Mobile Enterprise Application Platform (MEAP)

A solution to myriad challenges in enterprise mobility
Introduction

As per Gartner CIO Survey, 2012, 61% of respondents plan to increase their mobility capability during the next three years, and 48% believe they will become leaders in their industries by fully adopting innovative mobility solutions. Truly, mobile devices and apps are changing the way enterprises interact with their processes, customers and employees. However, an important element in any mobility adoption process is the platform that hosts the mobile applications. Enterprises need to select a platform which provides an optimum mix of features and capabilities to ensure that they are able to mix and match devices and applications and can integrate it with their processes as per their budget, business goals and mobile strategy. MEAP or Mobile Enterprise Application Platform is one such solution that is gaining considerable traction in recent years as an effective way to design, deploy and manage enterprise apps.

Our cover story, this month, takes a detailed look at MEAP and will help you understand why and how it could be a solution to a myriad of challenges in mobile adoption for enterprises.

Today, mobile application developers spend roughly...

» 20 percent of their time on actual application development
» 80 percent of their time on adapting applications for deployment across multiple handsets and networks.

Companies must flip that ratio to fully realize the benefits mobile applications can bring.

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What is a MEAP?

MEAP is an acronym coined by Gartner in its 2008 Magic Quadrant report. A Mobile Enterprise Application Platform is an integrated development environment that provides tools and client/server middleware for building, deploying and managing mobile applications.

MEAPs address the challenges of mobile app development by managing the diversity of devices, platforms, networks and users. It allows an enterprise to develop an application once and then deploy it to a variety of mobile devices.

A MEAP brings the following capabilities and support for mobile software:

- A complete integrated development environment
- Support for design, develop, test, deploy and manage mobile apps.
- Graphical WYSIWYG development
- Run-time middleware server to handle the enterprises’ back-end systems
- Robust security capabilities
- Local and remote data handling capability
- Ability to integrate external devices like credit card readers, scanners, printers etc.

Benefits of MEAP

Faster app development and deployment

MEAPs address the challenges of diversity in devices and platforms thereby eliminating the repetitive, resource-intensive tasks of building applications for each device type and OS. This enables companies to spend less time adapting applications for specific devices.

Multiple feature integration

MEAPs allow easier integration of mobile apps with the unique features and capabilities of mobile devices and peripherals like credit card readers, printers and barcode scanners.

Management

MEAP interfaces with client middleware server and back-end infrastructure to provide high visibility and control via a web-based console over the environment. This makes it easy for businesses to centrally manage devices and apps and to install and update mobile software over the air.
Security
MEAP enforces guards against unauthorized access and helps with data security in the event of loss or theft of device. It also enables constant monitoring in the mobile environment by generating detailed reports on user usage, devices and apps. The reports can not only be used for surveillance, but also to manage various issues in the environment.

Off-line Connection
Mobile apps, as smart clients in a MEAP environment, can work independently of a central server connection, allowing users to continue to work off-line.

Robust back-end connectivity
MEAP provides strong connectivity between back-end infrastructure and mobile devices through mobile middleware, thereby ensuring a smooth flow of data to any specified device.

Support for scalability and new technologies
MEAP provides a highly scalable infrastructure to support a dynamic increase in devices, apps and users. Being an open flexible architecture the platform also enables easy integration with emerging technologies.

What are MEAPs trying to solve?

» Write app once, run on any device and platform
  » Write application in single language and re-compile for native platform
» Take advantage of device hardware
  » Provide abstraction layer to take advantage of the device hardware
» Integrate with different data sources
  » Set of adapters for XML, databases, web services, SAP, Siebel etc.
» Deployment of applications
  » Hosting of application, manage updates and analyze usage
» Management of devices
  » Asset management for devices and restrictions for trusted devices

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## Comparison with other alternatives

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<thead>
<tr>
<th></th>
<th>MEAP Solutions</th>
<th>Point Solutions</th>
<th>Browser-based Solutions</th>
<th>Smart Client Solutions</th>
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</thead>
<tbody>
<tr>
<td>Works across multiple devices and platforms</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Rich integration with device features</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Lowers development costs</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Speeds development and deployment</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Supports off-line operations</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Optimizes, adapts to user workflow and needs</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Supports dynamic IT demands</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Comprehensive management and security</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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</tbody>
</table>

source: AT&T
When is MEAP a right solution?

Analyst firm Gartner proposed The Rule of Three, whereby enterprises are encouraged to consider MEAP as a solution when they need to support:

- Three or more mobile applications
- Three or more mobile operating systems (OS)
- To integrate three or more back-end data sources

Source: Gartner
1. Multi-platform deployment

Is your business planning to deploy mobile capabilities on two or more operating systems? If yes, then a MEAP will be the right solution to your needs. A MEAP will provide you with ways to leverage a single development capability to build mobile apps across a wide variety of mobile platforms like iPhone, Android, BlackBerry, etc.

2. Multiple applications in the environment

Does your enterprise's mobile strategy include 3 or more apps? If so, then adding a MEAP to the mobile environment is a necessary step for sustained monitoring and management.

3. Connecting to multiple back-end systems

Your sales team wanted mobile access to CRM. Now your inventory team requires real-time data on mobile. The requests simply don’t end! The minute you feel the need for integration and connectivity from multiple back-end systems, it’s better to have a MEAP in place. A MEAP will not only ensure smooth data flow across the mobile environment, but will also enable safeguards for its security.

Issues with MEAPs

On-premise installation

MEAPs are on-premise software and, therefore, would require in-house expertise for development, maintenance and trouble-shooting in the long run. This means costs training personnel or recruiting MEAP experts.

Expensive

There are significant expenses in licenses, hardware and maintenance of a MEAP, making it difficult for enterprises with limited financial resources to adopt it into their ecosystem.

Adaptability

Each organization has its own set of requirements and, therefore, a standard solution like MEAP needs to have customization capabilities to align with the mobile strategy of the enterprise. Meeting the customization requirements of an enterprise and extending all its benefits is a challenge for the MEAPs.
**Recommendations on choosing a MEAP solution**

Selecting the right MEAP solution is of critical importance, as it can not only impact the entire mobile strategy but also business efficiency and finances. Here are a few major points of considerations while picking the right MEAP solution:

**Productivity**

Is the MEAP solution answering to your mobility requirements? Is it helpful in reducing the app development efforts of your organization? The MEAP solution you pick must satisfy most of your needs and mix well with the objective behind adapting mobility in your enterprise.

**Support**

The MEAP you choose must also provide end-to-end solutions in app development efforts. Some solutions don’t provide complete support through the full mobile app lifecycle and may require further developer interventions in native coding, debugging and other manual tweaking.

**Flexibility**

Ask your vendor whether the said MEAP solution only supports mobile apps or can also support desktop or web apps? Some MEAPs are restricted to supporting mobile apps only and have no capabilities for supporting other types of applications. This means you have to build apps for other environments on your own.

**Integration**

Does the MEAP enable complete and easy integration with back-end systems? Smooth integration to enterprise systems, databases and processes will help you save time, efforts and make your mobile environment more efficient.

**Emerging technologies**

With technology continuously evolving, it is of utmost importance that your MEAP solution must also support emerging technologies such as HTML5 to make your mobile environment sync with changing times.

In addition to the above, the expertise and experience of the vendor should also be considered while buying the MEAP solution.
The use of mobility devices and applications in enterprises is growing at a brisk pace. While mobile adoption is bringing considerable benefits for organizations, it is also posing challenges in terms of the efficient management of devices and applications, platform fragmentation, data security and higher costs, etc., which calls for innovative and functional solutions that can reduce app development efforts, lower costs and bring efficiency in the systems. MEAP can be a solution that can help an enterprise answer a myriad of challenges and can help it adopt mobility in a secure, organized and efficient way.

Conclusion
About [x]cube LABS

[x]cube LABS is one of the leading mobile apps development and consulting firm, headquartered in Dallas, U.S and with offices in New York and Hyderabad, India. With expertise across all the major mobile platforms, [x]cube has delivered over 500 apps till date and has an enviable client list comprising of some of the biggest brands like GE, Intel, Texas Instruments, Hasbro, Mattel and 24 Hour Fitness. [x]cube’s understanding of the mobile space and technology, complimented by its rich experience across all the major industry verticals and the capability to deliver end-to-end solutions, make [x]cube the perfect mobile consultant of choice.

To integrate your enterprise people, processes and products with customized, avant-garde mobility solutions or to explore mobility opportunities in your enterprise with our experts, please feel free to contact us at connect@xcubeLABS.com.

We encourage you to continue exploring our website ( www.xcubeLABS.com ) to find out more about our services.