LANSA Open for .NET

Technology that Contributes to Business Advantage

LANSA Open for .NET opens up the productivity and discipline of the LANSA Repository to .NET Framework developers. Shipped as a small and standardized .NET class library, it allows .NET applications to easily access LANSA Repositories residing on IBM i and Windows servers.

Today, businesses face pressures that demand flexibility and the capability to deliver new products to market in less time. For the CIO this means that more work must be accomplished in a shorter delivery time and with fewer resources. The CIO requires an information technology environment that is more agile than ever before while still having to maintain the integrity of the data in the databases.

Since its inception, LANSA's Data Services layer has protected the integrity of data for thousands of IBM i users worldwide. LANSA Open for .NET, LANSA brings the security and performance of its Data Services layer to the Microsoft .NET world. By storing enterprise business rules centrally in the LANSA Repository, IBM i and .NET programs are subject to the same validation constraints. The results are zero duplication of rules, tighter security, faster performance and more assured data integrity for organizations that depend on DB2 databases.

Many people already use the database middleware solutions provided by Microsoft and IBM for simple client/server applications. As systems become more distributed and sophisticated it is imperative that a proper Data Services layer is introduced into the system architecture. For example, companies often give their spreadsheet users access to DB2/400 databases without fully appreciating the security and data integrity issues involved. It is also common to find .NET developers that are struggling with the differences of the IBM i and DB2 environment, wishing that they could just call RPG programs as .NET services via a familiar object-oriented interface.

LANSA Open for .NET provides the tools to extend your development capability while retaining control over the database. On the server, applications use business rules, data validations and database management (referential integrity, database triggers and derived fields). LANSA Open for .NET publishes these resources for use by .NET developers. The benefit to the organization is flexibility – the ability to apply a wider range of resources and employ different tools to meet the demands for information.

What is LANSA Open for .NET?

LANSA Open for .NET is a class library and it is deployed with the .NET application. The class library exposes services (including data and functions) that .NET developers can incorporate into Windows rich-client applications and/or Web applications.

Web Site and External Party Integration

Need immediate and secure access to internal data for external parties? LANSA Open for .NET's Data Services layer enables IT departments to safely open up their enterprise data and applications to a variety of internal and external .NET applications without risking security or data integrity.

For example, IBM i organizations with hosted .NET Web sites can now tightly integrate them with the data and business processes on the IBM i server to deliver a better customer experience. Anyone with packaged .NET applications that execute independent of their IBM i applications can now link them together, eliminate database synchronization headaches and provide a single version of the truth to end users.

Manufacturers can streamline their supply chain processes by providing vendors with the Repository Data Access Layer, which enables the vendor to safely update information and executive business processes on the manufacturer's IBM i.

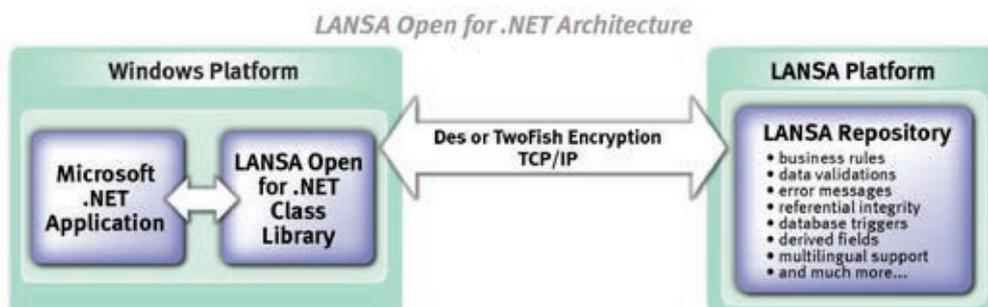## Faster Transfer of Data and Information

LANSA Open for .NET implements native record-level access over an encrypted, secure connection. Using native record-level access means .NET applications that work with large volumes of DB2 data will perform faster by taking advantage of the IBM i's powerful data processing capabilities.

Applications operating in a Windows rich-client context will be able to access data and programs on the IBM i in a safe mode with optimised performance. The encryption provides protection for the data and the optimised connection between the client and the server avoids the limitations of data access interfaces like ODBC.

Publishing Web Services

LANSA Open for .NET provides an inexpensive mechanism for delivering Web services. Microsoft provides tools for publishing Web services that companies can combine with LANSA Open for .NET to expose the data and services running on an IBM i as Web services. There is no need to implement the IBM Web service infrastructure on the IBM i.

The Web services will use LANSA Open for .NET to retrieve data and/or execute programs on the IBM i and return the response to the Web service. Suppose you wanted to include an order

LANSA Open for .NET Architecture

Windows Platform — Microsoft .NET Application ⇄ LANSA Open for .NET Class Library ⇄ Des or TwoFish Encryption TCP/IP ⇄ **LANSA Platform** — LANSA Repository
- business rules
- data validations
- error messages
- referential integrity
- database triggers
- derived fields
- multilingual support
- and much more...

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entry form in a Web site or a SharePoint portal. The Web service will collect the order data from the Web form and pass the data to LANSA Open for .NET. LANSA Open for .NET will run the order entry program on the IBM i to insert the data.

This architectural approach provides you with the capability to extend the reach of your line of business systems while protecting the servers and databases that manage those systems.

Any application that can consume Web services has access to Web services published in collaboration with LANSA Open for .NET. Some examples are .NET applications running in a Windows rich-client context, Java applications running on Window or UNIX, Ajax enabled Web browser applications and .NET applications running on smart devices (PDAs and cell phones).

Why use LANSA Open for .NET?

LANSA Open for .NET enables IT departments to safely open up their enterprise data and applications to a variety of internal and external .NET applications without risking security or data integrity. For example, IBM i organizations with hosted
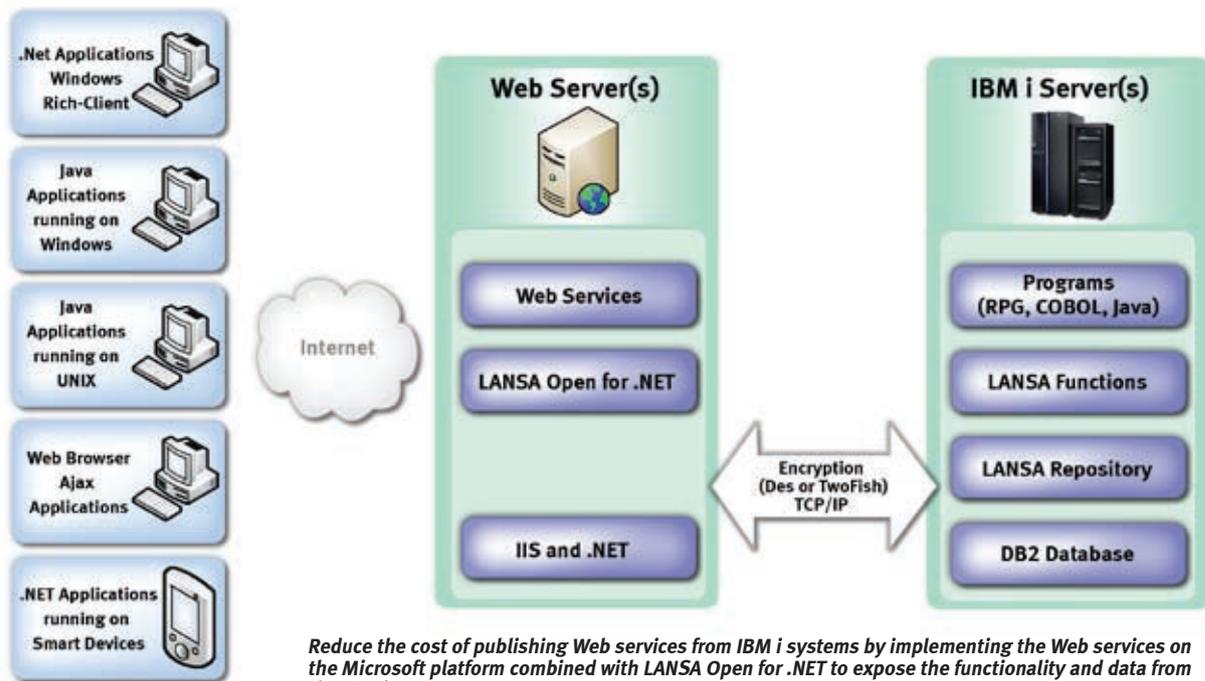
.NET Web sites can now tightly integrate them with the data and business processes on the IBM i server to deliver a better customer experience.

Anyone with packaged .NET applications that execute independent of their IBM i applications can now link them together, eliminate database synchronization headaches and provide a single version of the truth to end-users.

You can now choose .NET development tools as the User Interface for server based business applications. LANSA Open for .NET provides this flexibility for the Presentation Layer.

For ISVs with LANSA solutions, LANSA Open for .NET enables their existing LANSA solutions to be customized by .NET developers. Their customers can use .NET development tools to extend or enhance a LANSA-based solution without the need to understand or even be aware of the underlying LANSA technology used to build the solution.

LANSA Open for .NET extends the data and functions of server applications for use by .NET applications. The .NET developers use these resources in a familiar development environment.

Reduce the cost of publishing Web services from IBM i systems by implementing the Web services on the Microsoft platform combined with LANSA Open for .NET to expose the functionality and data from the IBM i systems.

Features & Requirements

Features

- *LANSA Open for .NET Class Library*
- *Deploys with the .NET application as one DLL*
- *Pure CLR verifiable application (LANSA Open for .NET is not a class library front end to a non-CLR compliant WIN32 application).*
- *Program in any .NET compliant language (for example C#.NET and VB.NET)*
- *Publish enterprise data and applications from IBM i via Web services*
- *Secure data encryption between Windows and the LANSA Repository using industry standard DES or Twofish.*
- *Small footprint – LANSA Open for .NET deploys as a single DLL within your .NET applications.*

- *Access to multilingual and DBCS support.*
- *Standardized error handling, tracing and diagnostic capabilities.*
- *No knowledge of LANSA is required by .NET developers. They only need to become familiar with the services provided by the class library.*

Requirements

- *Microsoft .NET Framework version 2.0 or later*
- *Microsoft Visual Studio 2005 or later (all editions)*
- *LANSA Open for .NET Class Library*
- *LANSA Open for .NET DLL*
- *Requires no specialised training*
- *Developers will need to become familiar with the services available from LANSA Open .NET*

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