



SPANNING JAVA & .NET

CambridgeSoft Protects Drug Company's IP with JNBridgePro and Digital Signature APIs

CambridgeSoft

E-Notebook
.NET Application

JNbridgepro

Java
APIs

Business Challenge

Integrate third-party Java-based digital signature technology into the .NET infrastructure of E-Notebook — CambridgeSoft's electronic lab notebook software — to quickly meet business requirements of a major pharmaceutical customer.

Solution

Use JNBridgePro to simplify the complex task of Java and .NET interoperability and streamline integration of Java-based digital signature APIs with E-Notebook.

"It takes an incredible amount of work to solve such a complex interoperability problem. JNBridgePro provided a level of Java and .NET integration that otherwise would have been very difficult to do ourselves."

Alfred Nehme, Director of Application Development, CambridgeSoft

Situation

CambridgeSoft Corporation supplies a broad array of enterprise, workgroup, and desktop software solutions for pharmaceutical, biotechnology and chemical industries. The company's flagship products — ChemOffice and BioOffice — are software suites designed to assist with the processes of discovery and innovation in life sciences. These core product suites include the industry-standard ChemDraw and BioDraw applications that help scientists describe, document, and archive chemical structures and biological models.

To support daily record-keeping, CambridgeSoft offers an electronic lab notebook product — E-Notebook Enterprise. Designed to replace paper lab notebooks, E-Notebook allows research scientists to capture, record, and synthesize data relevant to their research and experiments. E-Notebook consolidates information from a variety of sources, cataloging structures from ChemDraw and BioDraw, images, Acrobat PDF files, and data from Microsoft Office tools (such as Microsoft Word, Excel, and PowerPoint). Using underlying database functionality, E-Notebook acts as a repository for experiments and related analytical data, and supports data retrieval and sharing according to a mandated security policy.

Challenge

Protecting intellectual property (IP) and adhering to government regulations are crucial requirements for organizations engaged in biotechnology, drug discovery and chemical research. In the United States, FDA guidelines known as 21 CFR 11 stipulate rigorous record-keeping measures, including audit trails, electronic signatures, and documentation. To comply with FDA 21 CFR 11 requirements, CambridgeSoft implements digital signature and efficient archiving capabilities in E-Notebook. Using Public Key Infrastructure (PKI) technology, E-Notebook can embed digital signatures and timestamps, creating a reliable electronic record that cannot be falsified. This allows biotechnology companies to protect intellectual property and defend patents effectively.

Recently a major multi-national pharmaceutical customer approached CambridgeSoft about enhancing E-Notebook to use a different Public Key Infrastructure (PKI) for digital signatures. The customer wanted their chemists to sign experiments related to drug development using the same third-party, Java-based PKI infrastructure already deployed in other parts of the company. To deliver this functionality, CambridgeSoft needed to integrate the required Java digital signature APIs with E-Notebook, which is based on a .NET architecture and developed in C#. CambridgeSoft used JNBridgePro to simplify the interoperability between Java and .NET, allowing E-Notebook to call the Java APIs and fulfilling the customer requirement.

About CambridgeSoft:

CambridgeSoft Corporation is a leading supplier of discovery, collaboration, and knowledge enterprise solutions, desktop software, scientific databases and consulting services to the pharmaceutical, biotechnology and chemical industries.

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JNBridge connects Java and .NET components and applications together via easy-to-use tools and adapters, solving complex issues of cross-platform interoperability. JNBridge provides fast access to anything Java from anything .NET, and anything .NET from anything Java, including JMS, EJBs, J2SE, J2EE, .NET APIs, WinForms, or BizTalk Server. JNBridge has over 350 unique customers in 40 countries that use JNBridge solutions in a wide variety of applications, including financial services, insurance, media, healthcare and manufacturing.

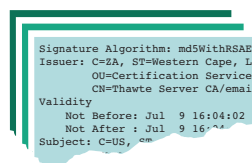
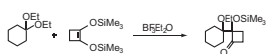
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Solution

CambridgeSoft developers began by downloading a free trial version of the JNBridgePro software from www.jnbridge.com. JNBridgePro is an interoperability bridge between Java and .NET that allowed developers to embed the needed Java digital signature APIs rapidly into the E-Notebook application.

“When we downloaded the evaluation copy, we found that it was extremely well-documented and easy-to-use,” said Alfred Nehme, Director of Application Development at CambridgeSoft. “With JNBridgePro we were easily able to integrate the Java-based PKI technology that our customer wanted and meet our planned release schedule.”

JNBridgePro includes proxy generation plug-ins for Eclipse and Visual Studio IDEs, as well as an intuitive standalone GUI. Using the GUI, CambridgeSoft developers created proxies for the Java APIs that simplified access to the needed Java classes. “Technical support for JNBridgePro was also exceptional,” added Nehme. “Our questions were addressed with remarkable speed.”



Java-based
Digital Signature APIs

JNbridge pro



Digitally Signed Experiments
in .NET-based
E-Notebook

Benefits

CambridgeSoft discovered these benefits by using JNBridgePro:

- *Ease-of-use.* Using JNBridgePro's GUI interface, the developers easily mapped the Java-based APIs into proxies that were directly callable from .NET.
- *Knowledgeable and responsive support.* JNBridge's technical support answered questions and helped CambridgeSoft resolve problems swiftly.
- *Fast time-to-market.* JNBridgePro solved the complex problem of Java and .NET interoperability, helping CambridgeSoft developers respond quickly to customer requirements.

Get Started

To streamline Java and .NET integration in your business and solve the complex challenge of interoperability, download a free evaluation copy of the JNBridgePro software from www.jnbridge.com.