

Case study

German Insurance Association (GDV)

»More than three decades of experience and excellence in data center operation have tipped the scales in favor of Fujitsu. Owing to their comprehensive consultation provided within the scope of the Data Center OPTIMIZATION Services, we now operate with maximum security and efficiency.«

Thomas Fischer, Head of IT Department, GDV



Private insurers under one roof

The German Insurance Association (GDV) stands for risk protection, security and provisions in all areas of private and public life. It makes risks calculable and financially feasible for the individual through long-term risk transfer arrangements. It represents a vital foundation for economic action. The Berlin-based GDV is the umbrella organization for private insurers in Germany. Its 466 member companies with approximately 218,000 employees and trainees offer comprehensive coverage and provisions to private households, trade, industry and public institutions through approximately 450 million insurance contracts. As a risk taker and major investor with an investment portfolio of approximately 1.2 trillion euros, the insurance industry plays a vital role in investments, growth and employment in the German economy. The GDV represents the positions of the German insurance industry vis-à-vis society, politicians, businesses, the media and academia.

Highest requirements for the data center

The mission of the GDV also includes providing the insurers with comprehensive IT services which, in turn, result in high requirements for the Hamburg-based data center of the association. "In a way, we operate a data clearing center for member companies of the GDV," explains Thomas Fischer, Head of the IT Department at the GDV. "The application process for supplementary payment assistance within the Riester pension scheme, for instance, is fully electronic. The challenge here is to interlink approximately 150 different insurers with one authority. Lest each insurer set up an individual interface to an authority, we standardize the necessary interface within our association and collect the data centrally via our GDV network. From there it is transferred according to the authority standards." Moreover, the GDV generates a large number of statistics concerning tariff calculations, regional categories and type categories. "We collect data from all insurers and generate comprehensive statistics from them," says Fischer. "And then we make the results available to our member companies."

The customer

The Berlin-based German Insurance Association (GDV) is the umbrella organization for private insurers in Germany.
www.gdv.de



The challenge

To create a high-availability data center at the Hamburg site of the GDV. The customer required consulting services that would provide a sustainable solution to enhance the efficiency, security and high availability of its IT environment.

The solution

The Data Center OPTIMIZATION Services provided by Fujitsu have enabled the GDV to put a new data center into operation that is adapted to the latest technological developments and meets extremely high security standards.

Data Center OPTIMIZATION Services combine efficiency with high availability



Millions of data records

It is obvious that these services involve an immense data load. However, that alone does not make the data center of the GDV a mission-critical facility: "In the statistics divisions we are talking about more than 600 million data records that are processed here every year. In vehicle registration we deal with over 10 million. That amounts to several Terabytes per month that aren't, in fact, stored permanently, but nevertheless flow through our data center," Thomas Fischer continues. "We deal with highly sensitive personal data – therefore our IT environment has to be absolutely safe." Fischer's 60-employee-strong IT team predominantly works with robust Fujitsu systems – however, stable hardware alone is not enough to meet the highest security standards. For this

reason the GDV opted for an external analysis by Fujitsu. Within the scope of Data Center OPTIMIZATION Services, the IT infrastructure provider offers comprehensive consulting services.

Precise air flow simulations

Since Fujitsu offers individual consulting packages at a fixed price, the GDV has been able to book exactly the kind of service required to get a deep energy and security retrofit. The consulting package "Facility Readiness Assessment", for instance, is tailored to increase the efficiency of the data center already in the planning stage. Each consulting package is based on a thorough analysis that is carried out by Fujitsu.

»The Data Center OPTIMIZATION Services are no longer limited to energy efficiency solutions. Our consulting concept goes even further, as it is a vital concern to identify as many security vulnerabilities in a data center as possible – and to eliminate them.«

Frank Jensen, OPTIMIZATION Services, Fujitsu

Hence, it became clear that a straightforward implementation of the security retrofits would not be feasible at the existing location of the data center. "In close coordination with Fujitsu, the GDV decided to relocate the entire data center," explains Frank Jensen, member of the OPTIMIZATION Services team at Fujitsu. "And so it happened that the data center with its existing hardware was moved into a new office building. "When it came to setting up the servers Fujitsu deployed an important element of the "Facility Readiness Assessment" package, namely powerful simulation software for 3D Computational Fluid Dynamics. "With this tool we are able to simulate the operational reliability of a planned data center in terms of airflow and to reveal potential hotspots early in the pre-planning stage," says Jensen. "Otherwise there is a risk that certain areas of the data center will overheat." With this software it is possible to create a fully detailed virtual 3D model of the planned data center including the individual airflow of all servers. "In terms of lost heat, we are able to produce, so to speak, true-to-life simulations of every single server model," says Frank Jensen.

Consolidated expert knowledge

Companies can call upon Fujitsu's consulting services, irrespective of their individual hardware equipment. "Typically, many companies are predominantly concerned with energy savings," says Jensen. "However, our Data Center OPTIMIZATION Services are no longer limited to energy efficiency solutions. Our consulting concept goes even further, as it is a vital concern to identify as many security vulnerabilities in a data center as possible – and to eliminate them." The GDV has truly benefitted from the consolidated expert knowledge of the Global Fujitsu Group. "It is important to create sufficient redundancies," explains Frank Jensen. "In fact, it is not uncommon for companies to put a device, which is

officially declared as a redundant air conditioning unit, into permanent productive use – an example of what is liable to happen when data centers grow out of control."

Controlled growth

However, at the GDV data center this coincidental deployment of devices has become a thing of the past. The new data center is operated on a floor space of 175m², only 120m² of which are presently occupied. The new premises are designed for additional growth. The individual potential expansion stages clearly define at which server density level an additional air conditioning unit must be added. Presently, the new data center houses 100 servers in about 30 19-inch server racks with an expansion potential of up to 60 racks. "Together with Fujitsu we have made our data center future-proof. In other words, we won't have to consider any further constructional measures for a few years," Thomas Fischer notes with satisfaction. "Our concept is designed for rapid growth by simply adding air conditioning units – all you need to do is to connect the required expansion units!"

24/7 monitoring

Since the start of operation in the new data center, the heat dissipation has been monitored 24/7. The data center is extensively equipped with thermostats so that Fischer's team can monitor the thermal situation of the aisles from every conceivable angle.

"We can immediately detect the slightest dysfunctions, for instance, if the return air of a certain server rack is not quite optimal. The thermostats are integrated into our monitoring system, consolidated in a single tool. In case of extreme fluctuations our administrators and stand-by staff immediately receive a warning message."



The benefit

- Maximization of the data center's energy efficiency
- Improvement of the power supply and cooling efficiency
- Higher availability due to comprehensive risk analysis
- Higher planning reliability due to exact simulations

Products and services

- Fujitsu Data Center OPTIMIZATION Services
 - Facility Readiness Assessment
 - Facility Energy Certification
 - Facility Risk Assessment

Comprehensive protection against intrusion and sabotage

The GDV is now protected against virtually all threats. The consulting workshops were able to develop comprehensive protective measures to meet the requirements of the insurance association. The concept focused on the protection against intrusion and sabotage as well as on operational redundancies and energy efficiency. As a result, the GDV data center has been equipped with extra resistant wall reinforcements, motion detectors, electronic door surveillance, safety lock functions and sensors for early fire detection. All servers are provided with double power supplies, the UPS systems also exist twice and an emergency generator is ready to guarantee seamless power supply in case of power failure. Moreover, the member companies are connected with the data center via the secure GDV data network. The GDV was awarded a certification for its high availability by the German Agency for Security in Information Technology (BSI).

Future reliability of the data center

"Fujitsu offers its consulting packages at an excellent price-performance ratio – and the results are truly impressive," Thomas Fischer summarizes. "Fujitsu has unfolded field-proven concepts that are grounded on more than three decades of experience in data center operation. This expertise has played a crucial role for us." As Head of the IT Department, Fischer's main concern was the future reliability and risk-free expandability of the data center. "Thanks to the analytic and simulation tools that will be added now, we will always be able to carry out what-if scenario analyses before we actually integrate additional systems into a server rack and assess the related impact. This will facilitate our work tremendously and guarantee that any unpleasant surprises are avoided."



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