Title   : Web- and WAP-based e-banking attracts customers and cuts costs
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Web- and WAP-based e-Banking Attracts Customers and cuts Costs

Solution Summary

Habib Bank AG Zurich has set up secure banking services via the Internet and WAP/GPRS-enabled devices for increased customer convenience, improved process automation and reduced operating costs.

Industry

Banking

Company Profile

Habib Bank AG Zurich (HBZ) was established in 1967. It offers corporate, consumer, private, retail and correspondent banking services along with trade finance in the United Arab Emirates, Switzerland, UK, Isle of Man, Pakistan, Sri Lanka and Kenya.

Challenge

To create secure web- and WAP-based e-Banking services that can talk to existing data for querying and transaction processing maintaining an extremely high level security.

Solution

The HBZgsm event-based messaging system "pushes" information to customers on specific events. The HBZweb and HBZwap services "pull" actions such as fund transfer or opening letters of credit.

Products

Hardware : Intel® Pentium® III and Pentium® 4 processor-based systems.

Software : Redhat* Linux 7.2
            Sybase* RDBMS
            hPLUS* (by HBZ)

The Solution Provider

System built in-house

Benefits

HBZ is now a leader in secure combined web- and WAP-based e-Banking. As a result, some 49.6% of its credit customers and 46.9% of its deposit customers have signed up. The bank has registered the lowest lending ratio and highest return on equity in the UAE simultaneously.

Business Challenge

Habib Bank AG Zurich (HBZ) was established in 1967 on a solid foundation of banking tradition that spans several generations. For more than 32 years, HBZ's corporate philosophy has been determined by traditional banking values set in context of international banking - "Service with Security".

The bank's highly personalized product range includes corporate, consumer, private, retail and correspondent banking services along with trade finance. Its international network has been more than 35 branches in the United Arab Emirates (UAE), Switzerland, UK, Isle of Man, Pakistan, Sri Lanka and Kenya.

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WAP and GPRS

Continuing its tradition of secure services, HBZ wanted to offer customers the convenience of banking via the Internet and wap/gprs-enabled devices. In the interest of long-term business success, it also wanted to reduce the costs of operations and to pass the savings to its clients.

The aim was to provide customers with the ability to transact via the Internet and WAP/GPRS-enabled devices such as mobile phones and personal digital assistants. For the bank, the advantage would be the process automation provided by the e-Banking interface. Many tedious and time consuming tasks, such as inputting details from customer application or loan request forms, would be eliminated.

For the customers, meanwhile, the benefit would be an improved service and the ability to do banking 24 hours a day, seven days a week, from virtually anywhere in the world.

Event/Action model

The bank could see many ways in which customers would use such a service. For example, specific events often cause individuals or businesses to query their accounts or to initiate transactions beyond those that they might want to make in the normal course of business.

HBZ conceived the idea of a delivery channel for both routine and one-off transactions. The HBZgsm event-based SMS messaging system would "push" information to customers on specific events. Meanwhile, the HBZweb and HBZwap(gprs) would both be "pull" services, for actions such as funds transfer or opening letters of credit based on SMS messages.

Once HBZ conceived this event/action model it decided to implement e-Business. The task, then, was to find a single vendor offering a cost effective solution for creating and managing a global communications network, with built-in redundancy, including countries with non-deregulated telecom operators.

e-Business Solution

Since 1994, HBZ had been using a banking application developed in-house called hPLUS. This C++ application had been converted into Java by the bank's IT department. All the application-related data is stored in a Sybase database.

When the bank decided to offer e-Banking services to its customers, the IT department set up a project to extend the capabilities of hPLUS. The goal was to reach customers via Internet and WAP/GPRS-enabled devices such as mobile phones and personal digital assistants.

The major hurdles were to create secured web- and wap-services which could talk to the existing data server for the querying and transaction processing. Also, there were few semi-secured networks to be brought under control by appropriate connection to the secured environment of the bank.

In-house solution

Some of the commercially available technologies were evaluated and tested but none of them offered a satisfactory solution. Finally, it was decided to develop a system in-house using Java and open-source technologies. In addition, a decision was taken to use multiple commercially available firewalls along with the in-house security systems, to protect the network from external interference and unauthorized access.

RedHat Linux was selected as the operating system, running on the Intel® architecture.

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Rapid development

Since the whole project was the creation of an extension to hPLUS, the existing banking application, it was not necessary to test the transaction processing part. Only the banking application interface needed to be tested. Therefore, completion of the project could be extremely fast. No major changes to the organisation or staffing were necessary because the new system was a natural extension of the existing software architecture. However, some network reorganisation was carried out to strengthen security.

Industry lead

HBZ became the first bank in the Middle East to offer secure combined web and wap-banking to its customers (www.habibbank.com). It completed the project in record time.

The Banker's ME magazine selected HBZ as the most innovative bank in the Middle East. Now, 49.6% of HBZ credit customers and 46.9% of its deposit customers are doing e-Banking.

In February 2002, HBZ won the prestigious Dubai Quality Appreciation Program award. Thanks to its innovative approach to technology, the bank registered the lowest lending ratio and highest return on equity in the United Arab Emirates, both at the same time.

Now, HBZ is several years ahead of its competitors in terms of technology and its appropriate application.

Standardization reliability and scalability

All workstations on the network are based on Intel® processors. Intel® architecture is also used by the wap server, rate feed interface machine, atm/UAE switch controller, scheduler machines, and by the TCP security bridges. The fact that Intel® architecture machines are based on open industry standards with a high level of compatibility was one of the main reasons for choosing them.

Excellent reliability and resilience were other factors in the selection of the Intel®, as was the availability of the machine and spares. In addition, the scalability and capacity for upgrade made Intel® architecture particularly attractive to HBZ. The bank felt that Intel® offered the best potential to accommodate growth in the future and cope with increased sophistication and technological advance.

"This project used a number of Intel®-based computers. Among the major benefits in choosing Intel®-based computers is the fact that the architecture is standardized. This is important because it means we do not have to worry about vendor dependencies." Haja Alavudeen, VP, IT HBZ.

Technology

Hardware

Client : Intel® Pentium III and Intel® Pentium® 4 processors, 8GB RAM minimum, varying HDD capacity.
Server : 7x Intel® Pentium® 4 processors, varying RAM and HDD capacity.
16x other servers.
Additional networking, communications and security devices.

Software

RedHat Linux 7.2
Sybase RDBMS
hPLUS (by HBZ)

Networking

Internal and external networks are separated by firewalls and in-house developed technologies. There is only one web server for e-Banking and it is hosted at the bank's data center.

Server hosting

All servers are installed at the bank's data center. Servers are connected via TCP/IP networks and firewalls. Technologies developed in-house are used to interconnect servers and the Internet.

Tools

Standard RedHat Linux 7.2 and Java tools plus further tools developed in-house.

Software integration

HBZ had already developed technologies for this sort of integration, so no additional effort was needed.

Security

Firewalls from more than one vendor were used in the project. A number of security systems developed in-house were used to protect the banking data from unauthorized external access.

User's view

"This project used a number of Intel® computers," says Haja Alavudeen, VP, IT at HBZ. "Among the major benefits in choosing Intel®-based computers is the fact that the Intel® architecture is standardized. This is important because it means we do not have to worry about vendor dependencies."

"Reliability is very important, so we like the fact that Intel® technology is field tested for reliability," Haja says. "Availability is also good because the standardization means plenty of machines and spare parts are available from different vendors."

"In addition, Intel® architecture can be easily upgraded because the family tree does not have any compatibility problems in running the same software in each node of the tree." Haja says. "Above all these factors, the bank is very satisfied with the capability of Intel® architecture to run the Linux operating system."

The future

HBZ is continuously researching and reviewing new technologies which it aims to exploit whenever appropriate in a manner that will be mutually beneficial for the bank and its customers.

Recently, the bank started offering wap access via GPRS after Etisalat, the UAE-based telecommunication company, launched GPRS services. Leading-edge services such as secondary login management and XML interfacing are available now with HBZ web banking, following more than seven years of research and development.

HBZ's IT department has a dedicated team to study all emerging technologies such as new delivery channels, storage and clustering. The bank believes that these areas, along with open-source computing such as Linux and related technologies, will give unprecedented power in the future.

Lessons Learned

- Banking customers are ready and enthusiastic to use web- and WAP-based e-Banking services. Already almost half of HBZ's credit and deposit customers have signed up.
- The benefits of e-Banking are enjoyed as much by the organisation as by its customers. HBZ has been able to achieve a significant reduction in operating costs - savings which can be passed on to customers, too.
- For organisations with highly-skilled and well-resourced IT teams, the best option may be to develop an in-house solution rather than appoint an independent e-Business services provider.
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- Sometimes a web- or WAP-based application can be grafted on to existing software systems, reducing the cost and complexity of systems integration. HBZ was successfully able to extend its existing hPLUS banking application.
- Maintaining a high level of security when moving to e-Banking is crucial in the financial services sector. This was why HBZ decided to use multiple commercially-available firewalls along with in-house security systems to protect the network from external interference and unauthorized access.
- The Intel® architecture is more than capable of running a technologically demanding and advanced application such as web- and WAP-based e-Banking. All workstations are based on Intel® architecture, along with servers for WAP, the rate feed interface, atm/UAE switch controller, scheduler machines and TCP security bridges.