

L-BANK

SUCCESS STORY

By synchronizing data mirroring at a distance of over 100 kilometers, L-Bank has done everything to ensure optimum accessibility and security for its highly sensitive data

L-Bank is a German financial institution supporting the Federal state of Baden-Württemberg. L-Bank's primary goals are to encourage competition, innovation, the creation of wealth for all sections of the population, social equality and an equal standard of living across all regions of Baden-Württemberg. The bank has total assets of more than 43 billion euros and is incorporated in Karlsruhe and Stuttgart. Further information is available at www.l-bank.de



Protection from Disaster at the Speed of Light: L-Bank Offers Maximum Security at its Fail-Safe Karlsruhe Computing Center

The Landeskreditbank in Baden-Württemberg (L-Bank) operates a computing center at its Karlsruhe location. In recent months a second computing center has been set up at the L-Bank location in Stuttgart to improve system and data access if a major disaster should occur. L-Bank is the first computing center to synchronously mirror its data over a distance of 100 kilometers. Thus, it has a solution that is so far unique in the German banking world. L-Bank set up the second computing center to maintain bank operations if there were a fire, flood, earthquake, or other disaster.

“L-Bank is innovative because it ventures to finance new things.

Examples include, among others, our technology parks or the allocation of venture capital to biotech and IT companies,” explained L-Bank executive board member Jürgen Hägele. He went on to say that L-Bank finds solutions that advance the state, whether for home improvement loans in housing construction or funding and growth financing for mid-sized companies in Baden-Württemberg. “In this case L-Bank has done everything to ensure optimum accessibility and security for its highly sensitive data,” said Hägele. This innovative project gives the bank the perfect combination of protection from disaster and a high degree of availability.

L-Bank's business processes are almost all supported by the use of IT applications. L-Bank's record keeping is based entirely on electronic storage systems, which, up to now, were installed exclusively at the same location as the Karlsruhe system. Meeting all legal obligations and the success of our own business also depends to a large extent on the constant access to the entire system platform. Therefore, a necessary goal



for L-Bank was to reduce any down time to a minimum. L-Bank considered synchronized data mirroring between the two computing center locations to be the optimal solution.

However, a fundamental prerequisite was to create a solution that made it possible for all data at both locations to be exactly the same. L-Bank is the first institute in the German banking world to use the necessary technology to synchronize data mirroring over a distance of 100 kilometers.

Inquiries to various vendors found that projects over distances of this range had not yet been implemented in Germany. L-Bank's technology partners – Deutsche Telekom, Zhone, EMC2, and Fujitsu Siemens – have now proven the technical ability to keep its data mirrored in realtime over a distance of 100 kilometers with a delay of less than a millisecond.

At both locations, the first step was to distribute the two central

Fujitsu Siemens BS2000 mainframe systems and the associated EMC2 storage systems.

The two computing centers were coupled over two Deutsche Telekom fiber optic transmission links that were routed completely independently of one another. These fiber optic transmission links, together with the network components supplied by Zhone, now give L-Bank 4 Fibre Channel, 2 Gigabit Ethernet, 16 ESCON, and 2 S2M connections having a total bandwidth of 9.2 Gbps. The Gigabit Ethernet connections are used for IP traffic, the Fibre Channel connections are for the SAN couplings, and the S2M connections are for telephone traffic. The ESCON connections provide synchronous data exchange between the data storage systems within fractions of a second. When all reserve capacity is used, this innovative solution enables L-Bank to achieve a total bandwidth between the two computing centers in Karlsruhe and Stuttgart of more than 2 Tbps.

Zhone's Banking Customers

Below is a representative list of banking customers who currently use Zhone's SAN solution.



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About Zhone Technologies, Inc. (Zhone)

Zhone Technologies, Inc. (NASDAQ: ZHNE) is the first company dedicated solely to delivering the full spectrum of next-generation local loop access equipment. Zhone's multi service products allow carriers to concurrently deliver voice, new premium data and video services over copper or fiber access lines. Zhone provides carriers with an elegant migration from legacy circuit-based technology to packet-based networks while substantially reducing operating costs. With deployments at over 250 carriers including among some of the world's largest networks, Zhone has enabled carriers to reinvent their businesses.

For more information about Zhone and its products, please visit the Zhone Web site at www.zhone.com or e-mail info@zhone.com

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