

## Multichannel replaces videotext

When Ergon was contracted to implement an internet banking system in 1996, there were still virtually no commercial applications on the World Wide Web. Banks offered their customers stock market services and payment transactions via videotext. Thomas Ward, one of Switzerland's e-banking pioneers, recounts how this was soon to change dramatically, and he describes the challenges that confront today's financial service providers.

I joined Ergon at the end of 1995, and I was immediately given the chance to programme the first Java applets. The firm still had only 13 employees back then.

In 1996, the Schweizerische Kreditanstalt (SKA, now Credit Suisse) contracted us to implement Switzerland's first internet banking system. There were virtually no internet applications at that time, and e-banking as it now exists was inconceivable. The cutting-edge technology of the day was telebanking, which was available via the 3270 terminal with videotext operation. I myself used to log on to SKA's telebanking back then, for example, as a private customer using my Atari computer and a 9600 modem. You could consult account balances, issue payment instructions and even execute securities orders. However, the dial-in procedure and navigation through the pages wasn't all that easy. For anyone who was not technically minded, it was far more convenient to go to the bank.



Start screen for CS telebanking in 1996

SKA was absolutely determined to be the first bank on the internet, so the aim was to make intelligent use of the existing infrastructure. The stroke of genius was to process the banking data in screen-scraping mode with the Brixton 3270 client terminal emulator. The user interface was well-defined, and it had a secure user login with user ID, password and SecurID.

### Rivalry among the banks

In just nine months, my colleagues Jürg Meier, Friedrich Oesch and I developed Switzerland's first internet banking system, within the budget framework that was quoted. At that time, there was a neck-and-neck race among the banks – all of them wanted to be the first to launch a system of this sort. We are quite proud to have been the first, with Direct Net in 1997. The great challenge was that we had to develop internet banking from scratch – there was no benchmark.

Security was an essential factor: everything had to be 100 percent watertight. It was at this time that we developed our TIAF (Trusted Internet Application Framework) system, the very first version of our current Airlock product. The basic idea was to protect the backend data against the internet with a protocol break. We implemented this by developing the security gate (responsible for security) and a server component that controlled the 3270 client terminals. We were soon able to use a prototype to show SKA that this was technically feasible, and the decision-makers were convinced. We then worked out the detailed security aspects with the end customer.

### From browser solution to locally installed client

Credit Suisse was highly satisfied with our internet banking solution, and we were soon swamped with orders.



A range of banking services offered via various channels – this is the showcase of an Ergon software engineer who developed it during his sabbatical

The number of internet banking users soared. Once the system was up and running, we continued to optimise it so that as many processes as possible could be executed simultaneously. For security reasons, the architecture was structured so that every customer had their own backend process. As the numbers of customers using the system grew, it had to cope with more and more processes. We were able to build on the architecture developed back then for nearly ten more years, and certain aspects are still operational today.

In August 1998, we extended the browser-based solution by adding a Java Rich Client. This was a significant improvement in terms of security, and it eliminated dependency on security gaps in the web browser. The Java application also delivered a more user-friendly solution with more operability options.

### Multiplication of services and devices

Then as now, security is crucial in banking solutions. The focus was initially on “external” security on the internet. Nowadays, though, what is needed is “front-to-back security”: security precautions in the bank’s internal network must be just as strict as the external protection.

One of the biggest challenges at the moment is posed by the vast numbers of devices that are in use, and the banks must be present with their services on all of them in order to be competitive. The result is that a new service has to be tested on countless systems and checked for security gaps – and, of course, this has to be done at the lowest possible cost.

I think that responsive design approaches offer the best way of achieving this goal. Also, banks have to manage customer bases that are becoming larger and more diverse – with private clients on the one hand and asset managers,

both inside and outside the bank, on the other. They all expect the bank to provide them with a modern and efficient tool. Moreover, the number of services that a bank wants to offer its customers is growing all the time. I’m thinking here of automated customer and account openings, or mortgage applications. Social banking is another area where there are plenty of ideas.

It is no simple task to accommodate all of this in one or more applications. In this respect, I tend to advise my customers to choose fairly simple structures. Complexities will arise automatically.



Thomas Ward has worked for Ergon since 1995. He started out as a software engineer and went on to be a project manager and team leader in the Finance department. He is an expert on e-banking.