



All organisations are accountable to their stakeholders and have the need to deliver value. When it comes to technology, people want the confidence their chosen technologies will deliver value now and into the future.

Villa Maria, AgResearch and the NZ Defence Force are just some of the many organisations in New Zealand who are experiencing the benefits of increased business agility as a result of adopting new technology. These organisations have found they are well positioned to remain agile in an increasingly challenging environment and get more out of their IT spend.

At Microsoft New Zealand we are in touch with New Zealand businesses every day. Our customers tell us the current climate is one of the toughest that they have experienced in decades. They see the key challenges for 2003 as increased focus on earnings and outcomes, lowering costs, staying competitive, security, and the ability to understand all the new technologies well enough to choose the right one.

We realise that technology has a significant role to play in addressing many of these business concerns and needs to better assist them to do more with less and accomplish it in a faster timeframe.

To deliver greater value to the business than solving an isolated problem, technology must create new value from existing systems while providing the ability to quickly adapt to future demands.

Microsoft is committed to delivering on the promise of long-term business agility through technology. Through our .NET platform we are working to give business people the confidence that their IT systems will be secure and deliver this value to their businesses.

This is no small claim, given the shifting challenges New Zealand businesses face in their ongoing effort to stay competitive on the global stage. Just one of these challenges is the extensive level of integration and collaboration expected by governments, trading partners and the wider community. Organisations are under pressure to streamline processes to deliver a more rewarding experience to customers and partners.

How can businesses achieve this? Enter XML Web services - a set of software standards that enables IT systems on any platform to communicate with each other. Based on the Worldwide Web Consortium (W3C) protocol standards, XML Web services are predicted by many to deliver information and enable collaboration on a very large scale.

Microsoft believes XML Web services will become the industry standard 'glue' that will bind IT systems to future applications; ushering in an era of unprecedented information flow, and providing organisations with greater mobile access to data and integration between their technology systems than ever before.

Over the past two years, as Microsoft has recognised the need for and importance of this kind of standards-based technology, we have worked with W3C and the industry to drive the development of XML Web services.

Through our joint efforts, we believe we have created technology that will deliver the long-term value that business demands.

How does Microsoft plan to help New Zealand organisations meet the challenges of 2003?

As a start, we felt that there was a need to clear away some of the mystery that might surround .NET and XML Web services and provides an overview of .NET and XML Web services from a business viewpoint. To do this, we thought you might find it helpful to share in the business challenges that some of our customers have faced and understand how they have used Microsoft .NET and XML Web services to achieve some of their business goals. In this first issue of NZ .NET, you will find comments from a number of business leaders, people leading developments using these technologies and one of this country's most pre-eminent researchers in technology.

I trust that you find value in this sharing and wish you a very successful year.

If you would like to provide feedback on NZ .NET, suggest content or showcase your application in the next issue, please email the editorial team at nz_net@microsoft.com.

Regards

Ross Peat
Managing Director
Microsoft New Zealand

You have probably heard of Microsoft .NET and may be wondering how it fits in to your IT architecture planning. Of more interest might be how .NET can help drive improved performance within your organisation.

In this first issue of NZ .NET, we explain Microsoft .NET and XML Web services and showcase some New Zealand examples of businesses and organisations that are benefiting from these new technologies.

What is Microsoft .NET?

Microsoft .NET is a software platform comprising:

- applications which help increase revenue and drive down costs;
- software to create and maintain systems that are more reliable, robust and secure;
- developer tools to build reusable code, faster;
- software that delivers better and more user-friendly applications for the end user and on a variety of devices.

The Business Decision: Why .NET?

Electronic communications can improve almost any business process by automating the interaction between applications. But existing methods of electronic communication like Electronic Data Interchange (EDI) are complex and expensive to implement.

By using the Internet to enable software applications to more easily work together, Microsoft .NET offers businesses the opportunity to implement electronic communication between applications quickly, easily and using open standards that allow a wide range of platforms and applications to communicate.

Doing so opens the door to increased operating profits, decreased costs, and better connections with customers and employees.

Over the following pages, a number of New Zealand companies and organisations testify about how .NET has helped them achieve this kind of result.

Lower Operating Costs

The ability to connect systems can have a dramatic impact on the bottom line for any business, whether it needs to connect a handful of internal applications or integrate an extensive supply chain.

Traditional business integration methods often do not work well when dealing with smaller suppliers and partners who frequently use isolated computer systems and communicate via fax, phone, and e-mail. Microsoft .NET connected software can help bridge the communication gap among smaller partners.

Drive More Sales

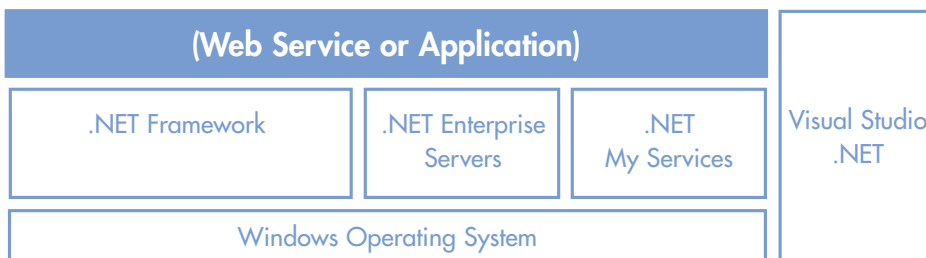
By enabling electronic communications, .NET can automate sales between connected companies.

It can also connect sales professionals with the information they need to make more sales in the field. Information that was once isolated in back-end systems can now be accessed in the field through familiar programs such as Microsoft Office XP and a wide range of new smart devices, from smartphones to PCs.

Integrate Better with Customers

Increasing revenue can be a tough challenge for any company. Most businesses derive more revenue by finding more customers, providing better customer service, and selling more to existing customers.

.NET can help companies meet this challenge by enabling them to more easily integrate services and applications. Connected back-end systems provide businesses with the opportunity to combine information and more easily assist customers—whether in a call centre setting or in an online Help application. As a result a company can turn quality of service into a competitive advantage.





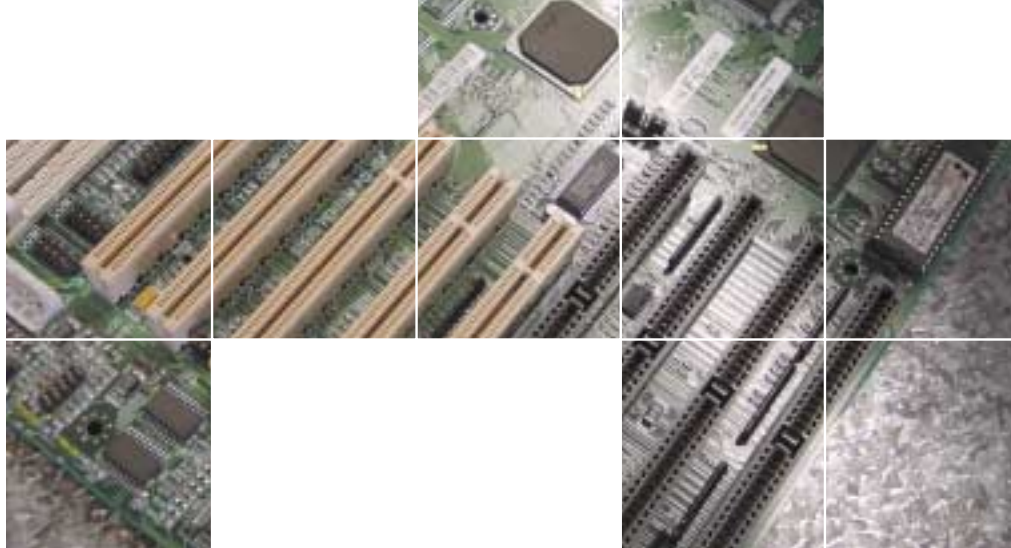
Lower IT Costs

Microsoft Visual Studio .NET and the .NET Framework empower developers to quickly and easily create cutting-edge XML Web services and applications, building on their existing skill sets. The tools are language agnostic - developers coding in different languages can all contribute different parts to the same application, freeing developers to use the programming language of their choice in building XML Web services. Visual Studio .NET therefore helps alleviate one of the greatest scarcities in the world: skilled programmers, allowing an enterprise to tap the broadest developer talent pool, take advantage of existing skills, and let people use the language most appropriate for a specific task.

How to Move Toward a .NET Future

Everything you need to build, host and deploy .NET connected software is available. Here's how you can move towards a world where all of your company's computer systems are highly integrated and ready to help improve your business:

- Learn more about XML Web services, the underpinning of .NET technology. See how both XML Web services and .NET can help to make businesses more profitable;
- Discuss your company's XML Web services strategy with your IT department and see how .NET has already helped companies improve their profitability;
- Meet with a consultant who specialises in .NET-connected software and explore the impact it can have on your business. Microsoft New Zealand has more than 300 certified partners who can offer you best-of-breed solutions that will not tie your company to one vendor;
- Deploy pilot projects using XML Web services to take the first step toward connecting more closely with customers, partners, and employees;
- Recommend that all future software purchases be based upon XML Web service technology to ensure interoperability and long-term value.



XML Web services

The challenge for New Zealand businesses and organisations is to achieve global competitiveness, then sustain it in an increasingly dynamic marketplace governed by rapidly-shifting international agreements. One way New Zealand enterprises can succeed in this environment is changing the way they share information among themselves, their customers and trading partners.

This article explains how a relatively new technology known as XML Web services will assist New Zealand organisations to succeed in this environment.

What is an XML Web Service?

XML Web services are software components that allow communication between different computers using Internet standards. This set of standards enables completely different applications to share information and work together over the Internet. Intuitively, a Web service is like a Web site without a user interface that serves programmes instead of people.

For developers, the Web services model is simply the logical next step in the evolution of inter-application communication protocols. Such protocols allow applications to find each other, to figure out how to interface with one another, to initiate contact, and to exchange information.

As Microsoft CEO Steve Ballmer explains, "I liken Web services to the original Windows challenge. Windows made it possible for applications to share screens, and to pass information back and forth. The Web services model is what's going to make it easy for tomorrow's applications to do the same thing over the Internet."

How does a Web Service Differ from the Internet?

The Internet is simply a data pipe and today it is used predominantly for machine-to-human communications, such as e-mail, instant messaging or browsing Web sites.

The potential for the Internet to carry machine-to-machine communications has not been largely realised.

Microsoft, along with many others in the industry, believes that connecting machines and the applications they run across the Internet will significantly enhance the ability of businesses to work together with their partners, suppliers, and customers.

As the Internet becomes a more reliable and secure communications infrastructure, it is expected to evolve into a general "communications bus" for applications running across geographically distributed machines. With the assistance of other software vendors such as IBM, Microsoft aims to speed this vision along by helping to define and promulgate a programming model for integration via the Internet. The model, based on Worldwide Web Consortium (W3C) protocol standards, is generally known throughout the industry as simply "Web services".

Why Web Services?

Until now, businesses that wished to share data using the Internet were frustrated by a lack of interoperability standards. This lack made it complex and expensive to develop and implement data sharing over the Internet.

Yet, increasingly customers and trusted partners want to engage with businesses and government agencies in a more dynamic manner, from multiple locations and using a variety of devices. Information is being requested in more forms by more people and in more volumes than ever before. There was no way to make this kind of interaction possible using the available standards.

The Potential of Web Services

According to Gartner (Dion Wiggins, November 2002) Web services are simple in nature and timely in their emergence and they will drive the next software evolution, succeeding in areas where earlier technologies have failed.

Wiggins said at the Gartner Symposium IT Xpo in Sydney in November 2002, that Web services "can provide some very real benefits - given appropriate use. The winners in Web services will be service providers that define the value that Web services bring to them (in providing efficiency, agility and a richer set of choices for doing business.)"

The overriding conclusion from Gartner is that enterprises that delay adoption of Web services architecture risk falling behind their competition within three years and most mainstream enterprises should begin experimenting with Web services architecture now.

The Next Generation

Much of the early experimentation and deployment of Web services has been behind the firewall predominantly due to uncertainty about the acceptance and reliability of Web services.

Microsoft has taken a leading role in acknowledging these concerns and pushing for the next generation of standards to be made available. Known within Microsoft as GXA or Global XML Web services Architecture, this second generation of Web services is finding new levels of comfort for local banking and financial institutions and government agencies where the desire for Web services in front of the firewall is attractive.

Recommendation

- Do not wait until everything is finalised. Start now with SOAP and WSDL. Track other standards as appropriate.
- Evaluate your vendor's Web services strategy. If it does not have one, consider another vendor. Evaluate its support of Web services standards; don't take its word for it.
- Do not expect Web services to transform your business. Use Web services to transform your processes.
- Gain experience with these technologies and standards on internal projects now but then look for opportunities to use them externally.
- Experiment with some existing third-party Web services to gain experience. Leverage this experience to innovate and create your own Web services.





Learning from the Challenges

Jonathan Wells, Project Manager at NetResult Technology and formerly of Ceritas Digital, agrees that there were a lot of firsts in this project.

"I think the biggest challenge was the range of new technologies that we were working with, from Microsoft .NET, to developing for PDAs and adding the CDMA networking capabilities."

"Now, as we undertake the redevelopment of Turners' core application, we are confident that the superior development environment of .NET and its functionality, such as the debugging of SQL statements, will enable us to deliver the next project one third faster than other solution offerings or platforms."

Drawing on the Experts is Essential, says Wells

"When companies are faced with technologies and tools that are new, the value that Microsoft can offer in support becomes essential to your learning and the more timely delivery of the project," emphasises Wells.

To help them gain the knowledge they needed in .NET, Ceritas Digital called upon Microsoft Services.

"Microsoft's consultants brought significant levels of knowledge to our team and the project and enabled us to keep moving forward," explains Wells. "We used Microsoft to review the proposed architecture of AutoInspect and provide us with the necessary feedback."

Microsoft also assisted Ceritas Digital with elements of the PDA component of the project.

.NET Helps Turners make IT a Profit Centre

Today Turners Auctions has a generic inspection system that provides consistent results irrespective of the inspector or inspectors involved.

"Our inspectors are delighted with the result," says Seddon. "Just recently, one of our most ardent sceptics came to us and said that AutoInspect is a dream come true. He does not know how he could live without it now, and this is only three months after we rolled it out."

Seddon explains that Turners' customers are also experiencing positive changes.

"AutoInspect is enabling our inspectors to capture all the necessary data about a vehicle, including damages and potential repair costs, photographic evidence and client agreement, before the vehicle is driven away or sold. This complete online report is enabling our clients to make better business decisions such as whether to repair the vehicle or sell it."

The project was so successful that Turners Auctions decided to exploit the market opportunities of AutoInspect and a number of Ceritas Digital employees formed Net Result Technology and a joint venture with Turners Auctions called Turners NetResult.

"Already we have solid interest from companies in New Zealand, Asia, the United States and the U.K.," says Seddon.

He explains that these companies range from other auction houses to companies with large fleets of vehicles.

"Our plans are to commercialise our solution to demonstrate how IT can become a profit centre and not just a cost centre.

"Once we complete our Auction Management System redevelopment using .NET, we hope that this too will also be something that we can commercialise for other auction houses."

Asked if he would do it all again, Seddon replied without hesitation a resounding "Yes!"

"Microsoft .NET is the future and if companies have the opportunity to get in early and work with Microsoft, then I recommend they do this. The support from Microsoft is solid and the products, including the early Beta releases, are far more robust than they ever used to be. I say, go for it."

Solution Summary

Microsoft Visual Studio .NET has enabled the team at Turners to move from a paper-based system to one that takes advantage of new technologies and devices. The inspection process is now standardised into one report (from 14 variations), yet can be customised in its presentation to meet clients needs.

Value to Business

The electronic data entry has removed the need for double handling of data; productivity of inspectors has almost doubled and information to customers (and hence decisions to auction) is available faster and in a more accurate form.

Value to IT

This project was initially used as a test for Microsoft .NET. The company is now expanding its .NET utilisation to its core applications to take advantage of benefits including the superior reuse within the application, the quality of the strongly typed language and the robustness of the solution.

Microsoft Technology

- Microsoft Visual Studio .NET
- Microsoft .NET Framework
- Microsoft Visual Basic .NET
- Microsoft Embedded Visual Basic
- Microsoft SQL Server CE, 2000 & 7



Numeric Computer Systems, Inc

NZ Developers Enable Mobile Salespeople to Track Transactions Faster using .NET Compact Framework

Numeric Computer Systems Inc (NSC) is a global provider of solutions for the fast moving consumer goods industry. The company maintained three separate but similar applications that did not share objects and could not take advantage of emerging communications and hardware improvements.

The US-based company turned to its New Zealand development team to build a unified mobile application framework with substantial shared code and separate front ends. The New Zealand team determined that the Microsoft .NET Compact Framework would deliver them the development environment they sought, and through the support of Microsoft New Zealand began working as a Global Early Adopter of the new technology.

Today, mobile salespeople selling from their trucks can load inventory, sell items to customers, print invoices, collect payments, track all of this without paper records, and reconcile their transactions automatically at the end of the day using Pocket PCs. The first customer is Dean Foods, one of the United States' leading food and beverage companies with a delivery fleet of 12,000 trucks.

Looking Back

Having three similar applications built on differing technologies was a maintenance and deployment nightmare. NCS wanted to adopt a single development environment that would be able to target desktop, tablet, and palm-sized devices. In addition, they wanted:

- Stable device software and O/S;
- Ease of Deployment;
- Simplicity and Intuitiveness;
- Speed of Operation;
- Multiple Device Support from a Single Executable;
- Ability to Integrate Custom Modifications to Base Package;

Leveraging Local Support to Go Global

As the New Zealand-based development team reviewed its options, Microsoft was just starting to launch its .NET Framework and the company

was just starting to talk about a specific framework for devices - the .NET Compact Framework.

Mike O'Leary, Development Manager for NCS and based in Auckland approached local Microsoft .NET Strategy Consultant Doug Pratt to learn more about it.

"Doug was great - he provided us with as much background material to the .NET Compact Framework as was available. When we concluded that our ideal solution needed to comprise the C# language, Visual Studio .NET, and the .NET Compact Framework to give us the unified development environment, high performance, and platform-independence we needed, he put us in touch with the .NET Compact Framework team in Redmond, U.S."

O'Leary says that despite the .NET Compact Framework still being in very early development, the team believed that it would solve problems such as runtime issues and requiring a different executable for every platform that Java and C++ just could not address.

"We wanted to write the application once and deploy it many times. We strongly believed that .NET could allow us to do this and we also really wanted to use the .NET Compact Framework as early as we could."

So with the support and persistence of Microsoft New Zealand, NCS was granted early access to the Framework and became part of the Global Early Adopter programme with Microsoft Corp.

Andrew Dove, Regional Director for NCS, explains that while many developers would not be so keen to develop using a tool that was so much in its infancy, the New Zealand team was talented and prepared to go out on the edge.

"I think in New Zealand, and certainly within NCS, we have a historical commitment to adopting leading edge technologies to deliver our customers the very best solutions and I believe that even with hindsight, I would do it all again."

Solution Overview

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Andrew Dove
Regional Director
Numeric Computer Systems

Customer Profile

Numeric Computer Systems, Inc. ("NCS"), founded in 1967, is a premier provider of supply chain execution solutions that support the Order to Cash process. NCS's solutions automate both back office functions and the requirements of mobile sales and delivery workers. The company focuses on the fast moving consumer goods industry, including baked goods, soft drinks, dairy, snacks, frozen foods and beverage.

Web Site

www.ncssuite.com

Industry

IT & Telecommunications

Scenario

Mobility

Business Situation

NCS had three separate applications targeted at similar markets that did not share code. For the next generation products, NCS wished to provide a unified, stable sales force automation tool that could run on multiple devices, especially mobile devices.

New Zealand Developers Pioneer New Functionality

"We undertook a very large scale project and as such faced many issues in order to get the application to a point where it was marketable. Our application is approximately 1 MB, which is very large and data-rich compared to typical Pocket PC applications."

O'Leary adds that the New Zealand team has also enabled its application to run across all Microsoft platforms from the Pocket PC and Tablet PC devices to the desktop environment.

"This is something that our team discovered and we believe it will solve some big development issues."

In the past, O'Leary explains, each environment required a totally different skill set and was almost impossible to achieve without reworking the development.

"Microsoft developers in Redmond did not believe us when we told them what we had pioneered. They are so impressed that they have asked us to write a paper to tell them how we did it."

Reflecting on the .NET Compact Framework

Visual Studio .NET and the .NET Compact Framework gave NCS several large benefits:

- Ease of development - "The IDE is fantastic. Developing applications in Visual Studio .NET is very simple and complete - all the tools that a developer needs are included and you do not find yourself going off to other tools to complete tasks."
- Ease of deployment - "Copy and paste of executables for deployment makes support and testing a lot easier. Multiple versions can sit on the same machine with no need for registration of components."
- Platform transparency - "Our application can run on anything from a Pocket PC right through to Windows XP with minimal changes. We can simply copy and paste the code from one platform to another. Supporting one version is so much easier than having a version for each target. Of course we can tweak the application to take advantage of greater functionality on the higher level platforms."
- Robust Base Classes - "Having so many classes available to the developer, and knowing they are on all your targets, means that developing new functionality is a lot quicker than it would be if we were constantly reinventing the wheel."

The First Customer

Often when a new product or solution is developed, it is trialled on a small customer before targeting the major players. Not so with NCS.

"NCS approached Dean Foods, one of the U.S.' leading food and beverage companies," says Dove.

Dean Foods is the largest Dairy Company in the United States and sells milk, cheese, yoghurt and other dairy products nationally through its fleet of 12,000 trucks.

Dean Foods agreed to adopt Route eXpress believing that this application could provide store delivery personnel the required access to a range of customer information, such as inventory, sales history and product details, and enable them to carry out their work quickly and efficiently.

"eXpress Route allows a route salesperson to easily handle all elements of route distribution such as order entry, invoicing, messaging, collections, returns, inventory control, and DEX (Direct Exchange)," says Dove.

Art Fino, CIO of Dean Foods adds that the company envisions that eXpress Route will create added value for its customers while, in turn, making it easier to do business with Dean Foods.

"As our reporting capability increases, we intend to offer key information to our business partners by delivering systems rich in functionality. We also expect to achieve benefits in our operations by enhancing the delivery process. This includes a faster, more efficient delivery of products to the marketplace, better visibility to incremental sales opportunities, streamlined inventory management and a more efficient route settlement/financial close process."

Dove adds that Dean Foods is not the only interested customer and is in discussion with a number of leading food and beverage companies in New Zealand, Australia and North America.

Competitive Interest Results in Alliance

Globally significant rivals of NCS heard about the new application even before it was in use and quickly recognised its potential benefits.

"In mid 2002 NCS teamed up with Global Beverages and Routek to create an alliance named Expedium to leverage this leading technology and take it to new markets and geographies," explains Dove.

The result - the innovative and bold development of New Zealand developers is now been shared with a very large audience.

Solution Summary

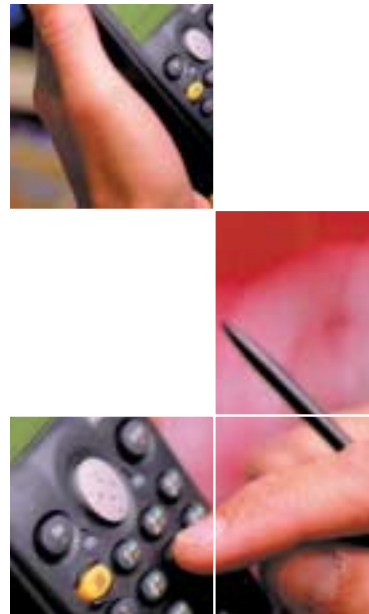
Using the C# language and the .NET Compact Framework, NCS built a shared business object, a shared communications module, and three front-end applications for sales force automation. The first product to be introduced, eXpress Route, runs on Pocket PC devices.

Value to IT

- Flexible and consistent development environment
- Ease of deployment
- Able to share common code across multiple target platform

Microsoft Technology

- C#
- C++
- Microsoft .NET Compact Framework
- Microsoft Pocket PC
- Microsoft SQL Server 2000
- Microsoft Visual Studio .NET



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