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Bank of Dalian Uses Informatica Data Masking Solution to Protect Sensitive Data

"Informatica Data Masking provides prepackaged data masking rules for many packaged business applications. It allows our integrators to easily customize developments combining with the needs of Bank of Dalian. The product has good applicability, and enables easy operations with a graphical interface as well as making the data masking process clearer. In addition, the product can achieve very good extraction and processing of incremental data. In the face of a large database, it can mask newly-added data only instead of all the data, all of which greatly improves work efficiency."

- Yang Zengwei, Software Engineer, Information Technology Department, Bank of Dalian

"Bank of Dalian is our commercial bank." That slogan is a strong affirmation of Bank of Dalian's standing in the minds of its customers. Founded in 1998, Bank of Dalian holds the same market position as many local joint-stock commercial banks which is to "serve the local economy, small and medium enterprises, and the community". The commercial bank has provided a package of financial support for the city of Dalian's infrastructure improvements and regional economic development, and achieved the reputation for one-stop services that cater to small and medium enterprises. After years of development, Bank of Dalian has become the only urban commercial bank which has set up branches in all four municipalities under the jurisdiction of the central government, shaping a national joint-stock commercial bank. The entire commercial bank now has nearly 5,000 employees in four central commercial banks, eight subsidiary commercial banks and more than 130 branches.

Challenges: To ensure sensitive data security and prevent sensitive data divulgences

Due to its rapid development, Bank of Dalian has accumulated a large amount of data in its business production system which contains sensitive data, such as customer account information. The data is used in business analysis, development and testing, auditing and supervision, and even some outsourcing businesses. If such data is leaked or damaged, it will not only cause economic loss, but more importantly, it will greatly affect public trust in the commercial bank. This has been a big challenge for Bank of Dalian to ensure production data security.

The China Commercial Banking Regulatory Commission's 12th Five-Year Plan for the Development and Reform of the Financial Industry (Regulatory Instruction Opinions on Rules of Information Technology) contains a clear proposal to strengthen the security management of data and documents at urban commercial banks

![Bank of Dalian logo] 大连银行 BANK OF DALIAN

Overview:

Since its founding in 1998, data security has been very important to Bank of Dalian. Over the years, the commercial bank has used different technical means to sort out sensitive data, including:

- Logical relationships between tables and between systems.
- Data masking rules to comply with regulatory requirements.
- Data usage in development and testing.

With Informatica Data Masking, the commercial bank designed and developed a reusable data masking module suitable for its specific needs. Such a module helps:

- Manage access to sensitive data.
- Prevent divulging production data.
- Improve Bank of Dalian's overall information technology risk management system.

Business Needs:

- Protect data used in development and testing and avoid data exposure.
- Mask sensitive data according to the security policies before new production data is imported into development and testing environments.
- Mask production data used for testing based on expressed regulatory department requirements.

and gradually establish a mechanism of information asset classification and grading protection. The Plan also proposes improving the control measures for storage and transmission of sensitive data and other high-risk links, and to establish a strict application and approval mechanism on access to data and documents. In addition, production data used for testing should be masked to prevent divulging sensitive data.

Bank of Dalian began to protect data used in development and testing during its earliest years. The commercial bank has been using masked legacy data in system testing. However, with the development of businesses, the legacy data is no longer suitable for new applications testing. It is therefore urgent to synchronize core data in production environments. Bank of Dalian has proposed introducing data masking products suitable for the current situation and future development, and change the value of data while keeping its features. Thus, data can still be used in businesses while it is possible to use masked data sets safely in development, testing, other non-production environments as well as outsourcing environments to avoid data divulgences.

Solution: To adopt mature data masking tools with an impeccable management process

With the help of Informatica Data Masking, Bank of Dalian established a unified and sound masking mechanism and management process and now manages access to the most sensitive data. Informatica Persistent Data Masking prevents accidentally divulging personal data and organizational data (i.e. credit card number, address, and telephone number, etc.) by creating data which can be safely shared internally and externally without revealing its owner.

Before adopting Informatica Data Masking, Bank of Dalian masked data with an internally-developed tool. However, when adding new data, the tool was inefficient and inaccurate since it required manual coding which was time consuming. With the rapid development of the commercial bank and the emergence of a variety of financial applications, Bank of Dalian in 2010 adopted a domestic masking product which avoided the tedious manual coding and poor accuracy, but it did not support incremental processing. When there was a large quantity of data, it took one to two days to complete data masking which could not meet the demand. With Informatica Data Masking, Bank of Dalian now achieves timely, accurate and easy data usage. The commercial bank can change the value of data while keeping its features. Thus, sensitive data is protected from unauthorized access, while in the meantime, related data can get processed.

Bank of Dalian has key personnel who are specially responsible for data masking, but effective tools or authorized personnel don't necessarily mean secure data. Yang Zengwei, a Software Engineer in the Information Technology Department and also partially in charge of information security for the entire commercial bank, emphasized that in the data masking process, adjustment is needed to meet different business needs. Furthermore, the masking process must work in sync with the management process to achieve the best results.

A conventional data masking process includes the following two primary steps:

First, identify different needs. Bank of Dalian's business department, outsourcing units or science and technology departments propose business needs. Then, authorized personnel determine the way to mask

Challenges:

- Ensure that legacy data meets the requirements of new application testing and that core data in the production environment is synchronized.
- Avoid data masking with low efficiency, heavy workload and poor accuracy.
- Improve the time and effort it takes for full data masking since existing tools cannot be used for incremental data processing.

Benefits:

- Customized data masking solutions that achieved sensitive data protection.
- Improved security and confidentiality levels, and reduced data exposure in non-production environments.
- Generated high-quality test data with higher quality and optimized development projects.
- Ensured compliance with industry/regulatory data privacy laws and regulations.

Product & Solution:

- Informatica Data Masking

data and data's user management strategy based on those needs. For example, does the project aim for data masking or application data masking?

Second, determine the object of masking to, in turn, determine what sensitive data needs masking, the sources of masking data and so on. Then, authorized personnel need to configure masking rules and mask data with professional tools based on different data. When the data is masked, authorized personnel should distribute converted data to department or personnel proposing the project needs. This closed loop management of data standardizes data applications in the commercial bank, and provides a convenient monitoring process for data security.

Customer benefits: To protect sensitive data and reduce the risk of data loss

With the implementation of data masking, Bank of Dalian has customized a data masking solution and protected sensitive data. The commercial bank now ensures data integrity, availability, data security and complies with laws and regulations for data privacy proposed by the China Commercial Banking Regulatory Commission, the People's Commercial Bank of China and the Ministry of Public Security. Informatica Data Masking technology helps Bank of Dalian improve its security and confidentiality levels and reduce the risk of data loss in the following non production environments:

Masking personal data and organizational data, including name, address, telephone number, I.D. card number, card number, company name, company code, etc. For example, this may entail replacing some fields with similar characters or masked characters, replacing a surname with a fictitious surname, or reorganizing data in database arrays to make data real. Data associations among all tables remain intact after masking. Applying a replacement algorithm in one table will automatically update customer data in other tables from a unified and sound masking mechanism and management process inside the commercial bank.

Informatica solutions: efficient, easy to use and scalable

After analyzing the needs of its data masking projects, Bank of Dalian selected a mature product that meets the following requirements: ease of use, availability, high scalability and high efficiency. After comparing and testing products from other well-known data masking providers, Bank of Dalian finally adopted Informatica Data Masking because it's a leading product with a reputation for good performance and data diversity. With Informatica Data Masking, Bank of Dalian can create data masking algorithms for sensitive data in any format, including replacement, randomization, sequence, time delay and cancellation. Moreover, the commercial bank now masks data faster and more efficiently. Original data can be directly calculated in memory without invading applications or databases, which greatly reduces the risk of data loss.

With regard to product performance, Zengwei said, "Informatica Data Masking provides pre-packaged data masking rules for many packaged business applications. It allows our integrators to easily customize developments combining with the needs of Bank of Dalian. The product has good applicability, and enables easy operations with a graphical interface as well as making the data masking process clearer. In addition, the product can achieve very good extraction and processing of incremental data. In the face of a large database, it can mask newly-added data only instead of all the data, all of which greatly improves work efficiency."

When exploring new businesses, Bank of Dalian verifies the performance and security of all new systems. The original business data and customer data are fundamental to ensure smooth system testing. Bank of Dalian continues to work to strengthen the security and management of sensitive data, promote the data masking process, and further improve its entire security information management system.

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