

SWOT Assessment: Oracle Mobile Application Framework

Analyzing the strengths, weaknesses, opportunities, and threats

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Summary

Catalyst

Oracle has ramped up its capabilities for mobile app development. Its investment in these technologies is considerable and it now ranks in the top tier of mobile app development platform (MADP) providers. The solution will appeal not only to Oracle enterprise application customers, but also to a wider range of users. Uniquely, Oracle can offer a seamless Java experience across mobile clients to server-side development.

Key messages

- Oracle Mobile Application Framework supports mobile apps for enterprise users (B2E), customers (B2C), and web and mobile web channels, with programming or visual declarative tools for building cross-platform mobile apps.
- The solution is highly scalable, with multi-channel REST-based integration services across on-premise and cloud-based mobile apps.
- The platform is designed for a low total cost of ownership, and includes a complete mobile platform for development, integration, security, and deployment.
- Uniquely, enterprise users can leverage Java skills to build mobile apps, with a write-once, run-anywhere approach. This enables server-side Java developers to use their skills for client-side mobile app development.
- A library of packaged, mobile optimized reusable components and best practices help create a high-quality mobile experience, including more than 80 visual and data components for rapid app development executed as HTML5/CSS.
- The platform supports built-in security integration for single sign-on (SSO) and multi-factor authentication.
- Ovum would like to see tooling for improved security exploit detection at a programming level.

Ovum view

Oracle Mobile Application Framework (MAF) is an advanced hybrid framework for rapid mobile app development. Developers have the choice of using the provided client-side development tools, which support Java, JavaScript, and declarative development, or either the Eclipse IDE (via Oracle Enterprise Pack for Eclipse) or Oracle's JDeveloper IDE. MAF apps can work while connected to data services or in offline mode, leveraging mobile device features, and providing a native-like user experience. The framework delivers enterprise capabilities, such as internationalization, accessibility, customization, and security out-of-the-box. MAF has advanced features, such as wizards, property inspectors, dialogs, and visual development, which help reduce coding and accelerate development. For secure on-device persistence, MAF includes an encrypted SQLite database.

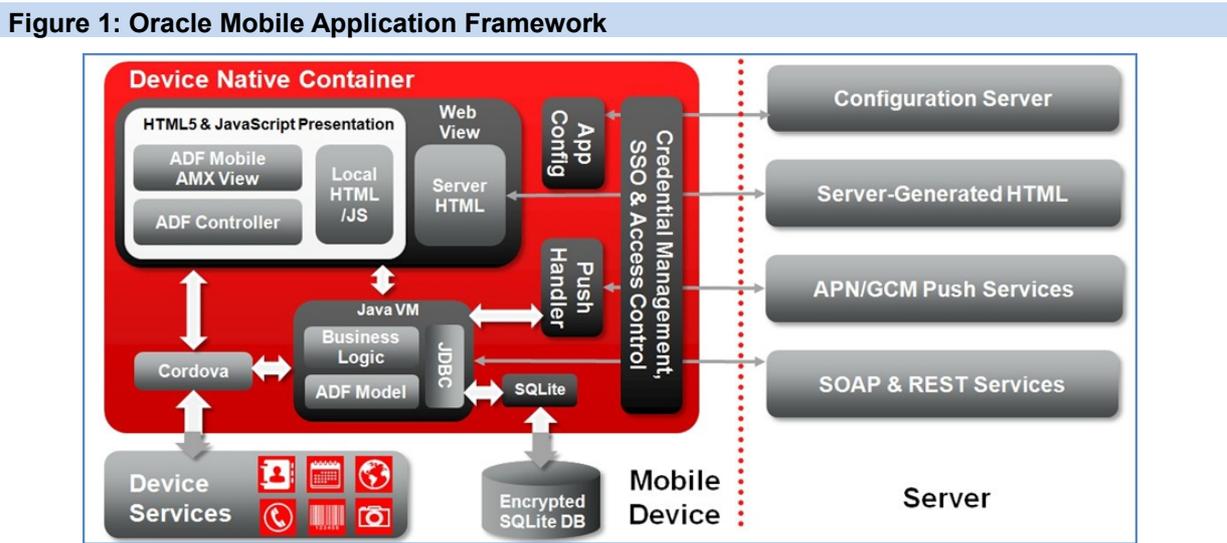
Oracle Mobile Cloud Service (OMCS) provides additional development capabilities that include declarative UI development with a rich set of components based on Oracle's Data Visualization Toolkit and a full model view controller implementation. OMCS is built from the ground up for a mobile-first

environment, with optimized RESTful APIs. It is also extensible with JavaScript in Node.js. In addition, features include a unified hub for all mobile access to enterprise IT assets and external data sources.

Java development is available through Oracle Application Development Framework (ADF), Oracle’s application development framework for enterprise web and mobile web applications. Mobile web-based applications built with ADF are designed to be responsive and adaptive, and deployable on a full range of popular devices and form factors. Oracle ADF Faces Components is an extensive set of interactive UI components that provide advanced graphical and tabular capabilities delivered as a set of more than 150 rich components used for building web and mobile web-based interfaces. Mobile-related optimizations include support for touch gestures, and automatic adjustment of rendering to device capabilities.

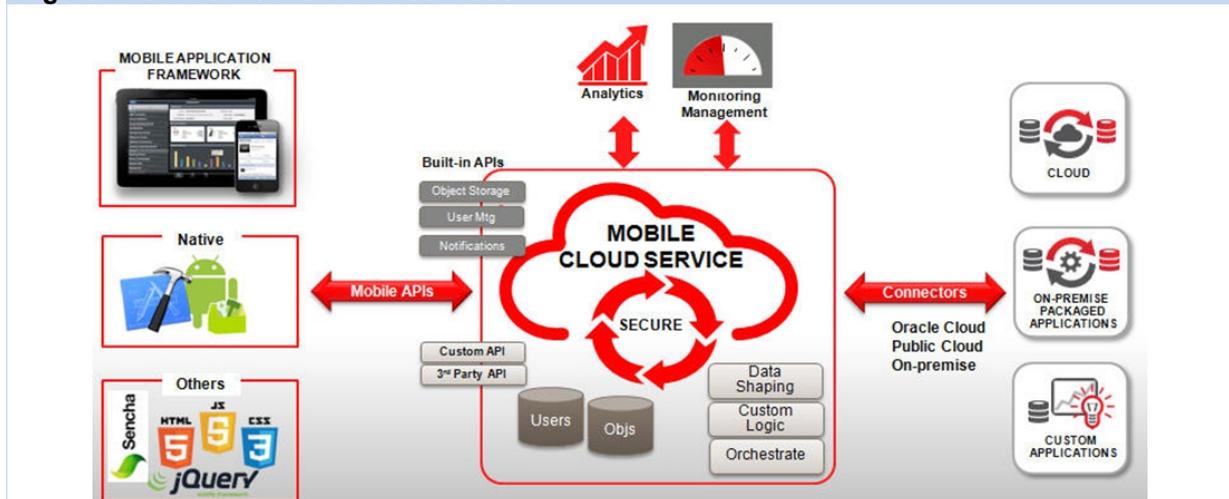
Mobile back-end integration is available through the Oracle Service Bus, which replaces complex point-to-point integrations with a single service virtualization layer to host mobile APIs, and also a set of technology and application adapters that simplify the task of interfacing with existing enterprise applications. The mobile app server is designed to handle high volumes of unpredictable transactions, and to be highly scalable and reliable.

The Oracle Mobile Security Suite (OMSS) supports enterprises with a robust bring-your-own-device (BYOD) solution by isolating corporate from personal data on consumers’ personal mobile devices without needing to lock down the entire device. It also offers an integrated solution with several authentication infrastructures for secure SSO to corporate applications.



Source: Oracle

Figure 2: Oracle Mobile Cloud Services



Source: Oracle

Recommendations for enterprises

Why consider Oracle Mobile Platform?

Oracle has launched an ambitious set of mobile app development tools and services that will satisfy the most demanding of enterprises. Uniquely in the market, Oracle can offer Java as a development skill for building mobile apps, leveraging JavaServer Faces technology. However, it is agnostic regarding the build approach, with support for hybrid development using open web standards-based mobile apps. The Oracle Mobile Cloud Service also offers business domain expert based mobile app development using a highly visual design and development environment. Oracle can also leverage its considerable capabilities in back-end data integrations across all enterprise applications. Finally, enterprise security is served by Oracle’s mature security capabilities extended to mobility and also to work with third-party security solutions.

SWOT analysis

Strengths

Oracle’s MADP offers agnostic client-side development, mobile cloud service, and enterprise connectors

Oracle offers a deep solution set that enables developers to choose from a range of client-side options, including Oracle Mobile Application Framework (MAF) using Java skills for write once, publish to multiple devices; native development using third-party tools, such as Android and iOS; open-web-standards-based solutions; and a GUI-based development environment for non-programmer, power users on the Mobile Cloud Service, where they can easily build apps (this is Mobile Application Accelerator, which Ovum expects to be launched in the next 12 months). The back end has a range of connector options to enterprise applications, custom applications, and other cloud

services. The Enterprise MBaaS launch has also yet to be announced, but Ovum believes that this will also be in the next 12 months.

Oracle Mobile Cloud Service APIs can connect to analytics and performance monitoring services

Oracle offers a range of analytics to support understanding user behavior, including anomaly detection, big data analysis, and predictive analytics. The APM capabilities are also comprehensive on both the server and client sides. For example, on the server side is monitoring by geography and app version, while on the client-side, there is crash analysis to line-of-code-level detail. There is also real-time discovery of apps on a device.

Oracle is the only vendor to provide a Java-based cross-platform mobile solution

The support for Java deserves a special mention. Oracle is the steward of the Java platform and unsurprisingly, it has a pure Java solution, which will appeal to many enterprises with in-depth skills in Java. The fragmented nature of the mobile market, with a shifting line of recommended mobile frameworks, makes skills availability a problem for enterprises. With MAF, an enterprise can build mobile apps using the same skills it uses on the server side. This is a distinct advantage for businesses with Java-based environments.

Weaknesses

Enterprise security at the code level could be improved

Oracle has good all-round support for mobile security. For example, it supports the full range of authentication options including multi-factor authentication. Where it could improve is in code-related security, where developers are often insufficiently trained to prevent common exploits as enumerated by OWASP. Buffer overflow, SQL injection, and cross-site scripting are three well-documented and reported issues, and yet these are still commonly found in code. These types of problems should be automatically picked up and the developer alerted.

Limited compliance support

Oracle supports FIPS, but it should also be compliant with a number of key industry standards, such as Payment Card Industry (PCI) standards and Section 508 website disabilities support. Oracle has solution templates for a wide range of vertical industries, so improved compliance support should be on its roadmap.

Opportunities

Oracle's MADP solution is a relatively new entrant in the market

Oracle's entry in the MADP market was later than some of its established rivals, but it does have the benefit of addressing the market's needs with the very latest architected solution. There are a number of distinctions in Oracle's solution. Being a fully in-house developed solution also marks it out, and it has the potential to grow its market share further.

It needs to enhance Technology Network with greater mobile presence

One way to grow market share is by supporting user communities. Oracle is already proficient here, but its mobile support needs to have a greater profile on the Oracle Technology Network (OTN).

Enterprises in particular are looking for advice on best practices and which client-side technology to choose for various business and consumer scenarios. Sharing knowledge in this way, even code snippets and modules, enhances user satisfaction with the product and helps to grow market share. As this report went to publishing, Oracle has added resources to OTN and also a dedicated YouTube channel all about Oracle Mobile Platform (see Appendix).

Threats

The market threatens only Oracle's mobile entry, not the business

Mobile apps are very important for enterprises, and Oracle needs to be successful with its MADP if it is to provide end-to-end technologies: client side, middleware, and systems of record. So while mobility success is not crucial to Oracle as a whole, it is clearly advantageous to appeal to new customers and have a ramp up to the business via mobile, as well as to provide that end-to-end capability for Oracle enterprise application customers. Oracle is doing the right things with its MADP, and it now needs to get its messaging across to the market as a whole, not just its existing customer base. The Technology Network is a good place to engage with developers and draw them in to what is possible with Oracle's MADP.

Data sheet

Key facts about the solution

Table 1: Data sheet: Oracle

Product name	Oracle Mobile Application Framework (Oracle MAF)	Product classification	Mobile client-side development framework
Version number	2.0.1	Release date	Latest version released September 2014
Solution keywords	Mobile development, hybrid, iOS, Android	Geographies covered	Global
Industries covered	All	Platforms supported	All major OSs
Relevant company sizes	All	Licensing options	Perpetual, term, SaaS, per application, per named mobile user
Languages supported	Java, JavaScript, HTML5	Routes to market	Direct, indirect (channel)
Deployment options	On-premise, on-premise (managed), hosted (dedicated), SaaS	URL	http://www.oracle.com/
Company HQ	Redwood Shores, CA, US	European HQ	Reading, Berkshire, UK
Asia/Pacific HQ address	North Ryde, NSW, Australia		

Source: Oracle

Appendix

Methodology

Ovum SWOT Assessments are independent reviews carried out using Ovum's evaluation model for the relevant technology area, supported by conversations with vendors, users, and service providers of the solution concerned, and in-depth secondary research.

Further reading

Ovum Decision Matrix: Selecting a Mobile App Development Platform Solution, 2015–16, IT0022-000223 (February 2015)

<https://www.youtube.com/user/OracleMobilePlatform>

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