Faster financial transactions with mainframe

Union Investment modernizes mainframe for improved performance and reduced downtimes

Reference project:

Union Investment

"The new mainframe architecture and the move to Frankfurt have given us, our customers, and our finance partners a clear boost in performance. Transaction speed has increased by up to 25 percent, while system-related downtimes have dropped significantly."

Ulrich Vogt, Head of Unit FBB Portfolio Management Integration Platform, Union Investment Services & IT GmbH

"What we can't do alone, many can" – even in the 21st century, this cooperative motto from Friedrich Wilhelm Raiffeisen is still the foundation for the business activities of the Union Investment Group. It manages assets of more than 500 billion euros in 1,310 funds (as of December 2024), split nearly evenly between institutional and private investors. With around 5.9 million customers and a market share of 15.3 percent (2024), it is one of the leading investment companies in Germany. In 2024, it received top marks from Capital magazine for the 22nd time in a row.

Union Investment was founded in 1956 and is a part of the FinanzGruppe cooperative. DZ Bank is the principal shareholder. The investment company offers solutions for private, institutional, and real estate customers in a constantly changing business environment. More than 4,400 employees support customers with retirement planning, capital accumulation, and wealth management.

As an investment company, Union Investment is not only tightly integrated in the FinanzGruppe cooperative, but also works closely with Deutsche Börse, the German stock exchange. It reports to BaFin, Germany's Federal Financial Supervisory Authority.

The company's services are put to the test day in and day out, including by retail customers. Countless transactions (buying and selling) are ordered, along with portfolio information – including transactions over the Internet. Union Investment relies on a mainframe as its backend server, which has proven itself even when faced with rapid growth in recent years. Called "DASKA", it is a portfolio clearing system for investment companies, and the business-critical portfolio platform for all the company's customers. As with many other mainframe users, the investment company scrutinized this technology carefully in recent years. The result: mainframe is still the optimal long-term solution for reliably handling enormous transaction volumes. Together with Union Investment Services & IT GmbH, Union Investment's IT subsidiary, T-Systems leveraged the potential of modern mainframe architecture for the investment company's business.

At a glance

- Mainframe back-end systems used for the process-critical portfolio platform within a hybrid system landscape
- Accelerated financial transactions, including for investors
- Meets compliance requirements (BaFin)
- Enables smooth cooperation with partners (Deutsche Börse, Atruvia, Ratiodata, and DZ Bank)
- Modernization of the mainframe system (IBM z14 to IBM z16)
- Relocation of the mainframe platform from Munich to Frankfurt
- Smooth migration of 80 TB data from Munich to Frankfurt
- Financial transactions are up to 25% faster
- Improved customer experience
- Latency reduced by 30–40%
- Batch processing sped up by 20%
- Lower costs of encryption using IBM z16 cryptographic hardware
- Reduction of system-related downtimes by 4,000 minutes per year (sysplex technology)
- In more than 20 years of successful collaboration with Union Investment and with a focus on the full system landscape, T-Systems develops optimized solutions that capture cross-technology synergies for Union Investment
- Thanks to T-Systems' collaboration with IBM, T-Systems customers get end-to-end mainframe services – including mainframe hosting, transformation, and modernization – in addition to support with automation and the integration of artificial intelligence

T **Systems**

Reference in detail

Customer pain points

In 2020, Union Investment issued a new tender for its IT services, including running the technical and business applications on the mainframe. The mainframe services were previously provided from the data center in Munich. In the company's hybrid system landscape, the mainframe databases had to work closely together with client/server systems that provided customer-centric web services. The geographical distance between the client/server systems in Frankfurt and the mainframe systems in Munich resulted in latency, which negatively impacted the user experience. The relocation from Munich to Frankfurt was intended to substantially reduce response times for customer queries. In addition, an upgrade to IBM z16 aimed to speed up overnight job processing significantly. The speed of order processing is relevant not only for Union Investment but also for BaFin and Deutsche Börse, which expect timely completion of financial transactions.

In 2022, Union Investment Services & IT GmbH, the IT subsidiary of Union Investment, and T-Systems concluded a new mainframe contract, with the goals of modernizing mainframe technology, reducing latency, and improving service performance.

How T-Systems solved it

"We found the optimal development path for the mainframe systems together with Union Investment Services & IT GmbH," explains Leonardus de Beer, the customer service manager at T-Systems. "We combined the mainframe modernization with the provisioning of the mainframe services from Frankfurt." T-Systems provided two LPARs (logical partitions) in Frankfurt for the customer. One runs the production systems, while the other supports test and acceptance environments. The system was updated from the IBM z14 architecture to the IBM z16 in a 1:1 migration of the DB2 database. After extensive test runs, T-Systems migrated 80 TB of data to the new IBM z16 system in August 2024.

Udo Mönch, the account manager at T-Systems, summarizes: "There were reservations at first, due to the switch to the new architecture, but the changeover turned out to be as smooth as could be. We were then able to leverage the strengths of the new platform." The new architecture enabled Union Investment to introduce a new feature: the geographically dispersed parallel sysplex has noticeably improved system resilience.

The sysplex functions reduce update-related downtimes by 4,000 minutes per year. During essential updates of the main system, a "shadow" system takes over the operational tasks. In addition, the sysplex technology enables rapid recovery in crisis situations. Above all, combining the mainframe and other systems in the same location has boosted performance significantly: latency has been reduced by 30-40 percent, while batch processing speed has increased by 25 percent. The new architecture also enables Union Investment to keep the costs of obligatory data encryption stable (thanks to the consistent use of cryptographic hardware on the IBM z16 instead of using GPUs).

Business impact

Union Investment has strong reasons for continuing to rely on mainframe and has gained both cost and performance benefits from the modernization of its mainframe architecture with T-Systems. Latency has been lowered by up to 40 percent, substantially increasing processing speed and creating a better user experience – for customers as well. Financial transactions can be carried out up to 25 percent faster. Batch processing times have been lowered by an average of 20 percent – a clearly measurable improvement. With its new setup, Union Investment will continue to satisfy its obligations to its partners in the financial sector in the long term, including the compliance requirements of the regulatory authority BaFin and the transaction times required by Deutsche Börse. Downtime has also decreased: sysplex technology has reduced system-related downtimes by approximately 4,000 minutes per year. Performance and costs have remained stable despite additional encryption requirements for databases and transfers.