cloud operating platform could meet both the scalability requirements and the need for prompt provisioning. Together with T-Systems as a multi-cloud provider, the customer's decision-makers explored the available options. Many of the possible cloud solutions had to be dropped as they could not provide the high level of performance or the internet bandwidth required. In the end, it was decided to use the VMware Cloud on AWS. VMware allowed T-Systems to deliver the technology stack that perfectly matches both the application and the in-house platform. Besides, the underlying AWS infrastructure guarantees data residency in Frankfurt am Main, Germany, and enables a reliable and highly available internet breakout to ensure that all requests, even on peak

demands, are served. Within three hours, T-Systems put together a software-defined data center (SDDC) with three hosts offering a complete VMware stack with computing, storage, and network resources. The SDDC uses bare metal servers at AWS that are exclusively for the client's own use. The platform is operated by T-Systems as a managed service. Another four hours later, on Saturday night, the customer had full administration rights to the combined operating platform, i.e., a connection to the internal server backend in the customer's data center had also been established by then. The first servers on the VMware Cloud on AWS were activated and access to the front-end systems was created via the internet. By Sunday morning, the combined platform was up and running. Some last-minute configuration adjustments were made in order to optimize the system.

## Customer Benefits

Getting from the idea to a fully functional external upgrade of an in-house data center in just 30 hours is no mean feat and requires „co-creation.“ The VMware Cloud on AWS from T-Systems enabled the public-sector customer to solve an almost unsolvable problem in a very short period of time. After it was still touch-and-go at the weekend whether the much-needed service would be available or not, it was all up and running on Monday for anyone who needed it—and that without the risk of the operating platform collapsing under the sheer volume of requests. The access numbers prove the importance of the scaling solution from the cloud: While the load tests were dimensioned for 500 simultaneous users, a total of 7,000 users tried to access the service at the same time on Monday. After this initial rush, demand increased further, reaching five-digit numbers—and it is still on the rise. The customer was particularly impressed by the external resources of the VMware cloud on AWS as these allow them to benefit from a 400 percent increase in performance of their web service. The resources can be scaled up whenever there is increased demand—while the customer only pays for the resources actually used. Once the funding schemes are discontinued, the complete installation can be returned. Moreover, with T-Systems as the solution partner, both comprehensive technical security of the web service and compliance with data privacy regulations are ensured. The solution is advantageous not least to the businesses in need of immediate aid from the public sector. The IT landscape gives them quick access to the urgently needed funds. The positive experience with the cloud will also have long-term effects for the customer, as they have now gained first-hand insights on what can be achieved with the cloud rather than talking theoretically about it. The performance and capacity of the public cloud are more than convincing: The decision-makers are currently discussing other future use cases where the benefits of the cloud can be exploited to the full.

Advantages:

- Extremely fast provisioning of infrastructure resources by the software-designed data center
- Safeguarding the start of production
- Broad range of possible solutions
- High security level
- Network capacities included
- New future options for the IT strategy

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