

Take Your Portal Technologies to the next level with Single Sign On and E-Business Suite Portlets

Dr. Sarala Rajeshuni
National Aeronautics and Space Administration
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, CA

Abstract:

Oracle Application Server Portal and its integration with E-Business Suite of Applications offer a complete process management solution to enterprises for managing their corporate portals. Using Oracle Application Server Portal, E-Business Suite of Applications, OID and Single Sign On, this presentation will demonstrate a step wise design and implementation of portal technologies to create corporate portals with E-Business suite portlets like workflow, Application Navigator and Application Favorites.

Target Audience:

This document is targeted to technical and functional users, with knowledge of oracle applications, portal and single sign on technologies.

Introduction:

Jet Propulsion Laboratory (JPL) is a federally funded research and development facility (FFRDC) located in Pasadena, California. JPL is operated by CALTECH (California Institute of Technology), Pasadena, California. JPL is specialized in robotic exploration of our solar system. Our recent missions include Cassini-Huygens (Mission to Saturn and Titan), Stardust (sampling planetary material), Mars Odyssey (Orbiting Spacecraft) and Mars Exploration Rovers (twin rovers Spirit and Opportunity). These rovers offered unique contributions in pursuit of the overall Mars science strategy

JPL originally implemented Oracle Applications HRMS, Financials, Manufacturing along with 25 custom applications and 10 third party software products in 1998, later in December 2001, we upgraded to Oracle 11i (release 115.3) from 10.7SC. Currently, we are in Release 11.5.10. Our fully installed Oracle products include General Ledger, Projects, Receivables, Payables, Cash Management, Order Management, Inventory, Assets, Workflow and its Business Event System, Purchasing, Human Resources, Payroll, Advanced Benefits and Manufacturing. IBS, our Institutional Business System is responsible for developing, maintaining and supporting business applications hosted by these Oracle Products. OCIO, our Office of the CIO provides all IT services required by JPL lab wide. Implementing single sign will enable users to authenticate once and gain access to multiple software applications deployed by JPL. Using the single sign on technologies, a unified reporting portal interface was designed where users can sign on once and access their reports, workflows, and alerts. This white paper discusses the prototyping effort of this implementation using Oracle Internet Directory (OID), Oracle Sign On (SSO), Oracle Discoverer and Oracle Portal technologies.

A Solution for Integrated Reporting with Oracle Single Sign On

Oracle E-Business Suite of Applications with its business modules, workflow, and reporting tools like Discoverer offer several reporting solutions to user community. As business needs of users increases, reporting with custom tools increases. With increase in number of custom reporting tools, reconciliation of reports generated from these tools becomes a primary part of reporting community. Also, training users to work with these never ending tool technologies plays a major role in corporate business policies. To

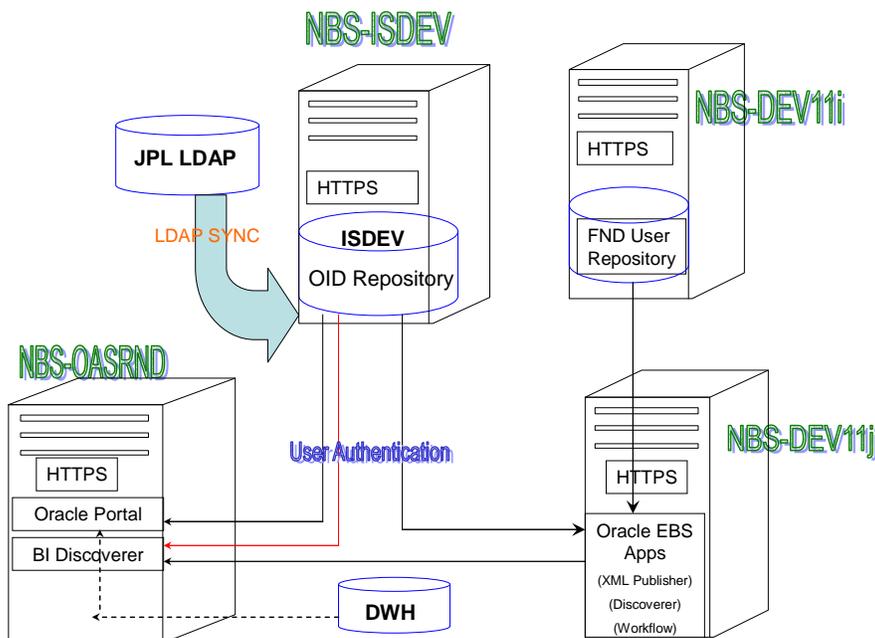
reduce cost, increase performance and provide a user friendly service, unified reporting interface was required where users can sign on once, view all their reports, schedule them to run periodically and share them with the other user community. Reporting tools provided the back end to the reporting interface and were transparent to user community. This provides a complete cost effective solution to enterprise systems and automates their daily reporting needs.

Oracle Portal, a member of the Oracle Fusion middleware provides an integrated framework for developing, deploying and managing corporate portals. Its content management utilities, integration with other software components offer a wide variety of portal solutions to the enterprise architecture. Not only developers can develop java and pl/sql portlets and deploy them in the Oracle Portal, but portlets provided by Omni Portal, Web Clipping Portal, and Instant Portal make their portal development a more feasible solution for corporate portal pages.

Oracle Application Server, a component of Oracle Identity management provides single sign on for web users where users can sign on once and be authenticated to multiple oracle systems like Oracle Portal, Oracle E-Business Suite, Oracle Discoverer, Oracle Workflow, and external applications. Web applications can register with Oracle AS and provide users with single sign on access.

Oracle Internet Directory (OID) is the central user repository for Oracle Identity Management. Integration of E-Business Suite with Oracle Application Server and Oracle Portal provides users to authenticate against OID and access portal pages, OAF portlets like workflow, applications navigator, favorites and all the various reports provided through Discoverer. Fig 1 describes our reporting portal architecture using single sign on technologies.

Fig1. Unified Reporting Architecture with Oracle Portal and Single Sign On



Reporting Portal is a portal interface developed with oracle portal technologies. Using this interface, users can access reports from e-business suite, discoverer, and data warehouse. Oracle Portal, is a component of the middle tier (NBS-OASRND) and authenticates users against the oracle Internet Directory OID installed in the infra structure database (ISDEV). E-Business suite authenticates against the fnd user repository residing in the application database tier (NBS-DEV11i). For our reporting interface, it was configured to authenticate against OID using the single sign on technologies. If OID was not available, E-Business could authenticate its users locally against fnd user. OID can also be configured to work with an external LDAP.

Using this integrated single sign on environment, it was possible to develop a unified interface where Oracle Applications, workflow and discoverer portlets were deployed in portal pages (Fig 2, Fig 3, and Fig 4)

Fig2. Deploying Applications Navigator and Favorites Portlets in Oracle Portal Pages

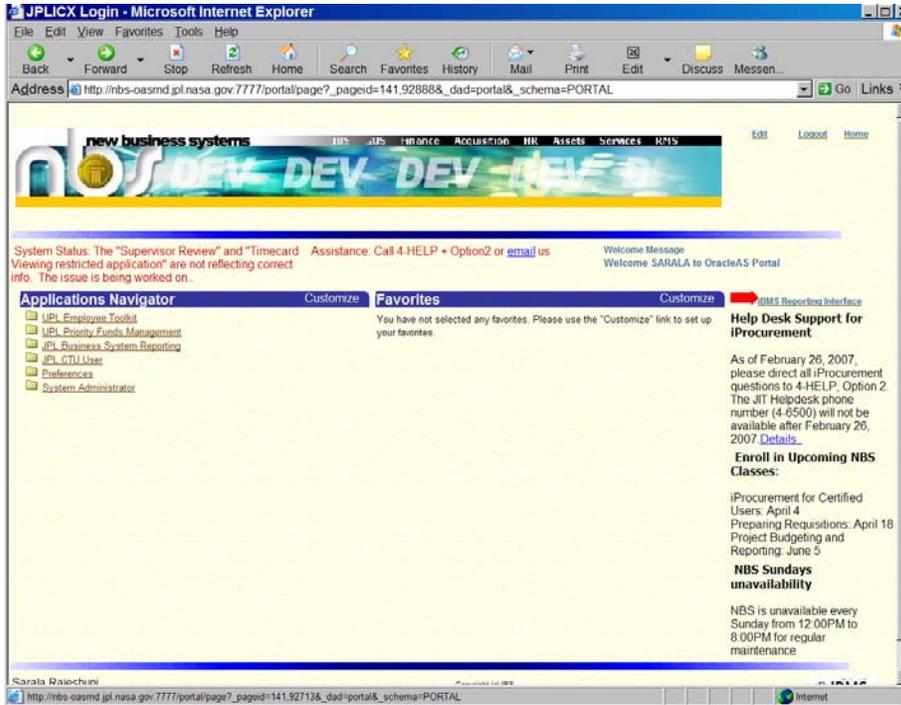


Fig3. Deploying E-business Suite Workflow Portlet in Oracle Portal Pages

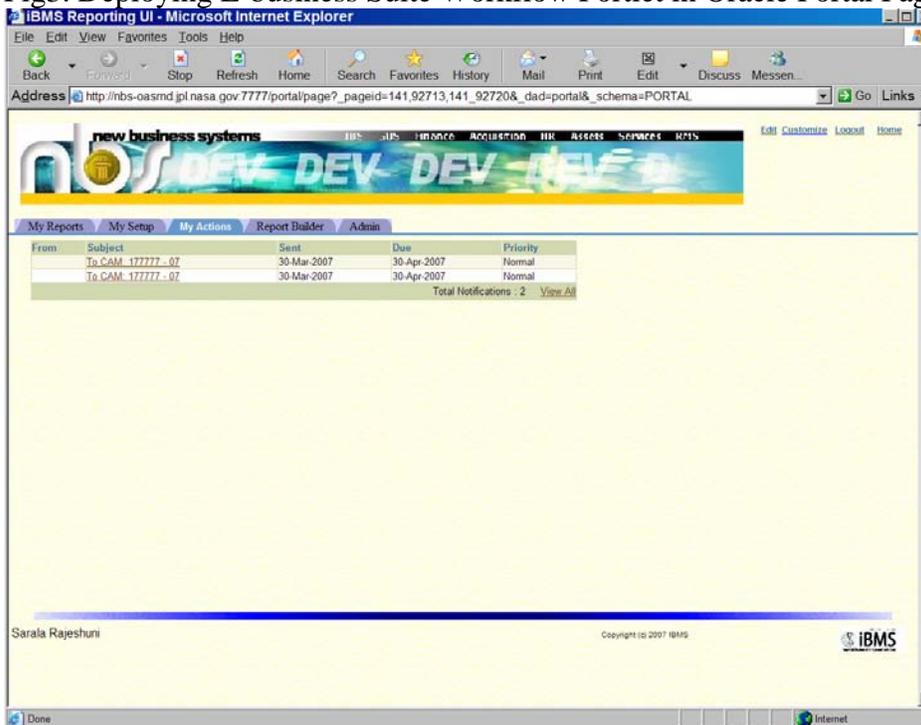
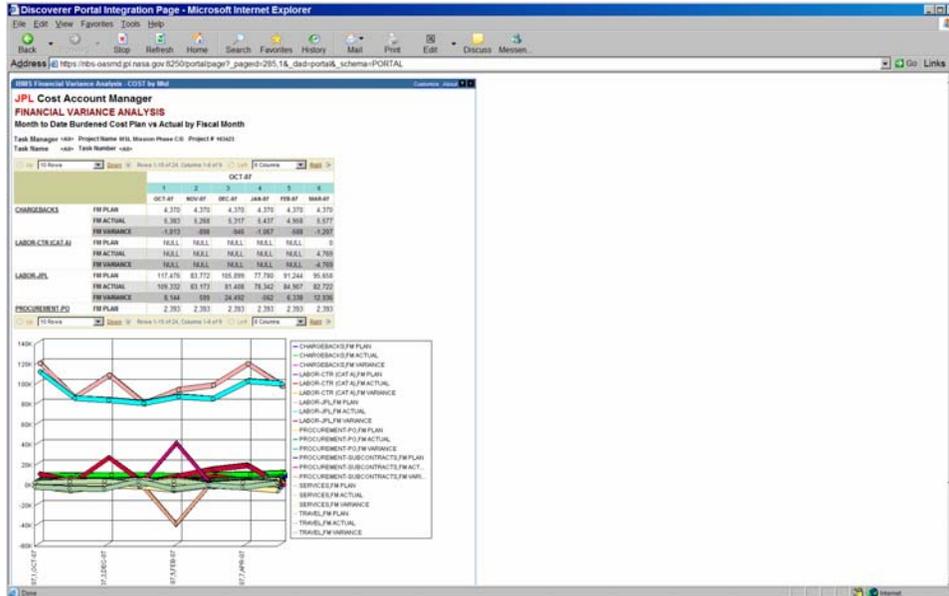


Fig4. Deploying Discoverer Workbook Portlet in Oracle Portal Pages



Building corporate portals with E-Business portlets: A five step process

Using a five step process, we can build corporate portal pages where users can authenticate once and access e-business portlets, discoverer portlets and other custom portlets.

Step1. Installing Oracle Application Server 10g with Oracle E-Business Suite Release 11i

Note 233436.1: This document provides information for integrating Oracle Application Server 10g Enterprise Edition, with Oracle E-business Suite 11i. With this integration of Single Sign-On and Oracle Internet Directory, E-Business suite users are authenticated against Oracle Internet Directory (OID) and can access all the e-business applications and portal applications. Due to this integrated single sign on, user accounts can be created either in Oracle Portal or E-Business suite of applications.

Step2. Using Oracle Portal 10g with Oracle E-Business Suite 11i

Note 305918.1: This document provides information for integrating Oracle Portal 10g with Oracle E-Business Suite release 11i. With this integration, oracle application framework provider can be used to access OAF portlets like workflow, application navigator and favorites. These portlets can be deployed in portal pages and users can access them through single sign on.

Step3. Using Discoverer 10g with Oracle E-Business Suite 11i

Note 313418.1: Using Discoverer 10.1.2 with Oracle E-Business Suite 11i
 This document provides information for using Oracle Business Intelligence 10g Release 2 (10.1.2) with Oracle E-Business Suite Release 11i. Discoverer should be single sign on enabled. With this integration, we can deploy discoverer portlets in Oracle Portal pages.

Step4. Creating OAFramework Provider and Discoverer Provider Using Oracle Portal, portlet providers are created for OAFramework (Fig5, Fig6) and Discoverer (Fig7, Fig8)

Fig5. Create OAFramework Portlet Provider

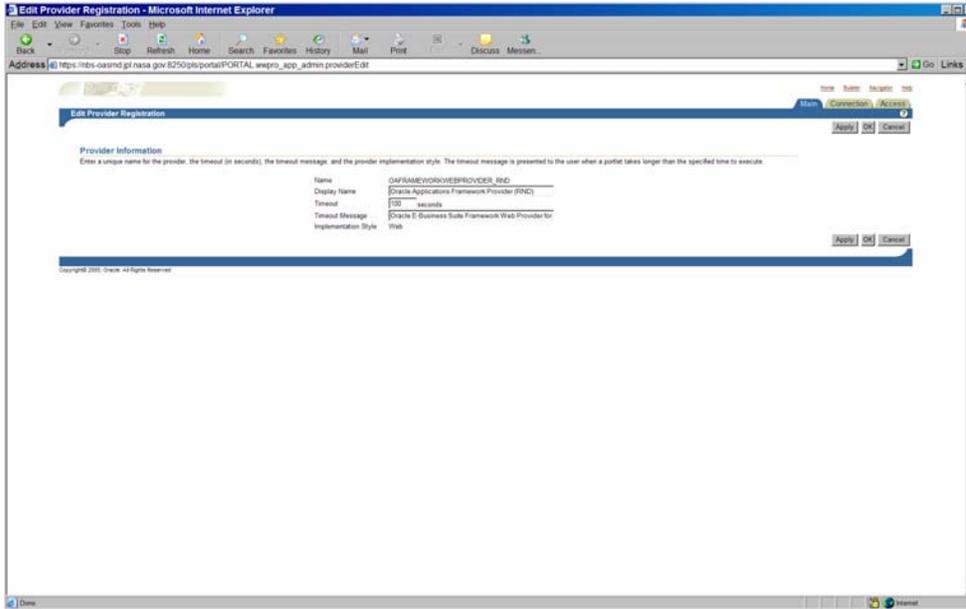


Fig6. Edit OAFramework Portlet Provider

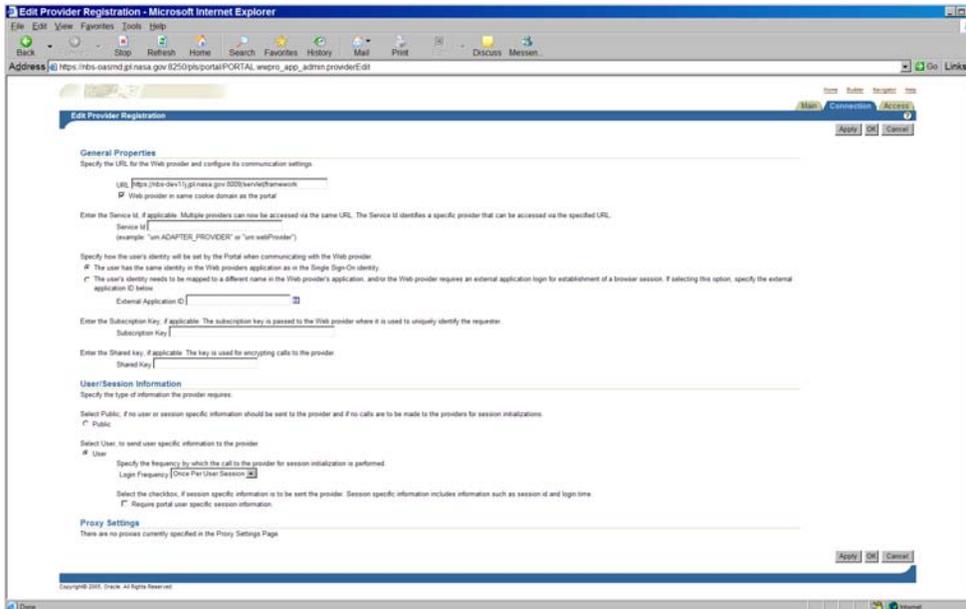


Fig7. Create Discoverer Portlet Provider

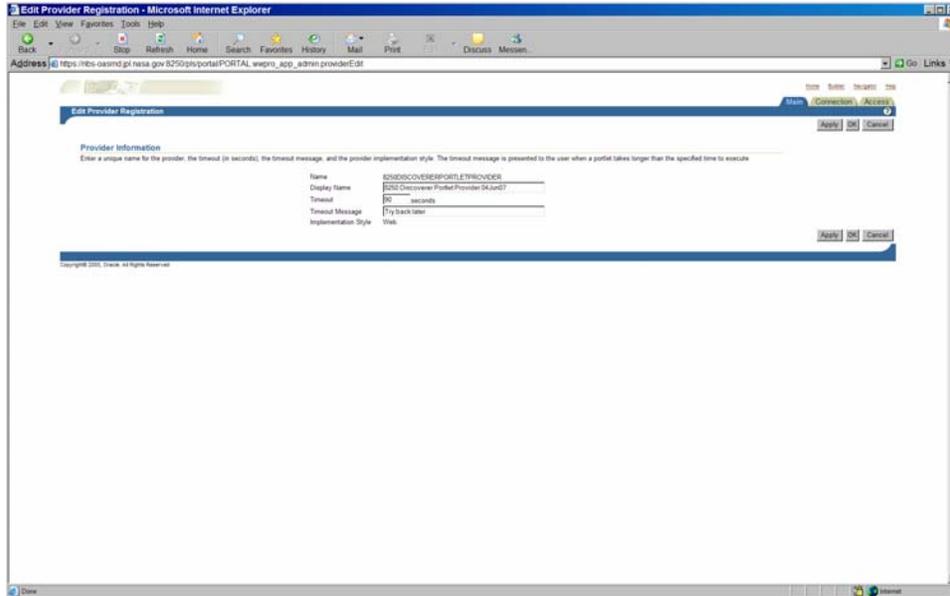
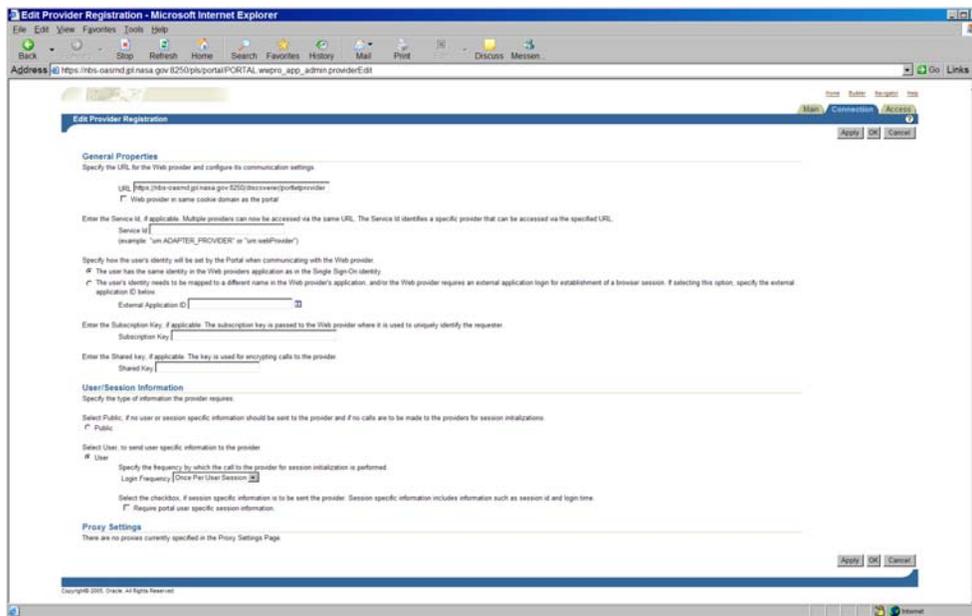


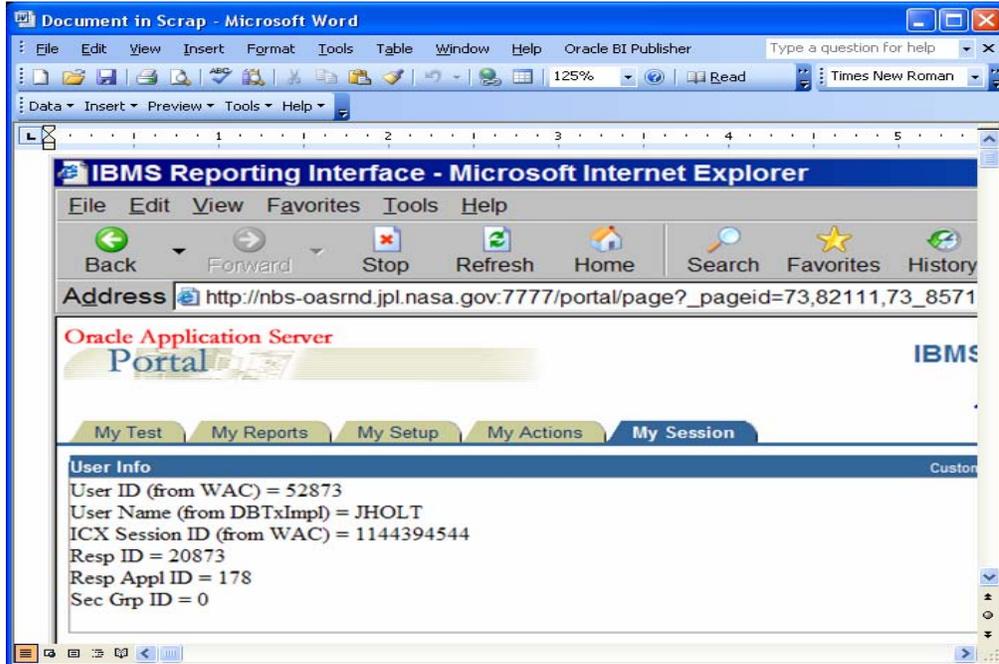
Fig8. Edit Discoverer Portlet Provider



Step5. Adding OAFramework and Discoverer Portlets to Portal Pages

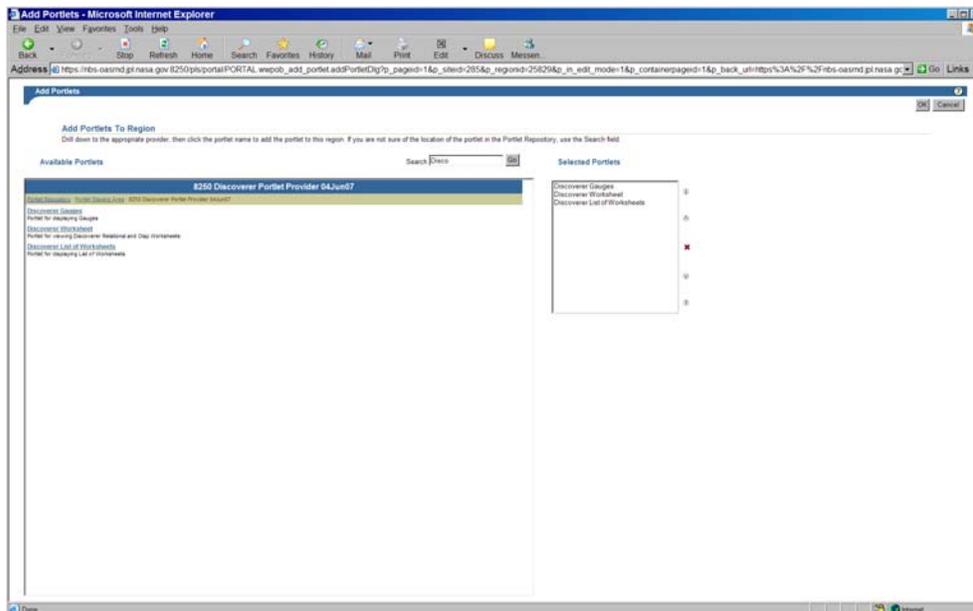
Portal pages were created using Oracle Portal, and portlets from the Discoverer and OAFramework portlet providers are added to the portal pages (Fig9, Fig10, Fig11, and Fig12)

Fig11. Add OAF Portlets from OAFramework Provider



Discoverer Integration with Portal provides three discoverer portlets. Discoverer Gauges (Portlet for displaying gauges), Discoverer worksheet (portlet for viewing a worksheet), Discoverer List of Worksheets (portlet for displaying list of worksheets). Unlike OAF portlets, discoverer portlets need further configuration like specifying connections to be used, parameters to be set, etc.,

Fig12. Add Discoverer Reports from Discoverer Portlet Provider



Conclusions:

Business process can be enhanced by using single sign on technologies. Integrating Oracle Application Server 10g, Oracle E-Business suite of applications (11i), Oracle Discoverer running on the Oracle Application Server provides users an opportunity to sign on once and access several applications. Oracle Application server 10g can be configured to work with Oracle Applications for user authentication. Oracle Portal can be integrated with Oracle Applications to deploy the OAF portlets like workflow, applications navigator, and favorites. Oracle Portal can also use the technologies like Web Clipping, Omni Portal, Instant Portal, java and pl/sql to deploy custom portlets. In general, integrating all these technologies might be hard to achieve, but is quite rewarding when accomplished.

Acknowledgement:

Institutional Business Systems
Office of the CIO
IBMS Project
JPL Management and Staff

The research described in this white paper was carried out at the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.