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Rubicon Red uses Oracle Directory Services To Enable Powercor to Simplify Their SOA Deployment and Reduce Time To Market

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Introduction

Powercor is one of the leading electricity distributors in Australia. Their core business is to manage the poles, wires and equipment used to deliver electricity to homes and businesses in Melbourne as well as central and western Victoria. While Powercor is responsible for the quality and reliability of the power supply to their customer's – the traditional relationship has been with electricity retailer and not the actual user of the electricity. But as part of the project to replace existing electric meters with "smart" meters Powercor wants to begin engaging with the actual end-user of the electricity. For example customers must be notified when the technician will come on-site to disable the electricity and replace the meter, and the customer must have the ability to reschedule the appointment and be reminded of the visit.

A customer-facing portal is used to allow customers to schedule appointments, update contact information and enable customers to be able to subscribe for alerts around service outages. The security for the Web application is provided by Oracle Access Manager. The workflow and notification processes (including email and SMS alerts) are performed by Oracle SOA Suite.

The login credentials, user name, contact information and related attributes (such as limiting SMS messages to a specific time of day) for customers are stored in Oracle Internet Directory.

Oracle Virtual Directory is used to provide a flexible LDAP store for Oracle Access Manager and to provide a Web Service interface to LDAP data to make it easier to build SOA-based business processes.

Business Challenges

Scalable Identity Store For Customer Data

Powercor needs an identity store that is able to scale to millions of users.

Flexible Identity Store Access

The initial project would only provide services to customers, and the company plans to eventually allow employees access the portal using their existing Windows logins. Powercor needs the ability to add in their internal users stored in Microsoft Active Directory without needing to actually copy these users into Oracle Internet Directory.

Simplify SOA Integration

The core of Powercor customer applications is based around Oracle Service Bus (OSB). These services will provide re-usable capabilities such as emailing or sending a text message to a customer reminding them of a service call.

Contact information including name, address and permissible contact times for specific contact types (for example SMS is only available from 8 A.M. till 8 P.M.) is stored in the customer entry in Oracle Internet Directory.

However, making LDAP calls from OSB is much harder on the developer than making a Web service call. Using a Web Service such as DSML (which is a standard from OASIS that effectively is LDAP over SOAP) is much easier to integrate with than writing custom Java code using a LDAP API like JNDI.

The Solution

Oracle Directory Services provides the solution to Powercor's business challenges. Oracle Directory Services provides a complete Internet-scale directory solution including virtualization, proxy and storage. With the acquisition of Sun, Oracle Directory Services now gives customers choice of storage – using either Oracle Internet Directory or Oracle Directory Server Enterprise Edition (the former Sun LDAP server).

Powercor uses Oracle Internet Directory to store customer identity, contact and related information. Powercor uses Oracle Virtual Directory to provide flexibility to add in additional

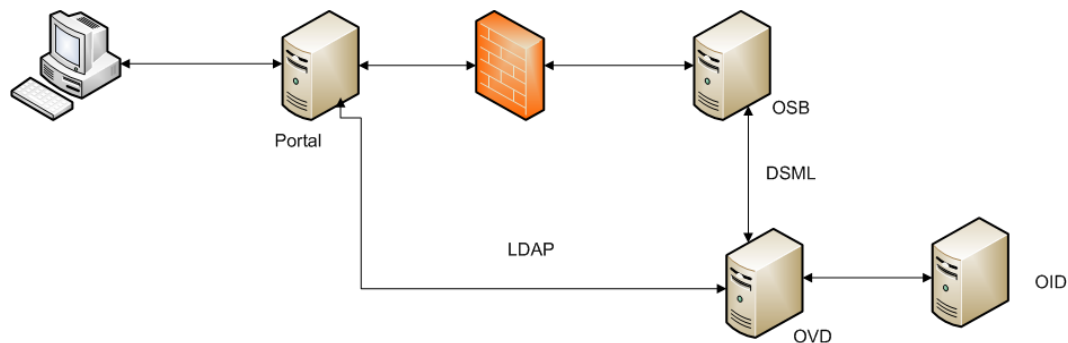
identity stores without needing to reconfigure the applications like Oracle Access Manager or their portal.

Powercor also uses OVD's DSML v2 interface for use with their SOA-based services. DSML v2 is a standard that allows for LDAP operations over Web Services. This simplifies the ability to integrate the customer profile information stored in OID with the rest of the business processes defined in the SOA components.

By leveraging Oracle Directory Services as the foundation for their identity it allows them to quickly deploy a flexible identity attribute service that easily integrates with their SOA-based business components.

Deployment

The following diagram shows the high-level Powercor deployment.



Operating Systems

The OID database is running on Solaris and is kept highly available by using redundant databases synchronized using Oracle DataGuard.

The OVD and OID servers are running on Red Hat Linux. They are spread over 3 servers in two different data centers.

Project Implementation

The project was implemented by Oracle partner – RubiconRed (<http://www.rubiconred.com/>).

Benefits

There were several benefits to the implementation.

- Shorter deployment time – OVD and OID was up and running in under a month
- Scalable and reliable architecture – Because OID uses the Oracle database for storage it allows it to scale to billions of entries. Additionally existing database security, high availability and backup administration that is being used for other project components within SOA and the portal can be utilized due to Fusion Middleware 11g integration.
- Flexibility – OVD allows Powercor to access the identity data using the protocol that best meets their application requirements. Additionally OVD allows Powercor to add in additional data sources such as Microsoft Active Directory or databases without having to reconfigure their applications.

Conclusion

Powercor is a leading electricity generating company in Australia. To make it easier to communicate with electricity end-users in particular as Powercor updates the electrical meters, they are deploying a new IT infrastructure based around Oracle technologies. This includes Oracle SOA Suite and Oracle Identity Management. The foundation of this deployment is Oracle Directory Services which is used to provide authentication, user contact information and makes it easy for applications to connect to the data via standard interfaces such as LDAP and DSML. This has made it simpler for Powercor to deploy their new infrastructure and reduced time to market.



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