Seven Principles for a Superior Mobile Integration Strategy

ZDNet estimated that by the end of 2013, 62 percent of companies would be supporting bring-your-own-device (BYOD) connectivity. Of those who allowed it at the time of the survey, 61 percent already had a policy in place for more than a year.[1]

But is that enough? Is allowing employees to use their smartphones and tablets for business enough to empower them? Are mobile applications enough to differentiate you from your competition?

Hardly.

How is integrating for the mobile channel different than integrating applications behind the corporate wall? This document looks at the specificities of mobile integration, and sets out recommendations for making your mobile integration strategy highly successful.

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1 Hammond, Teena. February 4, 2013. Unavoidable: 62 percent of companies to allow BYOD by year's end, ZDNet, CBS Interactive, 2013.

1 | EMPOWER THE USER

While security and mobile apps are required, a mobile strategy is about empowering the user. Doing so requires access to your and your partners' business and operational information and services. It's not too farfetched to see that your mobile apps will become the new face of your enterprise, providing a new experience of doing business with you. This experience will not just be about design; Functionality and performance will play a large part.

That is why, after implementing a mobile application development platform and security, integration is your third priority.[2] Integrating for mobile goes beyond your data, systems, and processes into your ecosystem, including partners and their value-added services such as payments. Offering only static content and partner services will not differentiate your company.

2 | EXPLOIT MOBILE ADVANTAGES

Defining a mobile strategy is similar to web adoption 15 years ago. Back then, companies did not really know what type of content to put on their website and did not have the technology to expose meaningful services. Fast forward to today, websites create brand awareness, provide business services, and much more. And the Internet is becoming increasingly mobile; most handheld devices can browse the web.

What mobile users expect is a great experience using the advantages of mobility and their device capabilities (location, camera, data entry, others) combined with real business value. For customers, the experience could include finding the location of desired merchandise, the ability for immediate in-store or drive-up pickup of items, or the purchase and receipt of maintenance services on-the-fly. For employees, the experience could include visibility of an offer extended to a customer, the customer's information (and location), data capture for business processes, or visibility into the supply chain.

These services are based on the processes and information stored in your systems. Combined with a great user interface design, they will make your mobile applications truly differentiating.

3 | OMNICHANNEL, NOT MULTICHANNEL

As Gartner's research[3] points out, mobile is not the only requirement outside of corporate boundaries:

- Cloud and especially SaaS applications need to be tightly integrated with your systems and processes for their promised value to become real.
- Social media presents an opportunity to engage with customers or prospects by capturing and reacting within the context of specific events.
- Increased visibility and predictability that are the goals of big data initiatives are improved when data from external sources is added.

THE INTEGRATION PLATFORM

Using an integration platform such as TIBCO's (page 6), you can manage complex integration logic and expose standard, ready-to-use services to mobile applications. No-code graphical definition of integration logic reduces the time needed to provide and update new services, preventing unnecessary development and maintenance costs. The integration platform can also support evolving standards and specific mechanisms such as notification systems. For example, developers could invoke a standard notification system instead of once again having to learn the notification API du jour and developing more code that will have to be maintained.

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2 MGI Research. State of Mobile Apps 2012 Survey Highlight.

3 Gartner, Inc. The Nexus of Forces: Social, Mobile, Cloud, and Information. 2013.

Integrating new social, mobile, cloud, and information systems is in addition to the current ways your organization exposes services, such as on websites. Will you create yet another integration channel just to address your mobile needs before moving on to your next initiative (making a "multichannel" architecture)? The reality is that most of these channels expose the same services, and each channel differs downstream, not upstream: Your systems, services, and data remain the same whether they're consumed by other applications or users on their mobile devices, by a cloud-based analytics package, or by another SaaS application.

KEEP IT SIMPLE

You may have started using an integration platform to avoid custom-coded point-to-point integrations and complex architecture often referred to as "inter-application spaghetti." There's no reason now why that situation should be allowed to develop outside of the firewall for mobile and other channels. Because any of these new channels will integrate with the same systems, data, and processes, the right approach is omnichannel, not multichannel.

You need to integrate and expose relevant services from your systems, allowing them to become the functional building blocks for various channel applications. This is where an integration platform with strong connectivity and orchestration capabilities is essential. The platform can separate the potential technical complexity of the systems and expose a set of stable services and events that other applications may already be using.

USE APPLICATION PROGRAMMING INTERFACES

To expose your services and data outside the organization, your architecture needs to adapt the invocation of services or the use of data to the particular channel and context. IT also needs to take care of specific functionalities such as mobile notifications. An API gateway complementing your integration platform allows you to manage the invocations (from mobile, web, partners) and authorize, secure, and throttle, depending on rules.
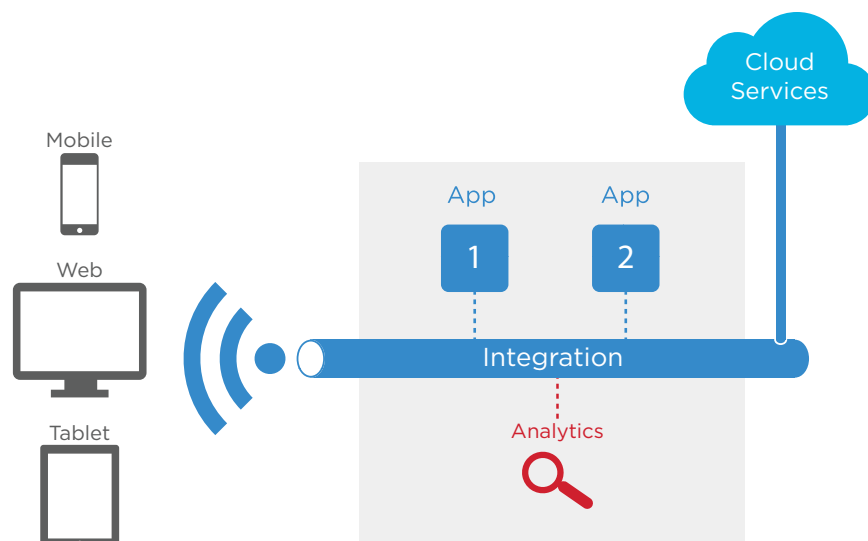
DECOUPLE TO BETTER FULFILL YOUR NEEDS

The value of such an approach is decoupling the management of mobile services and events from the management of enterprise services. Adding a new channel requires a rather small effort, mostly in configuration. The separate management of mobile services also allows separate management of configuration to reflect business agreements, such as adapting quality of service depending on request types or providing channel specific information such as service invocation data to be used for billing purposes.

4 | CREATE PURPOSE-BUILT APPS

Enterprise applications are often the result of compromises made to address a very broad set of functional requirements. This makes maintenance difficult because of interdependencies, and the user experience complex because many different tasks are enabled for many types of users.

Compare that scenario to mobile apps, where the catalog of applications is seemingly limitless. In addition, mobile apps are very easy to install and uninstall. Users are not looking for a small set of applications covering a broad set of functionalities. They select applications with a very singular purpose and build a palette of functions that fits their needs. According to Nielsen, the average number of apps on a smartphone is 41.

BUILD ONTO POPULAR APPS

Apps used for personal productivity (Dropbox, Evernote) give users a way to take action and the ability to manage their own context. Integrating your app with another that's widely used provides huge value to the user, and a reason to keep your app.

These pairings are even more popular when they, or the backend systems they expose, provide functionalities or data integrated with other services, such as payment confirmation via notification.

UPDATING SHOULD BE EASY

Because apps are easy to uninstall, and there's a wide selection to choose from, they have to be constantly attractive to the user, constantly updated to keep them relevant.

Supporting app creation and updates has an impact on mobile integration. The same business functions and data will be used in several different apps, and apps may need to be updated to invoke other services. These needs show the importance of exposing services using an integration platform rather than redeveloping the same integration for each mobile app or backend. An integration platform ensures the decoupling of the mobile app lifecycle from integration services.

It also provides value-added services for mobile apps, such as integrating with a partner for payment; using app notification to secure the transaction; automatically importing information from social networks; sending information to productivity applications such as Evernote.

5 | MAKE IT A TWO-WAY CHANNEL

Most companies look at mobile applications as a way to provide access to data.
    But information sent back to your systems as either events or services is
also extremely valuable. Sending events about which services the customer is
considering enriches your information. You could use that information for planning
and forecasting and for communications with the customer to improve their
experience or help close the sale. Also, knowing which parts of an application your
employees use, and the sequence in which they use them, helps you improve the app,
understand how processes are enforced, or even prove an audit trail.

GUARANTEE DELIVERY OF NOTIFICATIONS

Because applications usually run in the background, notifications are a great way
to get the user's attention. You can use them to alert a customer of an important
offer or event, such as their flight's gate change. Employees can be notified of
events such as a change in a process or the availability of a spare part. Given the
importance of these notifications, your integration platform needs to be able to
guarantee their delivery.

EXCHANGE INFORMATION IN REAL TIME

Some mobile apps will need to receive events from your systems, but without
affecting the user. In addition your systems should be able to regularly receive
events back, such as location or application use. Instead of lengthy and difficult
development, your integration platform should be able to leverage Websocket
protocols for this exchange. Because your native or hybrid mobile apps are
connected to your messaging backbone, real-time exchange using Websocket is
an easy, elegant solution.

EXTEND AND INNOVATE

Besides the ability to increase processing speed, the benefits of this integration
approach include improving the application using analytics on the captured data
and proposing innovative new services based on the resulting insights. Ultimately,
an integration platform that can support broad options for your applications
increases your ability to innovate and provide a differentiating user experience.

6 | SCALE, SCALE, SCALE

When considering a mobile development project, it is important to understand
how the need for scalability differs from traditional applications:

- The number of devices accessing your apps and systems could be millions.
  Therefore a platform supporting even the simplest request needs to scale to
  ensure a great user experience. Gartner predicts the amount of data integrated
  by companies will increase by 20 percent just because of mobile applications.

- Users switch types of devices frequently, so you will need to release apps that
  provide the same experience across all platforms.

- As explained earlier, companies usually have several applications for various
  purposes and various audiences.

- Many companies haven't yet standardized on a mobile development framework
  and are using several technologies.

- Because mobile applications need to constantly be updated to stay relevant,
  project cycles are much shorter.

ENABLING YOUR MOBILE STRATEGY:

- TIBCO ActiveMatrix BusinessWorks™, our flagship integration platform, natively integrates with most of your applications inside or outside the firewall and lets you graphically define integration logic and expose it as standard SOAP or REST services.

- TIBCO® Web Messaging for TIBCO Enterprise Messaging Service™ (EMS) allows your mobile applications to subscribe to and generate messaging events. TIBCO Web Messaging for EMS leverages Websocket protocols to expose standard messaging APIs in Java, HTML5, and native libraries.

- TIBCO® API Exchange provides everything you need to build an integrated API marketplace where service providers and consumers come together to create, host, manage, learn about, and use open APIs.

7 | CONTROL COSTS

Despite the need to mobilize, budgets allocated to mobile projects are not increasing. Relying on standard services or events exposed by your integration platform counterbalances the complexity of building coherent applications on many platforms and reduces the cost of developing and maintaining mobile integration.

The integration platform also needs to ensure your mobile applications provide a great experience, with very short response times. When the platform can cache frequent requests to reduce the burden on your backend systems, you will save the time, money, and effort of upgrading.

CONCLUSION

Building your mobile strategy on a proven integration platform allows you to reduce the complexity of your mobile initiatives. Exposing your applications and data as a standard set of services and events provides a foundation on which to build your applications. Complexity is also reduced by decoupling service lifecycles from mobile application lifecycles. Mobile applications can adapt and leverage more services without impacting other applications.

Using an integration platform that provides the relevant application and mobile connectivity combined with fast, no-code graphical design of integrations reduces mobile integration time and cost.

With a simpler architecture that also reduces the time and budget you need for creating a superior mobile experience, a TIBCO integration platform lets you kick start and accelerate your mobile strategy.

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