

CASE STUDY

DISASTER RECOVERY SOLUTION FOR A RESTAURANT CHAIN IN RUSSIA





ABOUT THE CUSTOMER



Restaurant chain
(industry: retail)



Russia



Number of employees:
more than 50 thousand



300 branches



Internal
IT staff: 180 employees



More than 15 years
in the restaurant business

Why DEAC?

- Provider-independent data centres, modern IT infrastructure
- Reliable and stable service provider
- IT solution customised for specific needs
- Ability to lease hardware

Results of the solution

- Up to **42%** in resource savings
- System performance speed rose **x10**
- Annual availability reached **99.9 %**
- Capacity for continuous growth

CLIENT'S STORY

Before working within DEAC, the client had its IT solutions in the main data centre in Russia, while the backups were hosted in a data centre in Frankfurt. In 2012, the client contacted us with a simple task: to set up a few physical servers as a reserve site at our Riga data centre in Latvia. At the time, the client's restaurant business was doing well, expanding in the wake of the economic crisis; however, there was an increasing demand for high security of the IT processes.



The main impetus for choosing a service provider in Europe was the need to diversify the risks and keep the data in a geographically and politically neutral area.



The initial solution used at the DEAC data centre was colocation, although the client's own servers were going obsolete every three years, and had to be replaced with new ones for better performance and efficiency. It soon became clear that this solution was not economically feasible for the company, and because the client was satisfied with the quality and the speed of the services provided by DEAC, it decided to migrate into a public cloud.

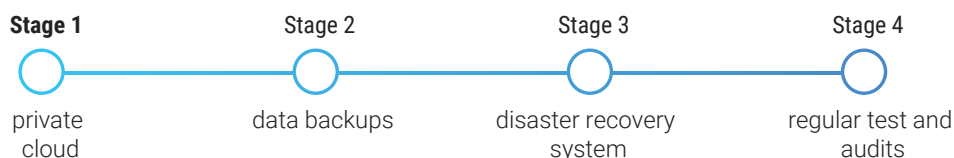


The client switched over to leased infrastructure and software, optimising its resources, and reducing its CAPEX and OPEX.



As the client's business grew, eventually all the data backups were moved from Frankfurt to Riga, because the proximity of the backup site, the personalised approach and the Russian-speaking support were important to the client.

SUBSEQUENT DEVELOPMENT OF THE CLIENT'S IT INFRASTRUCTURE





PROBLEM

High business risks

More and more new company branches, more clients and new services resulted in stricter requirements for the continuity of the business processes and the IT system recovery speed (RTO, recovery time objective).

Data storage system downtimes

Long downtimes in the operation of the data storage systems that arose with spikes in traffic, e.g. during holiday sales. Because of the large amount of data and technology used, the data backup solution in Riga also became slower and more complex: recovering all the data took over 48 hours* as a result.

Growing amount of data

The amounts of data and the capacity of the equipment used by the client via the DEAC public cloud kept growing along with the company, and the pool assigned to the client started slowing down the operation of the entire public cloud, affecting the work of its other users.

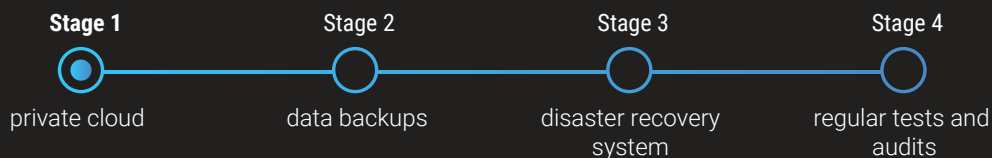
* For a little perspective: a survey by DEAC showed that 50% of medium and large companies stop functioning if the company's IT system becomes unavailable for more than 1 hour.

Main reasons for migrating from a public to a private cloud:

- need for dedicated resources that the client can expand as necessary;
- increased level of security;
- faster system operation and data processing compared to the public cloud;
- ability to use dedicated resources to test the environment.



SOLUTION



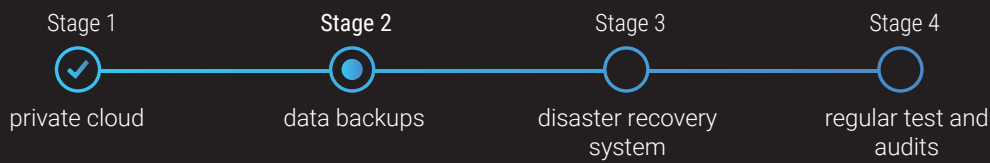
STAGE 1 – PRIVATE CLOUD

In early 2019, we proposed a transition to a private cloud fully customised for the needs of the client. The client had already transferred most of the data backups (a total of 80 TB) to DEAC assets. Furthermore, the virtual machines were connected to an L2 fibre optic channel, to boost the bandwidth of the connection.

- ✓ An HPE 3PAR data storage system in the main data centre in Moscow, and a hyper-converged VMware vSAN infrastructure in the standby data centre in Riga, for making the business more adaptive, and for the effective management of risks and expenses.
- ✓ Automated multi-level storage in each of the virtual server machines sped up the operation of the system and increased the flexibility of resource management.
- ✓ Improvements in the performance of the entire system, boosting the stability of the operating processes and eliminating the risk of downtime.

It was important for the client to be able to quickly operate between the allocated resources, and the vSAN architecture-based solution made it possible to boost the performance speed of the virtual machines, increasing the efficiency of business processes many times over as a result.

The client can now monitor and diagnose the systems hosted in the [private cloud](#), and test individual components of the system in terms of performing various tasks.



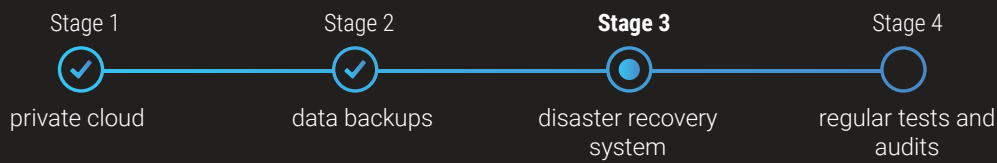
STAGE 2 – DATA BACKUPS

The client used to have a data backup solution for all its data in Frankfurt; however, because DEAC's data centres are geographically closer to the client's main data centre, and because the services provided are in Russian, the client decided to move the entire backup solution to our data centre in Riga soon after migrating into the private cloud.

[The backup solution](#) makes it possible to use the allocated resources following the pay-as-you-go principle: i.e. the client only pays for the resources it actually uses, so that whenever there is little demand for them, the client can use the savings to grow its business.

Reasons for the client deciding to move the data backup platform from Frankfurt to Riga:





STAGE 3 – DISASTER RECOVERY SYSTEM

As business risks and the risk of possible downtime resulting in the stoppage of cash registers, PoS terminals, websites and other business processes grew, the client needed to transition from the data backup solution to a fault-tolerant disaster recovery solution in order to make it possible for the company to grow in the future. The availability level requirements became stricter, and it was decided to invest in a disaster recovery solution.

A disaster recovery plan was developed based on the following possible incident:

- failure of the main and reserve data centre;
- failure of the data transmission channels between the main and reserve data centre;
- failure of various components of the redundancy solution

The main purpose of the system thus created is to ensure high availability for critical operations in the event of downtime.

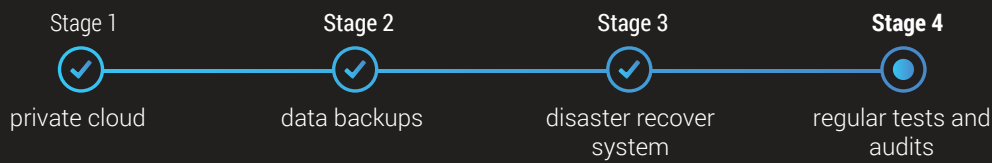
The system can quickly transfer load among components, and from one data centre to another.



Fully redundant, the system enables a level of data availability of effectively 100%, operating in mirror mode, i.e. if any of the solution's subsystems in the main data centre fails, the system immediately switches over to the same subsystem in the reserve data centre. If an incident takes place in any of the data centres, the client will have access to a full set of data backups on each of the platforms.



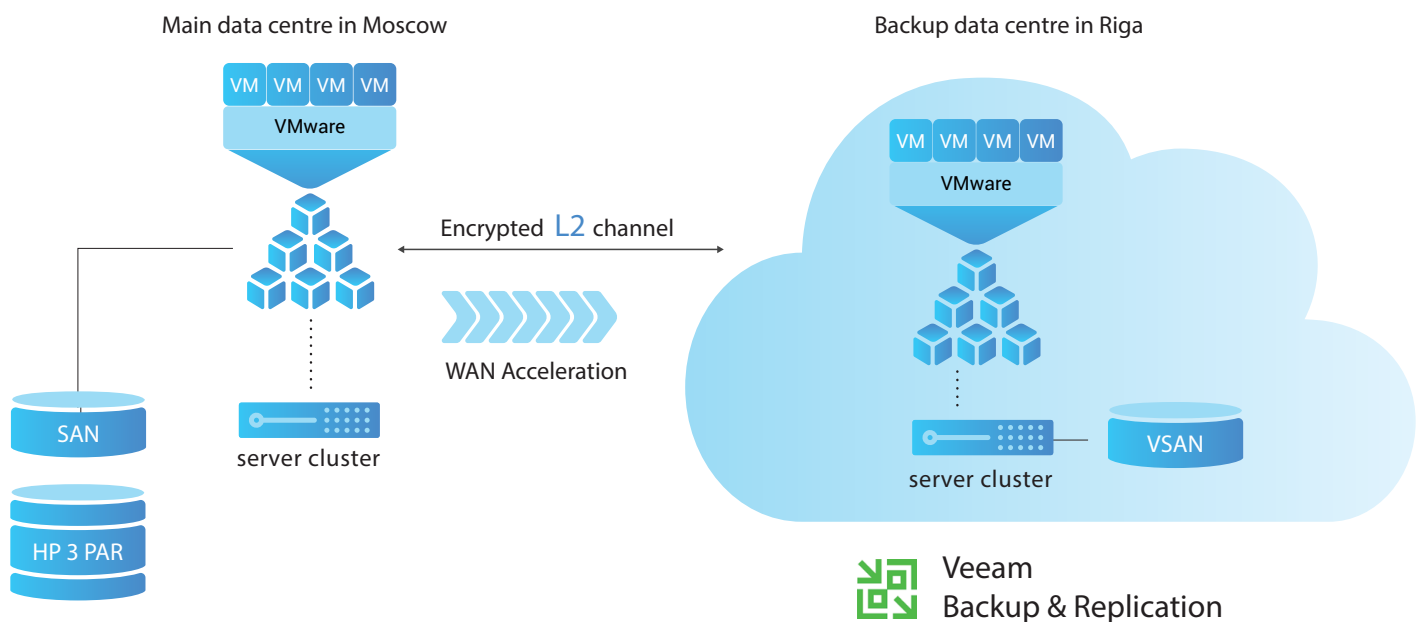
The disaster recovery system is a single pool of computer assets and a system for storing data, as well as an option to fully transfer data and applications between the two data centres in Russia and Latvia. Disaster recovery as a service makes it possible to distribute the load between the two platforms.



STAGE 4 – REGULAR TESTS AND AUDITS

In order to maintain the level of performance, DEAC's specialists conduct scheduled preventive maintenance and monitor the entire infrastructure, including the servers, applications, operating systems, power supply connections and other subsystems. In this way, the client's IT division can focus the resources it has on maintaining and optimising its immediate activities in the private cloud.

Technical specifications and a diagram of the current solution



- 16 dedicated servers
- HP 3PAR data storage system for supporting the virtualisation infrastructure in the main data centre
- Hyper-converged VMware vSAN infrastructure in the standby data centre
- 10 Gbit optic fibre network and a dedicated L2 last-mile channel
- Veeam Backup and Recovery, with Direct Restore, for up to 80 TB of data
- Regular disaster recovery testing
- Data recovery at a rate of 300 Mbit/s



RESULTS



The migration of the client's systems and data into the public environment saved 42% in investments and resources.



All of the client's standby IT infrastructure is hosted in the DEAC data centres, which is a sign of trust and the high quality of services provided over many years.



The client can continuously test system recovery and the overall operation of the IT infrastructure



The system performance speed rose 10 times, with a 2x increase in data backup recovery system performance.



The amount of storage space available to the client has doubled: currently, the client has access to a 80 TB environment, with an option to expand it to 140 TB.



Thanks to the migration into the private cloud, the client managed to optimise its costs, and invest the money saved into additional IT solutions.



The disaster recovery system created enables uninterrupted 24/7/365 operation with an annual availability rate of 99.9% and a permissible downtime of 8 hours and 45 minutes, with no more than 120 minutes of continuous downtime.



DEAC continues optimising the solution regularly, achieving top profitability and efficiency through various measures, which include maintaining the level of the systems up-to-date.



The 1-hour (24/7) [SLA](#) guarantees technical support within the time agreed, reducing downtime in business processes.

Private Data Centers DEAC is a data centre operator that has been developing custom IT solutions for its clients in Russia and Europe for 20 years. Its broad selection of services, from IT audit to cloud solution and round-the-clock professional support allow its clients to focus on their main business. Data security and business continuity with certified European data centres, world-class infrastructure and the latest technologies by leading IT hardware manufacturers.