Microsoft Dynamics and Mobile Enterprise Applications

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Mobile enterprise applications represent one of the next frontiers of innovation for enterprise applications. For the past few years, the focus has been on relatively simple applications and use cases that make it faster and easier to perform high-volume transactions such as checking work schedules, entering time worked, approving expense reports, and viewing reports and dashboards. All very useful, but these mobile apps really just expand access to the enterprise application from the desktop to a mobile device and provide flexibility in where, when, and how work is done. IDC believes that the opportunity for business process innovation through mobility that can drive new revenue opportunities and improve efficiency of business processes is through moving beyond these simple, yet valuable, business processes and moving into more complex areas. At the Microsoft Dynamics Convergence 2014 event in Atlanta, Georgia, March 4–7, Microsoft took the opportunity to showcase some mobile enterprise applications that the company, its customers, and its partners have developed to address some of these complex, high-value opportunities. Highlights include:

- Mobile enterprise business processes that move across devices often require access to multiple applications and require collaboration between users.
- Think beyond "white collar" and administrative apps that provide mobile access to data entry, approvals, and reports. Think also about "blue collar" work processes that can improve agriculture, transportation, construction, and more.
- Monetizing mobile enterprise applications is not limited to revenue earned on the sale or download of the mobile application. Developers and independent software vendors should think in terms of growing the number of users who need access to core enterprise applications such as accounting, inventory, and asset management; offering tools and applications that support private enterprise marketplaces; and enabling customers and partners to build mobile enterprise applications through development tools and services.

IN THIS INSIGHT

This IDC Insight discusses the opportunity for mobile enterprise applications to change more than just the way employees submit expense reports, check schedules, and access reports. While these high-volume transactions are important, mobilizing complex business processes, often performed by "blue collar" and service employees, may be more likely to have an impact on direct revenue and dramatically increase business process efficiency. At the Microsoft Dynamics Convergence 2014 in Atlanta, March 4-7, some of these complex and high-value mobile applications were demonstrated.
SITUATION OVERVIEW

At the Microsoft Dynamics Convergence 2014 event, Microsoft took the opportunity to showcase some mobile enterprise applications that the company and its customers and its partners have developed, as well as a framework that organizations can use to help speed the development of mobile enterprise applications.

Considerations for Mobile Enterprise Applications

In the past few years, most enterprise applications software vendors have introduced mobile enterprise applications that solve transactional activities for on-the-go employees. While these apps were a good starting point, it is time to start thinking beyond these basic (but necessary) applications and begin to develop and deploy more complex and high-value mobile enterprise applications. The following items are a short list of what should be considered for mobile enterprise applications:

- **Open operating systems and BYOD.** In many cases, employees are bringing their own devices to work and expect to be able to use them. Mobile enterprise applications must be developed to accommodate a range of devices and operating systems. If a developer or independent software vendor decides to create applications that support only a single operating system, then they are limiting the revenue or usage opportunity for their application.

- **Organization-provided devices.** There are a number of use cases where organization-provided devices are commonly used and preferred (e.g., drivers delivering packages to homes and businesses or restocking shelves in grocery stores often use a terminal or PDA to access enterprise applications). However, these devices had limited usability for general-purpose applications. Increasingly, organizations are deploying to their employees general-purpose smartphones and tablets that include company-specific mobile applications. Sometimes, employees are allowed to add personal applications to the devices. Also, hardware manufacturers are starting to develop rugged smartphones and tablets for use as organization-provided devices. An advantage of organization-provided devices is that the enterprise may choose a standard operating system or development platform and may not need to support whatever the employee brings in.

- **Private enterprise marketplaces.** Increasingly, enterprises are creating private app stores or marketplaces for employees to find and download approved applications for organizational use. According to IDC’s 2014 Mobile Enterprise Applications Survey, 55% of U.S. organizations today are delivering mobile enterprise apps to employees via a private enterprise applications marketplace or store.

- **Mobile enterprise apps moving across devices.** The commerce economy understands this already. People start researching products they want to buy on a tablet, put items into their shopping cart while on their laptop, receive a coupon on their smartphone when they walk past the store, and perhaps make the actual purchase at a mobile point-of-sale (POS) device while talking to a store associate. Enterprise business processes also move across devices – from a biometric time clock that identifies the individual and makes a work assignment to a tablet device that goes with the worker onto the shop floor and then to the manager’s smartphone to approve the completed job.
Leveraging all the capability of the device. Today's devices have cameras, video, microphones, voice recorders, and more. It is important to consider all these capabilities when planning a mobile enterprise application. For example, a technician needs help fixing a complex piece of machinery. He can take a picture of what is broken and submit it with the service ticket. A skilled service engineer, located miles and time zones away, could engage with a technician via a conference call and watch the machinery being repaired via video.

Mobile apps supporting high-value and complex business processes. Many of the mobile apps that quickly came to market generally solved transactional, high-volume processes. While these are important applications, they don't generally reduce costs or create new revenue streams. However, a mobile application that enables a ground crew to trim 5 minutes off the turnaround time for an airplane by reducing the need to log into multiple systems or manually record data can result in significant operational savings plus potential incremental savings as gates are freed up for a newly arriving aircraft.

Complex, High-Value Mobile Enterprise Applications Examples

The sections that follow discuss some examples of the complex, high-value mobile enterprise applications demonstrated at the Microsoft Dynamics Convergence 2014.

Delta Airlines

Anyone who travels on commercial airlines today knows that the experience has changed dramatically in recent years. Flight attendants now sell drinks and food on the flight, usually using a point-of-sale device. In October 2013, Delta rolled out 19,000 Windows Phones to its cabin staff to replace the old POS devices. Historically, Delta did not think of itself as a "retailer," but it actually sells a lot of stuff. With the old devices, Delta could only sell drinks and food at previously set prices. The new Windows devices use Gogo WiFi during the flight to connect to Microsoft Dynamics AX 2012, which means that new items can be made available for sale at any time and prices can be updated quite easily. Now the flight attendants can sell upgrades to an improved seat if one is available, a service that was previously unavailable. And that practice of complementary gate-checked bag if there is no room in the overhead? Now that Delta can easily charge for it at the gate, it may not be complementary any longer.

Additionally, the Windows Phones that the flight attendants are using are regular smartphones with data access (but no voice access). This means the phones can be used as more than just a POS device. Delta can now choose to provide the flight attendants with access to information about high-value passengers, connecting gate information, and required documentation (eliminating 4lb manuals the flight attendants were required to keep with them when on duty). The move from a single-use POS device to the Windows Phone creates new revenue opportunities for Delta that did not exist before, as well as simplifies business processes for the flight attendants and potentially provides more access to information that can improve the passenger experience.

New Belgian Brewing Company

New Belgium Brewing Company (NBB) makes craft beers, such as Fat Tire, at its mother ship in Fort Collins, Colorado. The company is expanding its business to become a national brand and is adding a new brewery in Asheville, North Carolina. Sales representatives are called "Beer Rangers." NBB worked with a Microsoft partner, Sonoma Partners, to build the mobile RangerLand apps that Beer
Rangers use in the field when visiting up to 10 accounts per day. Leveraging Microsoft Dynamics AX and customer relationship management (CRM), as well as the RangerLand app, Beer Rangers can place orders, schedule ride withs, schedule merchandizer account visits, and more. They can track customer key performance indicators such as promos and staff training, new bottle placements, and new draft placements (considered a major win as the NBB logo is visible on the tap at the bar or restaurant). The RangerLand app is a significant part of NBB's goal of achieving preferred supplier status with its distributors and having its Beer Rangers recognized as the distributors' best supplier rep.

**Delivery Driver Concept App**

To demonstrate the possibilities of the types of mobile apps for businesses that can be developed, Microsoft Industry Architect Alex Anikiiev used the currently available Visual Studio toolset to create a concept application for a delivery driver. The application allows the driver to see his/her scheduled deliveries (information from Dynamics) as well as his/her contacts for each of the deliveries whom he/she can easily call from the smartphone or using Skype. Bing maps are embedded in the application so the driver can search for optimal routes based on time, distance, or traffic; signatures can be captured to verify delivery receipt; the camera can be used to document damaged goods; and a lot more. The application took Anikiiev about 15 hours to design, build, and test because of the use of many available components (although it is expected that a field-deployed application would take longer as the organization should conduct more rigorous field testing).

During Convergence 2014, Microsoft highlighted Project Siena (currently in beta), a framework to help accelerate the development of custom mobile enterprise applications. Project Siena is for nontechnical users to build applications. IDC expects that Project Siena, when it is generally available, will make it even easier for customers and partners to create mobile enterprise applications.

In addition, organizations can use the end-to-end apps and service framework for Microsoft Dynamics AX, introduced by Microsoft, which is designed to easily and securely connect their custom-built applications from outside the organization's firewall with Microsoft Dynamics AX. The framework uses the cloud (i.e., Windows Azure) and identity provider Microsoft AD FS for communication between the mobile device and Dynamics AX. No separate middleware is needed. The application integration framework in Microsoft Dynamics AX "listens" for incoming messages through the Windows Azure Service Bus. This framework accelerates connecting the custom-built app with the business process context and data the worker needs.

It is IDC's opinion that the concept app is a good example of what can be achieved and will be useful to Microsoft's partners and customers as they learn to build their own apps. Additionally, the apps and service framework is a good solution for deploying the apps to the mobile workforce.

**Monetizing the Mobile Enterprise Application**

Monetizing mobile enterprise applications is not as simple as the usual business model for monetizing consumer applications. Generally, consumer mobile apps, if not available for free, are purchased using a credit card for a nominal one-time or ongoing subscription price to download the application. Mobile enterprise applications that provide access to core data are not typically monetized separately if the software is delivered via SaaS. In the case of on-premise applications, mobile apps are sometimes...
free/included and sometimes there is a separate fee. Providers are trying to determine the right approach as customer focus shifts from custom development services toward prebuilt mobile enterprise apps provided by the vendors.

At this time, Microsoft is not planning to charge separately for mobile enterprise applications as they are generally considered another way for users to access data from one of the Dynamics products. The opportunity for Microsoft to monetize its mobile enterprise applications is as follows:

- **More users on the application.** Mobile applications open up enterprise applications to more users who presumably pay some license fee. Sometimes, enterprise applications may be licensed only for use by a select group of "power" users (e.g., buyers in the procurement organization, accounts payable managers). Mobile enterprise applications may provide access to enterprise data and processes that are needed for all employees in the company enabling the software vendor to license the application for use by thousands of users rather than only a few.

- **Enterprise marketplaces.** Increasingly, organizations are building private mobile enterprise application marketplaces for employees (and perhaps contractors or other approved users) to download preapproved applications to their mobile devices. Typically, the software (such as Microsoft's Windows Intune) to build and manage these enterprise application marketplaces must be licensed.

- **Platform opportunities.** Customers may choose to license the mobile application development platform (such as Microsoft's Visual Studio or Project Siena) to build custom applications that are specific to their business.

- **Partners that build "mobile only" apps.** Developers, independent software vendors, and solution providers that make up the partner ecosystem may choose to build their own commercial mobile enterprise applications that they will offer to their own customers. These applications usually provide a royalty revenue stream back to the vendor that provides the mobile application development platform.

It is important to recognize that the business case for monetizing mobile enterprise apps can be complex and requires a combination of pricing, licensing, and go-to-market strategies to show a return on the investment. Certainly, there are some mobile enterprise apps that fit in the $x per download model commonly used in the consumer works, but it is IDC's opinion that this model will be seen less frequently in the enterprise world.

**FUTURE OUTLOOK**

The mobile enterprise application opportunity for Microsoft is significant. Overall, there are 350,000 Microsoft companies worldwide that license one or more of the Microsoft Dynamics family of products for enterprise resource planning and for customer relationship management. It is reasonable to expect that every one of these customers has a mobile workforce that could use a mobile enterprise application to improve business processes and to build new revenue opportunities.

Also, the Microsoft Dynamics team has two opportunities for building mobile enterprise applications that are not readily available to their competitors in the enterprise applications space—Microsoft's experience building consumer offerings and leveraging other Microsoft assets such as Skype, Bing, and Office:
• **The consumer experience.** Microsoft is the only one of the large enterprise application vendors with experience in designing, building, and selling consumer applications and devices (e.g., the Xbox One). It is IDC’s opinion that if Microsoft can demonstrate it can leverage this expertise across its business application solutions, then the company will have a unique competitive advantage in the area of mobile enterprise applications.

• **Skype, Exchange, Bing, Office, and more.** Business processes, even when bound to the desktop, rarely if at all fit within an enterprise application. Business processes include spreadsheets, conferences calls, and routes and schedules to deliver packages. Microsoft, again, is the only one of the large enterprise applications vendors with experience in designing, building, and selling these productivity applications. Again, if Microsoft can demonstrate that it can leverage this expertise across its business application solutions, then it is IDC’s opinion that the company will have a unique competitive advantage in the area of mobile enterprise applications.

Finally, the opportunity for mobile enterprise applications that leverage wearable devices is in the very early stages. IDC expects Microsoft, as well as other software vendors, to exploit these devices as these companies and their customers and their partners find creative solutions to improve business processes and build new revenue streams.

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