



# Calor adopts JD Edwards Business Services as the primary integration platform for EnterpriseOne

## The Client



Calor are the UK's leading supplier of LPG - the lowest carbon fuel available for homes and businesses in non mains gas areas. For over 75 years, Calor have been developing a nationwide supply infrastructure to ensure fuel is available to the most remote parts of mainland Britain, all supported by the UK's largest team of dedicated LPG engineers.

Calor have helped develop innovative products such as telemetry and underground storage tanks and are investing in mCHP fuel cell technology. In addition, LPG is also fully compatible with renewable fuel sources such as solar and biomass. Calor is an innovative company delivering the future of rural energy, today.

## The Challenge

As part of the upgrade from EnterpriseOne release Xe to release 8.12, Calor needed to redesign the interfaces between EnterpriseOne and their Enterprise Service Bus, the centralised integration platform that orchestrates the various connections and messages between the company's systems. Many of these interfaces provide connections to the handheld devices that are used by delivery vehicle drivers and service engineers, and are vital for the efficient operation of sales and work order processing. Other interfaces were needed to integrate with their CRM system and their Address Management software for accurate searching and retrieval of consumers' addresses and location information. The company also had legacy systems running on its IBM System i server that needed to be able to access data from EnterpriseOne.

## Snapshot

### The Client

Calor is an innovative energy company, the UK's leading supplier of LPG.

### The Challenge

Calor's upgrade from JDE E1 Xe to 8.12 provided an opportunity to reassess their existing solutions and redesign the interfaces between EnterpriseOne and their Enterprise Service Bus.

### The Delivery

DWS worked with Calor to take advantage of the ability to develop native standards based web services in EnterpriseOne and create a suite of Business Services, integrating E1 with other internal systems.

### The Result

Calor could capitalise on the benefits of this integration strategy, which gave them a flexible method of integrating their systems.

# About JDE Business Services

Business Services enable JD Edwards EnterpriseOne to extend its functionality through standards based web service technology and therefore allows customers to fully capitalise on the benefits of a Service Oriented Architecture (SOA). JD Edwards EnterpriseOne Business Services allow EnterpriseOne to be a native provider and consumer of web services.

Business Services are a set of Java-based business functions created to perform discrete units of work and can interact with external systems in the form of a web service. Business Services can accept an XML document as input and use that data to interact with other JD Edwards EnterpriseOne objects (for example, business functions and table I/O) to process a transaction.

EnterpriseOne developers can now create applications that synchronously integrate with third-party web services.

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The upgrade to 8.12 gave Calor the opportunity to reassess the solutions that were previously being used, and to investigate the possibility of using alternative methods for the problem of how to send and receive real-time messages to and from the Enterprise Service Bus.

## The Solution

Calor investigated various interoperability methods supported by EnterpriseOne, before finally deciding on Business Services as the preferred solution. Business Services were introduced in release 8.11, and although they had been available for nearly two years, there had been little adoption of them by JD Edwards customers. However, their Enterprise Service Bus software was able to support web services, and this was seen as the future-proof technology on which to base the interfaces.

Business Services are developed in Java and require the use of Oracle's JDeveloper

Java development tool. This is quite different to the standard EnterpriseOne development tools, and consequently there is a learning curve required in order to be able to develop custom Business Services. This was not seen as an obstacle by Calor and with the help of DWS they were able to take advantage of the ability to develop native standards based web services in EnterpriseOne.

## The Result

Calor and DWS have created a suite of Business Services that provide access to EnterpriseOne functionality and data from other internal systems. Examples of some of these are:

✿ Calor field engineers use PDAs to update details of their work orders. A Business Service was developed to allow the PDA software to send status updates and notes to EnterpriseOne, and these notes would be written to the media object attachment text for the work order in question. The notes would be timestamped and appended to the existing text so that an event history could be maintained.

✿ The geographic location (northing and easting) of each customer is maintained within Calor's EnterpriseOne address

book. This location is then used by route planning software to provide the optimal delivery sequence for drivers. A Business Service was developed that accesses a web service hosted by their Address Management software in order to retrieve the location details using the customer's postcode and Delivery Point Suffix.

- ✿ A legacy system running on the IBM System i server needed to be able to retrieve sales prices from EnterpriseOne in real-time. As well as developing a Business Service to access the custom business function that retrieves prices from EnterpriseOne, an ILE RPG program was written using IBM's Web Services Client for ILE to allow the legacy system to make the web services call to the Business Service.

Calor were also able to

utilise DWS's expertise and experience of developing Business Services in order to enable their own IT staff to create additional Business Services.

## The Benefits

- ✿ Business Services are an integral component of Oracle's Application Integration Architecture, and adopting this technology allows Calor to capitalise on the benefits of this integration strategy.
- ✿ They are fully integrated into the EnterpriseOne lifecycle management process allowing Calor to utilise existing development and CNC resources for management of the Business Service objects.
- ✿ Oracle's JDeveloper IDE coupled with new EnterpriseOne specific wizards provide developers with a standardised method for building Business

Services and calling other EnterpriseOne objects such as business functions and table I/O operations.

- ✿ Making use of a standards based solution provides Calor with a flexible method of integrating their systems, thereby facilitating future changes in these interfaces.

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“Business Services are a great method of integrating EnterpriseOne with your other business applications. I feel that the support for publishing and consuming web services direct from the EnterpriseOne Development Toolset is one of the best features of the technical architecture in 8.12.”

Danny Hudson | IT Project Manager

“Calor and DWS have created a suite of Business Services that provide access to EnterpriseOne functionality and data from other internal systems.”

## What are web services?

Web Services are a system architecture and methodology for providing distributed software services across a network. They typically use standards based technologies such as XML, SOAP and WSDL to support interoperable application to application interactions.

Their popularity has risen in recent years, as organisations realise that proprietary point to point based integrations are inflexible and expensive to maintain as systems constantly evolve and change around them. Moving to a standardised and scalable architecture provides greater flexibility within their IT infrastructure by allowing these changes to occur more easily.



## About DWS

Since 1998, DWS has been providing software development and technical support to companies who want to customize and extend Oracle JD Edwards EnterpriseOne. Its award winning Dimension Analyze™ service has now assisted customers in Europe, Australasia and North America with their EnterpriseOne upgrade projects.

DWS is the trading name of Developing World Systems Limited, which is registered in England and Wales.

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