



AMEC
Calgary, Alberta Canada
www.amec.com

Industry: AMEC provide high quality engineering, project management and consulting services

Oracle Products & Services:

- Oracle JDeveloper / Oracle ADF 11g
- ADF Faces Rich Client
- ADF Task Flows
- ADF Business Components
- Oracle WebLogic Server 11g
- Oracle SOA/BPM 11g
- Oracle BI Publisher 11g
- Oracle Database 11g

Project Scale:

- 500 Entities
- 550 Views
- 600 Task Flows
- 10 Application Modules
- 8 Sub Systems

Credits:

Orlando Kelly, Development Manager, AMEC Inc.
Andrejus Baranovskis, Red Samurai Consulting
Dana Singletery, Oracle

AMEC

“Oracle ADF was the closest match to our Oracle forms system and allowed us to re-use our existing business rules in the most efficient manner. Oracle ADF has set us on the right road for our modernization project and provides a path to SOA/BPM and Mobile development”.

Orlando Kelly, Development Manager, AMEC

Executive Summary

Convero is the Project Management System at AMEC and has run on Oracle products since the 1980's. It was originally developed in Oracle Forms 1 (Beta) and released in Oracle Forms 2. It was then migrated to Forms 2.3, 3.4, 4.5, 6, 10g and 11g.

The most recent goal was to modernize the Convero Project Management System to be based on the Oracle Fusion Middleware stack. Oracle ADF plays a key role in the Convero modernization project and brings the possibility to extend Convero for Mobile access and integration with SOA, BPM and BI technologies.

Organization

AMEC is a focused supplier of consultancy, engineering and project management services to its customers in the world's oil and gas, mining, clean energy, environment and infrastructure markets.

With annual revenues of over £4 billion, AMEC has major operations in the UK, Americas and the Asia Pacific region and works internationally for customers from the Arctic to Australia, employing some 29,000 people in around 40 countries worldwide.

The Business Issue

Evolving business needs of AMEC require the Convero application to have a modern web interface accessible by mobile platforms and be ready for integration with advanced business processes with the help of Oracle BPM and SOA technologies.

Oracle ADF provides an ideal solution for modernizing Oracle Forms applications, providing similar development concepts and a more modern architecture suited for enterprise applications. The Convero Project Management System is a large and key part for AMEC projects worldwide and it was important to run both the legacy Forms application and the new ADF system in parallel until the modernization project completes. Forms applet screens were dynamically integrated into the modernized Oracle ADF based Convero navigation system to provide a single point of access for both new and old systems.

Challenges/Solution

One key challenge was the seamless integration of running existing Forms screens integrated with ADF, another challenge was the reuse of an enormous quantity of dynamically generated business rules defined in the database.

The Previous Convero Forms 11g application was developed with business rules declared in custom dynamic metadata defined in the database. With an excess of 2,000 PL/SQL business rules defined in the DB over 20 years, all are reused in the modernized ADF based Convero system. An innovative approach was developed to automate business rules injection into the ADF code. AMEC

developed their own XML parsing utility to inject business rule definitions into ADF BC Entity XML source files, which are invoked automatically at runtime. This helped to simplify development complexity, by re-using existing code and business logic. Using this approach Convero ADF form implementation has sped up by around 30%. ADF allows AMEC to extend and plugin custom code into transaction execution events, which makes it possible to call business rules automatically during data fetch, update and remove operations. ADF provides a customizable framework environment with the option to automate PL/SQL code re-use in ADF BC Entity objects – this is a key point for the Convero project. Every change in a business rule is automatically synchronized in ADF by running the XML parsing utility and updating the ADF BC Entity XML source file.

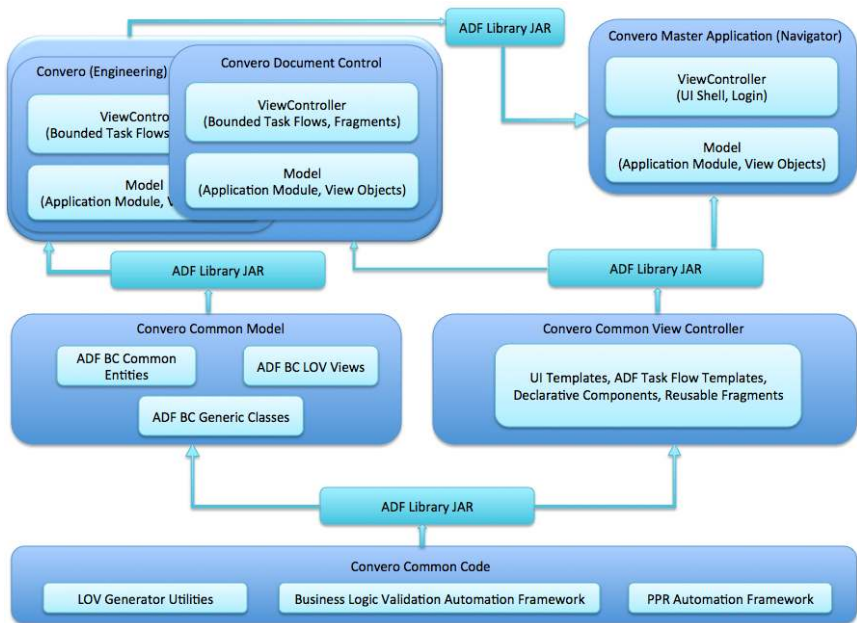
The Convero Navigator UI shell was developed using Oracle ADF to create a dynamic dashboard that bring together all reusable ADF Task Flows along with access to legacy forms simultaneously from the same menu structure. The dashboard also gives access to Oracle BI Reports, BPM Tasklists as well as legacy mod_plsql screens. All of Convero’s modules such as Capital Cost, Document Control, Engineering, Position Planning, Project Accounting and Supply Chain are now accessible from a single point of entry.

Business Value

The primary value that the modernization from Oracle Forms to ADF 11g has provided to AMEC is ability to give their business users a modern and user-friendlier system for daily use in their jobs. ADF Mobile capabilities give more options for business users to access the Convero Project Management System from mobile devices, such as smart phones and tablets. From a strategic point of view, integration with other AMEC systems is now simpler with ADF, as it runs on top of the SOA and BPM platform, which makes it easier to integrate third party applications and processes.

Software Architecture

Convero Project Management System technical software architecture is based on the ADF reusable architecture model recommended by Oracle.



Dashboard View

The Convero Navigator allows access to new ADF screens as well as the Oracle Forms application, BI Reports and the BPM Tasklist.

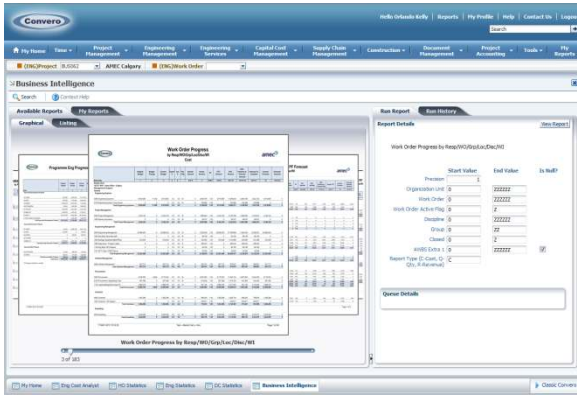


Application View

Purchase Order Overview form example from Supply Chain module. This form is implemented with ADF and provides Purchase Order data along with statistics displayed in graphs rendered with ADF DVT components.



Oracle BI Integration allows user to run business intelligence reports directly from within Convero



ADF/Forms integration with Convero Navigator UI. ADF allows SSO to meld a modernized Convero and legacy Oracle Forms system together from a single UI entry point.

