

Software for the Agile Business.



.NET reduces the cost of operating non-necessary facilities in business

Company Profile

Better Software is a software development house located in Adelaide. Their strengths are in the full understanding of technologies and the ability to provide customised solutions using Microsoft technologies. Their extensive knowledge and experience in software development covers a wide range of solutions: from embedded systems and industrial integration to sophisticated database applications and Web integration. Among Better Software's clients are Adelaide Brighton Cement, Australian Central Credit Union, eHome Corporation, ELCOM Credit Union NSW and the Women's and Children's Hospital.

Business Scenario

Better Software is part of Internet Process Control (IPC), a consortium of companies which provide integrated solutions for the liberalised energy market. With the deregulation of the Electricity Market in Australia, power bills are likely to skyrocket for many companies in the near future. IPC wanted to develop a solution which would enable electricity customers to save money by switching off unnecessary load, during peak times from a remote location. Adding to this, South Australia buys its energy resources from other states, in particular New South Wales and Victoria. Of course, basic economics suggests that the per unit price of the energy contributes significantly to the running costs of a business.

The challenge which Better Software and IPC was determined to solve was to provide a real-time solution which would allow companies to save money on their power bills, regardless of the peak times and specific load profiles. IPC then wanted the flexibility to notify customers in real time, any place that they may be located. In essence they wanted to enable customers to control their equipment's consumption of energy, at any time from any place without any problem.

Business Solution

The solution delivered by Better Software is an integration of mobile phone technology, Web Services and Internet-savvy hardware. This

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Sorin Buzila,
Director,
Better Software Pty Ltd

Organisation

Better Software Pty Ltd

Web Site

www.bettersoftware.com.au

Industry

Internet Service

Business Scenario Summary

The challenge was to provide a real time solution which would allow companies to save money on their power bill, regardless of peak times and specific load profiles.

solution empowers the customer by providing access to relevant information from any place, at any time via their mobile phone.

Sorin Buzila, Director of Better Software, developed a solution using Short Message Service (SMS) that offers customers remote access to the control functions of a business. These control functions allow the user to turn off non-critical operations, which in turn reduces the cost of operating facilities such as air conditioning and manufacturing machinery.



There are two Web Services that deliver this functionality. One of these constantly monitors the electricity prices and provides notification of significant price changes to the customer. The other provides SMS messaging back and forth to the user. Internet-aware controllers and smart meters are used to provide instant and safe control of equipment over the Internet, based on the replies received from the user via SMS.

Up-to-date price information

This solution constantly monitors the incoming energy prices for all Australian states. It uses SQL Server™ 2000 as a data store and together with Web applications can make a method call to get the latest price(s). This in turn combines with other Web Services that can register for price change notifications via a standard interface. This is similar to a COM Abstract Interface, where the requesting service must implement a particular Web method. Once the data has been collected and added to the database, it is then able to notify all subscribers of requested price changes in real time.

Automatic Database entries

Business Solution Summary

The solution is an integration of mobile phone technology, Web Services and Internet-aware hardware that empowers the customer with access to relevant information from any place, at any time on their mobile phone.

Once the updates have been acted upon, all inquiries, registrations and notifications are recorded into the database for auditing and billing purposes. Customers can opt to unsubscribe from price change notifications, or this automatically occurs after a number of failed notifications in a row. This provides a streamlined administration process.

Benefits

There seems an endless scope for the development of this solution. The interactivity between customers and their day-to-day electricity costs is providing real cost-cutting options to those involved. Buzila states, "This is one of the most relevant examples of integration in the .NET sense: access to information at any time from any place and on any device. It relies on the ubiquity of the mobile phone and of the Web. It addresses one of the most stringent problems – how to minimise operating costs - in today's world in the most creative way".

Remote access to systems

The new solution provides customers with remote access to their system: remote in the true sense of the word. Customers can control services at their offices through their mobile phone. This means in practical terms that business decisions, often critical in their essence, can be administered with the latest available information. Buzila says "This puts the power squarely back with the customer, and provides them with the means to make important decisions based on accurate and current information".

Reduced total cost of ownership

The solution offered by Better Software is simple and cost-effective one. The total cost of ownership (TCO) is reduced because decisions on power supply and running options are provided in the most up-to-date format. Buzila makes the point "The moment the rate changes, a decision can be made. It is very economical to run once installed".

Total control of consumption

Another great advantage of the solution is that it provides customers with total control over their energy consumption at any time from anywhere and on almost any mobile phone. There is an almost instant notification and response* capability that gives the consumer the opportunity of reacting quickly. *Relies on the telecommunications company's network.

Technology

The entire solution is architected around the new concept of Web Services. These Web services were created using Visual Studio® .NET. COM technology is extensively used in the multi-tiered SMS service (ActiveX® components created with Visual Basic® 6.0).

The database storage is provided by SQL Server 2000. The business

Benefits

- Links the electricity market and the consumer via two integrated Web Services enabling anytime access to the service
- Provides customers with total control over their energy consumption at any time from anywhere and on almost any mobile phone
- Low cost to operate once installed
- Almost instant notification and response
- With the threat of rolling blackouts and energy shortages becoming more prevalent in the near future, IPC is providing an energy demand solution to electric utilities and customers

Microsoft Technology

- Visual Basic 6.0
- Visual Studio
- SQL Server 2000
- Commerce Server 2000
- Windows 2000 Server

desk functionality, membership and customisation are using various components from Commerce Server 2000. Likewise, the email integration it uses is Exchange 2000. The entire solution runs under Windows® 2000 Server. Some of the ActiveX components run as COM+ applications.

Maximising Success

The time frame was paramount to the success of this project. Buzila said, "We were under pressure to demonstrate the solution in a very short time frame and we found Microsoft tools able to provide a rapid application development environment. The solution also needed to be integrated over the Web. By using the Microsoft technologies we found the Web Services integration a lot easier than by using older technologies; this was definitely the most appropriate package." Buzila adds "SQL Server is so easy to use and yet so powerful that I cannot see any advantage in using any other database tool".

The Future

The plan is to market this solution to Australian businesses trapped by the huge rises in the electricity price that are expected with the deregulation of the market. Further development is underway with a new module to allow monitoring of the electricity consumption at the customer site by using leading-edge 'smart meter' hardware supplied by eRecord.com, who are in the business of developing products which are customised to suit the individual needs for both residential and commercial customers. This module will utilise the same Web Services concept as the other parts of the solution. It will further provide instant feedback regarding the market consumption and allow the electricity retailer to utilise the market surplus instead of generating more power and consuming more resources.

Regarding other services, one critical piece in this entire puzzle is the SMS Messenger service. This web service can be easily extended via ActiveX components to accommodate business rules specific to various businesses. Buzila states, "We are working on several vertical market applications to build on top of this service. These solutions will provide the much-needed integration and flexibility between the business and the mobile worker, user or customer by using the Internet and Web methods".



For more information

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