

All about MEAP

This white paper will help you understand MEAP (Mobile Enterprise Application Platform) better. It will help you decide why and how MEAP fits into your mobility strategy. And it will give you some tips and best practices to make the best use of your MEAP.

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Introduction

Mobility is changing the way enterprises do business, and interact with customers and employees. Even as mobility has been a part of enterprises for several years in some form or the other, it's getting smarter and more organized now. The faster enterprises can adopt solutions that work best for them, the quicker they will benefit from all the advantages that mobility brings.

A key element in any mobility strategy is the platform that hosts the mobile applications. The selected platform should be able to provide an optimum mix of mobile software, networks and hardware ensuring that enterprises extend the right data and functionality to mobile devices; use network and connectivity that is most suited for their needs; and are able to mix and match devices and models as per their functionality, cost and flexibility. MEAP or Mobile Enterprise Application Platform is one such platform.

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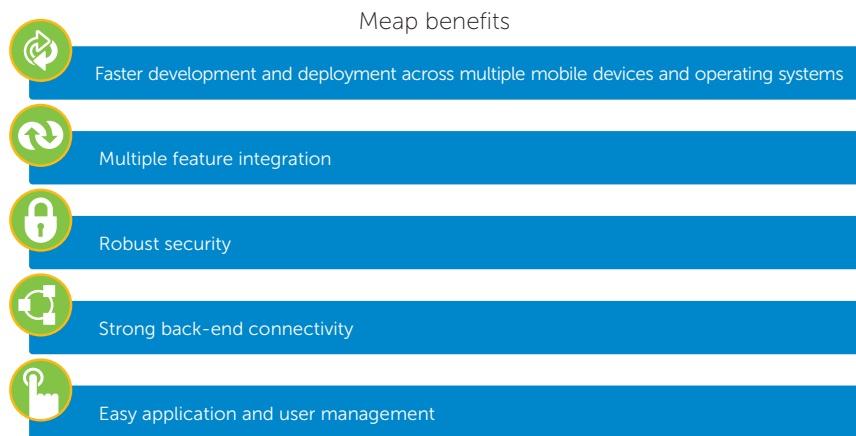
A MEAP can help organizations achieve their mobility goal in an organized, secure and efficient way.

MEAP – An overview

MEAP is an application platform middleware that enables and supports the development of mobile enterprise applications. Based on the principle of 'write once, deploy to many', MEAPs are ready to hit the ground running. They eliminate the laborious triad of effort, time and money that is required to develop mobile applications. MEAPs reduce infrastructure and back-end worries. They are fast to develop and deploy and can integrate multiple features. They offer robust back-end connectivity, allow code reuse, and are highly secure while being easy to manage.

With MEAPs, enterprises can build, deploy and manage mobile applications for any data system across devices and wireless networks, and deliver them to any user. MEAPs support both offline and online capabilities. They run on tablets, smart phones, handhelds and notebooks. A key advantage for enterprises is that MEAPs deliver data to mobile users through a unified and organized interface.

While point solutions or mobile development toolkits may offer richer functionalities and superior user experience, they may not be able to handle new technologies, dictates of market forces or changes in back end systems. MEAP on the other hand offers a robust platform that can weather many changes. A MEAP allows an enterprise to focus on delivering mobile applications for their customers and employees with the knowledge that their mobile applications can rapidly evolve to new mobile OS's and features, as well as new mobile devices and form factors. Even as dissenting voices argue that MEAPs tend to be rigid, entail vendor lock-in, take several months to deploy and require a set of complex integration, they are surprisingly flexible and can be cost effective in the long run. MEAPs do come at a cost (read vendor lock-in), however their advantages generally outweigh the CAPEX investments.



Is MEAP suited for my enterprise?

To know if MEAP is suitable for your organization, you should assess your organization's strategy, current technology infrastructure, customer needs and business model, against some key parameters like:



MEAP Elements



Here is a guide that will help you understand the many aspects of MEAP and how to navigate the MEAP world. It will also give you some tips on what to expect in MEAPs, how to handle certain aspects of MEAP, as well as pitfalls to avoid.

Roadmap

There are two fundamental parameters that you should consider at the onset: strategy and cost. Opt for MEAP if your mobility strategy includes multiple enterprise applications that have to be deployed across the enterprise. Another point to be noted is that the line between applications developed natively, or in hybrid environments on through mobile web is tapering, and MEAP might have what it takes to keep up with these so-called front-runners.

Applications and users

Mobile applications fall under two buckets: B2E and B2C. Most B2E applications entail standard objects like user authentication, security, offline data storage, etc., MEAPs here can be used to mobilize business processes, such as field service, and create a unified workflow that interfaces to multiple backend systems seamlessly.

For B2C applications, providing the best user experience is key. Enterprises want their mobile applications to be polished with the latest user interfaces and mobile device features to make them attractive to customers. While a MEAP may not be able to support new mobile features as quickly as the native SDK, it provides pre-built solutions for securing mobile data and robust backend integration features. Also, MEAPs provide a rapid application development and deployment path to new mobile OS's and devices. These capabilities make MEAP the right choice for B2C applications. Many enterprises have selected MEAP for their customer-facing mobile applications because security, integration, and a rapid path to the future are more important than being at the cutting-edge of mobile device features.

The following matrix compares MEAPs in B2C and B2E environments:

Functionality	Business to Customer (B2C)	Business to Enterprise (B2E)
Development	- Applications are not very complex - Business logic is usually straightforward - Some applications have a rich data set with search functions and various types of content MEAP Applicability: High (MEAP helps by developing the same application for multiple platforms)	- Applications can be very complex, with many screens and objects - Large amount of data - Peripherals are often used to extend device functions in more complex applications MEAP Applicability: Very High
User Interface	- Branding is very important - User experience and usability is very important - Applications need to be easy to use and intuitive MEAP Applicability: High (As the same code base is used to develop multiple platforms, there is consistency in the user experience. At a widget level the user still gets the look and feel specific to the underlying platforms.)	- Branding is less important when compared to B2C - Application training is generally given to users - Usability is less important when compared to B2C MEAP Applicability: Very High

Functionality	Business to Customer (B2C)	Business to Enterprise (B2E)
Deployment	Installation from iTunes Store, Android Market and RIM App World are the norm, subject to public comment / review MEAP Applicability: High	Controlled and private over-the-air installs are required from the platform provider via Corporate BES (blackberry enterprise system) or other system MEAP Applicability: Very High
Device Management	Not applicable as companies do not manage their customers' devices MEAP Applicability: Typically, not applicable	Some degree of user, application and device management is required MEAP Applicability: Very High
Users, devices and billing	- Users and devices are typically not pre-registered - Total application downloads drives billing MEAP Applicability: High <i>(The MEAP server logs each client session, this can help in understanding usage patterns)</i>	- Users are pre-registered and may have multiple devices that may be pre-registered or shared among users - Known or active users or devices drives billing MEAP Applicability: High
User Authentication	- Some application don't require authentication - Some functions require backend customer directory authentication MEAP Applicability: Very High <i>(Authentication is supported by MEAP)</i>	Users are authenticated against corporate directory in most applications MEAP Applicability: Very High
Data Security	- Data is typically related to the customer or is publicly available - Encryption of data and transport is often required - Applications, typically cache sensitive data is removed upon application exit - Offline mode is not common MEAP Applicability: Very High <i>(MEAP provides inbuilt encryption)</i>	- Data is generally corporate sensitive - Data and transport encryption is used often - Data is often stored on the device and available offline - Applications generally do not access the web without a degree of policy and security MEAP Applicability: Very High
Communications	- Request / response is typical - Push notifications are common - Messages are generally small (e.g. a stock price, account balance) - Generally, standard and finite web services are used MEAP Applicability: High	- Request / response and push of data from host are common - Queuing of data is highly desirable in the mobile platform - Messages can be very large (daily route, parts list, etc.) - Generally, standard and finite web services are used MEAP Applicability: Very High
Other Requirements	- In general compliance / regulation is not applicable - Users and devices are typically not tracked but location is used for store locators and other similar functions MEAP Applicability: Medium (owing to location)	- Compliance / regulations often applicable - Status and location tracking of users and devices is often used to verify locations of team members and company assets MEAP Applicability: Very High

Security

In the mobility space, data security takes on a larger dimension because of multiple systems, networks and devices. Such a combination makes the entire system extremely vulnerable. A lost handset, poor password authentication, or breach in security policy can have a cascading effect across the enterprise.

Security has always been high in MEAPs. Features like data encryption, two-factor authentication or roles-based security are tightly knit into the technology and architecture. Additionally, MEAP allows developers to add-in and customize these security features.

Deployment

The beauty of deploying MEAP is that it is similar to any enterprise software deployment - on premise behind your firewall or on-demand using as-a-service model. MEAP gives enterprises the flexibility to deploy applications depending on needs, strategies or resources. An on-premise deployment lends more control over the implementation and backend system security, while an as-a-service model is light on resources for implementation as well as maintenance and can accelerate mobile application deployment. To drive application adoption for employees, partners and customers, MEAPs can help set up private, semi-private or even public application stores where users can download applications.

Robustness

The core of any successful mobile deployment is the server - the nerve center that handles millions of real-time transactions over hundreds of networks worldwide. It bridges the backend systems and frontend mobile applications and this involves high security, flexibility, scalability, and configurability. MEAPs are also known to have flexible connection capabilities to support backend systems including ERP, CRM, BI, etc., from a broad range of commercial software vendors. MEAP in this case should be on an autonomous and independent server so that no data lies in between the host systems and mobile devices.

Integration

The biggest challenge for mobile applications is the data and the integration from a variety of sources both within and without the organization. A sound MEAP should have the wherewithal to interface with any and all backend systems: custom legacy applications, packaged applications or third-party web services. More importantly this critical integration should also consider transaction optimization, encryption and data compression and ensure synchronized data flow from the server to the mobile device, for both online and offline operations.

Connectivity

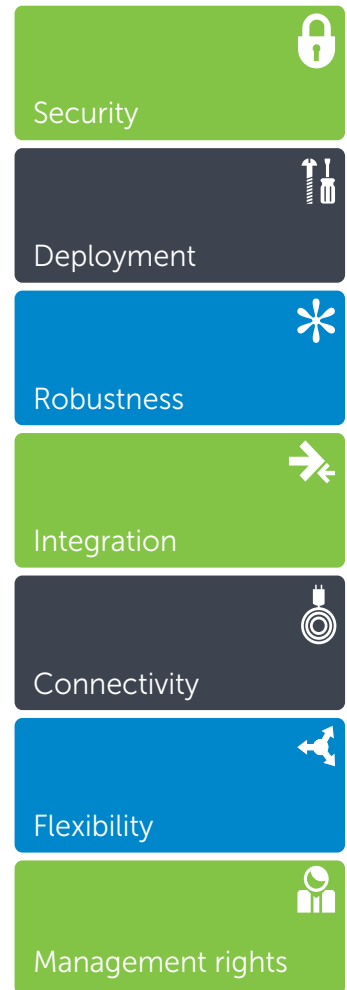
Mobile applications should be above all, smart. The development platform that you adopt should enable that intelligence by ensuring sound logic across applications, devices and users. Such applications should be able to handle various connections, manage updates or rollbacks, all the while ensuring security of the data. It should simultaneously be able to sync with other content too like work files and documents, even if these documents are ad hoc.

Flexibility

MEAP enables development capabilities across devices including Android, Symbian, iPhone, Blackberry, Windows Mobile as well as other new entrants in the market. It also supports a combination of technologies (HTML, CSS and Java). The mobile space is evolving at a phenomenal pace, ensure that the MEAP you select is able to keep up and sustain the changes both at the device and technology level, as well as support web-based and native applications.

Management rights

Often the ongoing management of deployed applications is overlooked. Many times once the device is on air, monitoring how the application is being used or whether it needs improvements is remiss. The MEAP that you select should provide a comprehensive and role-based application to manage users, devices, applications and back-end systems. Additionally, this administration should be centralized, thus enabling seamless deployment, management and updates.





Conclusion

Mobility trends and mobile applications are growing at a rapid pace and the demand for solutions has spurred vendors to develop innovative and functional platforms. MEAP is one such platform that helps enterprises increase productivity while reducing cost, and streamlining operations. However, central to the enterprise's mobility roadmap is a sound strategy and the adoption of solutions that will lead it to its goal. A MEAP can help organizations achieve that mobility goal in an organized, secure and efficient way.

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