



Microsoft®

Visual Studio® 2008

Customer Solution Case Study

Overview

Country: Belgium

Sector: ICT

Profile

Weblications is specialized in building Windows and Internet applications and web sites. The company also developed the Transceiver technology which makes it possible to send data over the Internet, guaranteeing safety, privacy, reliability and authenticity of the data.

Challenge

To offer the highest level of safety in communication between applications on the Internet, the company looked for a solution to enhance and protect its own Transceiver technology. Weblications wanted to use a combination of software and hardware safeguards. An important part also was to protect the .NET applications themselves against reverse engineering and abuse.

Solution

Using Visual Studio 2008 as development environment – complemented with WIBU-System's CodeMeter - Weblications build a number of products which are protected themselves. Thanks to this protection the Transceiver technology offers safe end-to-end communication. The client software - Transceiver Communicator – also passed all Microsoft tests and is officially 'Certified for Microsoft Windows Vista'.

Benefits

- Integrated with Visual Studio 2008
- Protection thanks to combination of hardware and software
- Safe end-to-end communication
- Availability of API's
- Guarantee on safe communication for end user
- Protection of intellectual property

Weblications builds and protects application for safe end-to-end communication

"We offer end-to-end protected communication between two clients, using public/private keys to exchange data at the highest security level possible."

Joost Devos, General Manager Weblications

Thanks to a combination of hardware and software Weblications protects its software against abuse and unauthorized use. The technology that Weblications has developed, offers safe and reliable communication on the Internet. If the core functionality of the application is safe communications, then the application itself should also be safeguarded. To protect the server software Weblications has chosen for hardware safety by using a USB key. The server software controls the presence and authenticity of the key regularly. Only with the proper authorization the server will continue its task. With this safe communication between two clients is guaranteed. Thanks to these drastic safety measures not only the process is safeguarded, but also the most important component of the solution, the server software. Thanks to the integration with Visual Studio 2008 the complexity of the development path and the build process has not grown for the developers.

Weblications builds both Web and Windows applications. In 2002 the company made the transition to the .NET platform. One of the .NET applications developed by Weblications, is specially tailored for the car lease industry. This application rapidly grew into a complete ERP system and the customer deployed it in the Benelux and France. The various businesses are connected through the Internet. "Very soon there was the need to communicate safely between the various businesses", Joost Devos, Weblications' general manager says.

"The lease company works with a lot of financial data and contracts that have to be sent to the different offices and customers. You don't send these kinds of data over the Internet unprotected. We have build a complete set of technologies to enable the safe and reliable exchange of data. Our solution is the Transceiver technology that offers more protection and reliability than the present-day protocols such as https, ftps and smtps. What started as a technology used by us is now available as a separate

product.” The Transceiver product family encompasses a client and a server component: respectively the Transceiver Communicator and the Transceiver Server. Also available is the Transceiver Automator and there are add-ins for Microsoft Excel, Microsoft Word and Microsoft Windows Explorer. Devos: “We are very proud that the Transceiver Communicator has passed all Microsoft tests and received the official ‘Certified for Microsoft Windows Vista’ status. With this we were among the first in Belgium.”

Safe Communications

Safely communicating on the public Internet is getting more and more important. The Transceiver technology allows the user to send data on the Internet between parties, while safeguarding the safety, privacy, reliability and authenticity of these data. “We have chosen for X509 certificates”, Devos explains, “because in the end we want to conform to the Belgian eID card. The benefit is that all documents which are sent with the Transceiver platform, can be digitally signed with the eID card. Of course you can use other X509 certificates like those from GlobalSign, VeriSign or a

bank card. Internally we use 2048 bits for key encryption, whereas the identity card only uses 1024 bits. With this we have taken care that the underlying safety on the platform is better than the weakest link. As such we are definitely ready for the future. We hold the opinion that placing a digital signature should be free of charge. A signature on paper is also free, isn’t it? Thanks to the Microsoft Office add-in every information worker can very easily put a digital signature on a document and send it promptly. The receiving party knows there has been no tampering with the content, and is also sure of the authenticity of the sender. The sender receives a legally viable electronic receipt.”

Development Platform

The complete platform is built in .NET. From 2003 on Weblications solely builds in Microsoft .NET. “In the beginning we followed an intensive training program”, Devos says. “Very soon we chose for C# and we have kept on using it. This language offers us the possibility to work quickly and efficiently. Our development environment is Visual Studio 2008. The Transceiver Automator is the automated client. With this application data can be encrypted and given a digital signature without any human interaction. This is applied in a cash register system for example. At the end of the day the data are automatically and safely sent to headquarters through the Internet. Developers can integrate the Transceiver Automator completely with their back office programs with pluggable .NET-modules”



“It is all about completely safeguarding the interests of the software developer, and to protect his or hers intellectual property.”

Marcel Hartgerink, CEO Wibu-Systems

Protection of software

Tommy Carlier is .NET developer at Weblications, and has worked on the protection of the software code for the system: “For the protection of our server software we have chosen for hardware of Wibu-Systems’. It is proven that protecting software with other software is not a strong foundation for securing a system. However when you combine software with a hardware component, the chance of hacking is remarkably smaller. For our server software we use a USB key from Wibu-Systems. This WIBU-KEY is put directly on the mother board in the server, and possesses a protected area where only we can program data. With a special Firm Security Box we - among other things - put a unique serial number in that protected area of the USB key. The server regularly checks if the USB key is still in place and whether the unique number still matches. If not, the server practically comes to a standstill; of course you can determine what remains in functionality.”



Crypto-processor

Marcel Hartgerink, CEO Wibu-Systems, tells about the underlying technology for license management and code protection. “We deliver AxProtector and CodeMeter amongst others. AxProtector offers integration with Visual Studio. After compilation the .NET IL code is encrypted. The IL-code can not be disassembled with tools such as ILDasm or the Red Gate .NET Reflector made by Lutz Roeder. The CodeMeter License Central is our solution for license management. This cooperates with hardware keys such as our CodeMeter USB key. A crypto processor is embedded in our USB key, which we have made suitable for license management. It also offers an API that is callable from .NET. We also have off-the-shelf example code in C# that shows how to invoke the USB key.”

Integration with Visual Studio

Devos: “To use this technology a runtime of Wibu-Systems must be installed in order the application to run. For this a merge module is available that we can plug in into the Visual Studio deployment project. It is neatly integrated with the build process of Visual Studio., Making it is easy for us and for the customer it offers one seamless install. We don’t do this

groundbreaking step of code protection for all our software. But with this market sensitive software we must be able to offer security to the customer and to the party that communicates with the customer. When we talk to banks e.g. the first question asked is always: ‘are you certain it is your client that is connected with your server?’ With all the measures we have taken, including the code protection itself, reverse engineering is virtually impossible. And the development path has not become more complex. Everything is integrated in Visual Studio. Thanks to the USB key we offer safe and reliable end-to-end communication on the Internet.”



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For more information

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For more information about Weblications, surf to www.weblications.be and www.transceiver.biz