ORACLE

FUSION MIDDLEWARE

ORACLE MOBILE SUITE

COMPLETE MOBILE DEVELOPMENT
AND DEPLOYMENT PLATFORM

KEY FEATURES

- Productivity boosting mobile
  development framework

- Cross device/OS deployment

- Lightweight and robust enterprise
  service bus

- Extensive connectivity through adapters

- Integrated security and governance

KEY BENEFITS

- Reduce integration complexity and cost

- Develop once deploy to various devices
  and operating systems

- Scalable and robust shared services
  infrastructure

- Create mobile optimized service layer
  for your applications

- Simplify mobile application development

- Extreme performance and scalability for
  your services

Oracle Mobile Suite provides organizations a complete development and deployment platform to mobile enable their enterprise systems. The suite provides support for the development of both the front end client as well as the back end integration layer of a mobile system. The suite includes Oracle's productivity boosting mobile development framework for building on device mobile applications that run on a variety of devices and operating systems. In addition the suite includes an enterprise service bus - replacing complex point-to-point integrations with a single service virtualization connection. Also included in the suite are adapters that simplify the task of interfacing with existing applications.

Complete Mobile Development Solution

IT shops are facing increased demand for mobile applications that will take advantage of the exploding popularity of smart mobile phones and tablets. However developing applications for mobile devices pose a new set of challenges both in terms of developing the mobile front-end as well as connecting to backend systems and data sources.

The Oracle Mobile Suite is an integrated suite of products that enables organizations to build all the layers of their mobile application in a simpler way, targeting multiple client devices and backend sources of data based on a scalable and robust architecture. The suite also provides a robust deployment platform for running those applications.

The Oracle Mobile Suite brings together a lightweight yet robust service bus solution, adapters for multiple backend technologies and applications and an innovative mobile application development framework to provide a complete end-to-end answer for your mobile needs.

Cross Device Solution

Oracle's mobile suite include a mobile development framework that enables you to develop a single application that installs and runs on multiple devices including phones and tablets running both iOS and Android operating systems. Developers build a single application that can be packaged and installed as a native application on these devices. Developers can leverage the power of the Java language to define the business logic of their applications. For the user interfaces the framework leverages HTML5 to deliver a native like experience across devices with support for touch gestures and animations. The Java logic and HTML5 user interface execute inside a native container which is able to interface with local device features as well as receive push notification events on both platforms.

Shared Services Infrastructure for Mobility

Oracle's service bus is designed to connect, mediate, and manage interactions among heterogeneous services, legacy applications, and multiple enterprise service bus instances

ORACLE

across an expanding service network with built-in support for high performance and low risk incorporation of cloud services. The service bus uniquely combines service integration, messaging, operational service management, and security-enforcement capabilities. It offers unparalleled QoS through unique policy-based service virtualization, service pooling, and throttling capabilities that meet the demands of high-volume mobile projects. For extended monitoring capabilities the service bus includes comprehensive dashboards displaying service-level agreement (SLA) alerts, operational metrics, and message pipelines for the business services it hosts.

To facilitate data exchange with external mobile applications that require optimized network traffic, the service bus can handle non-XML payloads with a host of data sources such as File, EJB, FTP, MQ, JMS and Tuxedo. Developers can easily transform existing SOAP services into REST style services thereby avoiding extensive programmatic changes.
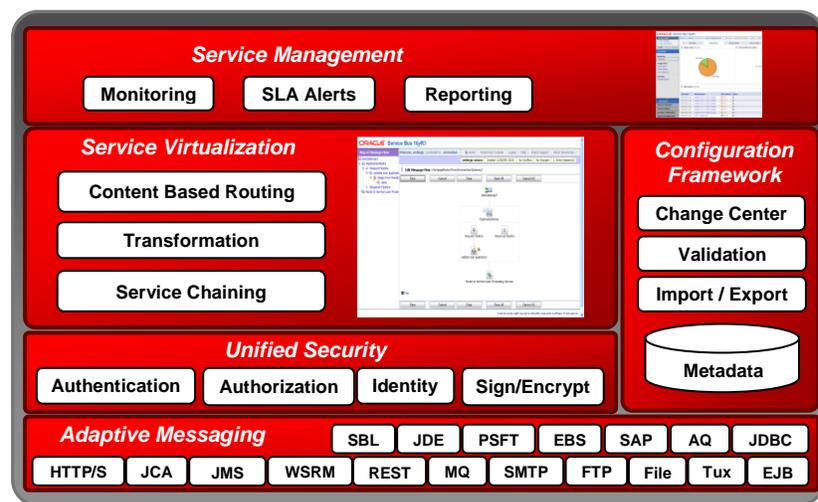

Figure 1. Oracle Service Bus components and architecture.

Simpler Mobile Application Development

The Oracle Mobile Suite includes a mobile development framework that is focuses on increasing developers' productivity by offering a visual and declarative development approach. A set of over 60 user interface components simplify UI definition providing native like user experience, touch gestures and animation out of the box. To create the pages developers use a visual page viewer, interactive structure panel and a component palette – all providing visual help constructing the page in addition to the advanced code editor. Further definition of components' behavior is controlled through property setting in a property inspector.

Connecting user interfaces to server based services, local Java classes and device services is done in a declarative way using a powerful binding layer to abstract low level communication protocols.

Applications' page and process navigations are defined using a task flow diagram that enables developers to visually design the flow of control in the application.

The Oracle JDeveloper IDE provides visual tools that further simplify the development of mobile applications with the mobile framework. Oracle JDeveloper integrates with both the

ORACLE®

iOS and Android SDKs to enable direct deployment and test/debug capabilities from inside JDeveloper to devices and emulators.
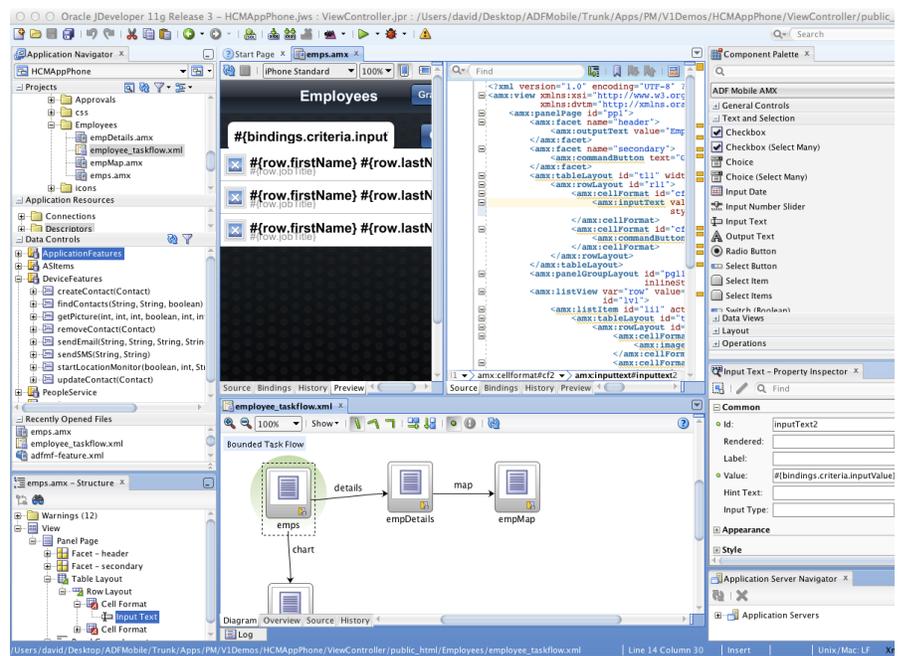

Figure 2. Visual and declarative mobile application development

Robust and Open Mobile Application Architecture

The mobile development framework provides a robust architecture for your mobile application. The framework is leveraging a model-view-controller design to deliver applications that are easier to develop and maintain.

Logic for the application can be developed with the powerful Java language both for the data model and the controller layer. For developers who prefer to code with JavaScript, the framework provides a set of JavaScript based API to integrate with the container and the Java features that they can use in their mobile HTML5 pages.

For the view layer the framework provides a choice of development approaches. Declarative development can be done with component based approach leveraging over 60 components that render HTML5 and JavaScript based user interfaces. In addition developers can code HTML5/JavaScript pages with any existing 3rd party framework – those would run on the device as well. HTML pages generated by remote servers can also be incorporated into the same application. The mobile container used by the framework enables each one of those solutions to access device features in an easy way.

Applications build with the framework can easily connect to backend services using both REST and SOAP interfaces. In addition a local encrypted SQLite database is included for storing data locally to increase application performance and enable offline operation in a secured way.
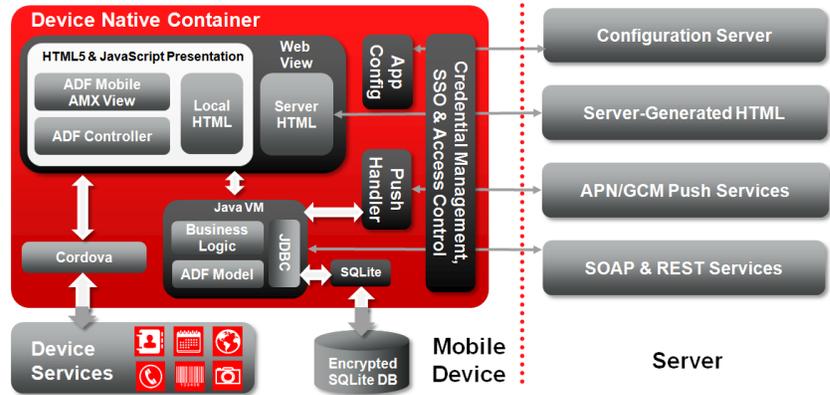
ORACLE®

Figure 3. Oracle Mobile Framework architecture

Productive Service Infrastructure Development

The Oracle Mobile Suite service bus enhances productivity by providing visual development and debugging capabilities, fine-grained message-level tracing, and action-level metrics.

Developers can use both an IDE-based as well as a Web-based visual and declarative interfaces to define service integration and transformation for the service bus. A visual debugger feature allows developers to define break-points, introspect variable context and data, as well as step-through the execution stack for inbound and outbound message processing pipelines in an intuitive, observable manner. The service bus allows granular logging of messages exchanged at run time between transports, applications, and data endpoints Edits are tracked and can be reviewed or rolled back at any point.
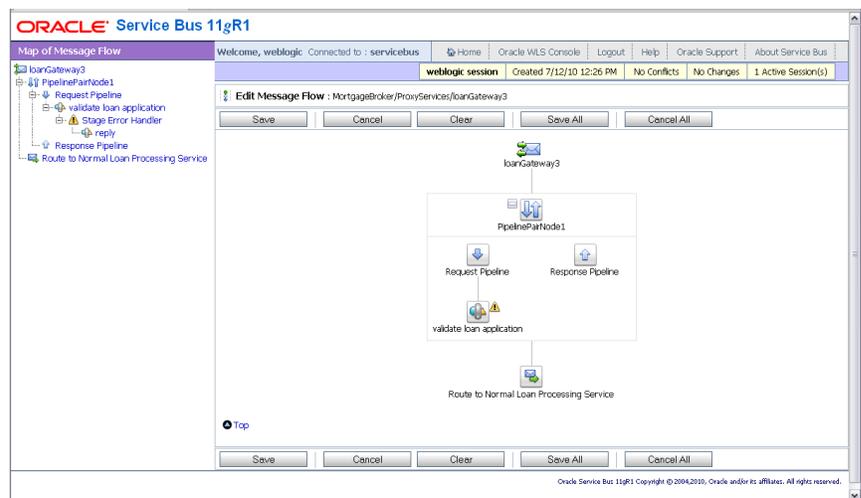

Figure 4. Oracle Service Bus lightweight Web-based design console.

Comprehensive Application Integration

The key to building a successful mobile interface for existing systems is having a high-speed, low-impact, non-intrusive approach to access exposedl business logic and data contained within them for reuse.

Adapters for multiple backend technologies as well as for Oracle's E-Business Suite enterprise application are included as part of the Oracle Mobile Suite. The adapters provide

ORACLE®

comprehensive, bi-directional, standards-based, real-time connectivity to a variety of enterprise application systems. The Adapters use industry standard protocols to create open and reusable service-oriented based backend access for mobile applications.

Scalability and Performance

The Oracle Mobile Suite service bus provides extreme performance and scalability for all dimensions of your architecture. Applications need to scale in many dimensions—vertically, horizontally, with user numbers, and with message size. Scalability with an increasing number of services is an important and often ignored dimension of mobile architectures. Oracle's service bus has the ability to scale easily to thousands of services, via sophisticated techniques such as preprocess parsing to split large messages into smaller packets, as well as near linear scalability on clustered deployments.

Applications built with the mobile framework can perform better on mobile devices compared to other hybrid approaches since their code is executed in a multi-threaded JVM compiled as a native library.

Secured Solution

Security is a key requirement for mobile applications with unique challenges that stem from the fact that mobile devices can be used outside the office and can easily be misplaced or stolen. The Oracle Mobile Suite includes built in security features for every layer.

The mobile development framework can create secured mobile applications with support for both authentication and authorization. Specific features and components of the application can be limited to specific users and roles. The framework also supports authentication when the application is offline against a local encrypted credentials repository.

For storing data locally in a secured way, the framework includes an encrypted SQLite database. This ensures that even if the device is lost, data can't be accessed by un-authorized users.

In addition the framework encrypts the network traffic between the device and the servers.

The service bus includes a unified security layer that supports authentication and authorization as well as strict governance and management of the services that are exposed through the bus.

Conclusion

The Oracle Mobile Suite offers a complete solution that addresses all your needs for development of both the front and back ends of mobile solutions. With an integrated development framework and service bus, visual and declarative development and security across the layer the suite provides a one stop solution for mobile enabling your enterprise.

ORACLE®

Contact Us

For more information about [insert product name], visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Oracle is committed to developing practices and products that help protect the environment

Hardware and Software, Engineered to Work Together

ORACLE®