



Choosing the Right Mobile Solution for Your Supply Chain

A Comparison of SAP® ITSmobile and RFgen Mobile Foundations for SAP.

Table of Contents

Introduction	1
What is SAP ITSMobile?	2
What is RFgen Mobile Foundations for SAP?	2
The Build vs Buy Decision	3
When might it be best to build your own solution?	3
Three primary constraints to consider before building	3
Advantages of Building Your Own Solutions with ITSMobile	5
Drawbacks to Building Custom Mobile Apps with ITSMobile	5
Advantages of Deploying Prebuilt Mobile Solutions from RFgen	7
Functional Comparison of RFgen and ITSMobile	10
Conclusion	12
RFgen Software—The Mobile Data Collection Experts	13

Introduction

Businesses are seeking to improve operational efficiency by extending their SAP software to a variety of mobile devices used throughout the enterprise. When considering mobile apps for data collection, many businesses evaluate whether it makes more sense to purchase pre-built apps with validated integration to SAP—such as RFgen Mobile Foundations for SAP—or to develop their own apps using SAP ITSmobile.

Whether you build or buy a mobile data collection solution, you will need it to fulfill the same basic functions. First and foremost, it needs to be able to automate and streamline key processes in your operation, such as warehouse operations, traceability, or work order completion. In doing so, it should tightly integrate with your SAP software. It should also be capable of working with the types of hardware devices you want to use, from barcode scanners to ruggedized tablets to voice-enabled headsets to consumer-grade mobile devices.

This paper will provide some criteria to help you evaluate what is most important to your business when considering SAP ITSmobile or RFgen Mobile Foundations for SAP.

What is SAP ITSmobile?

SAP ITSmobile (Internet Transaction Server) is used to connect your SAP software to mobile devices, using a mobile web browser. ITSmobile replaces WebSAPconsole and offers more features and advantages than WebSAPconsole. ITSmobile is included in SAP Netweaver 7.0, 7.1, 7.2, and 7.3. ITSmobile is browser-based technology that can be used for any mobile device collecting data for SAP software. It supports mobile data collection applications, including barcode scanning (RF devices), RFID, and voice controlled applications.¹

What is RFgen Mobile Foundations for SAP?

RFgen Mobile Foundations for SAP is a suite of pre-written, SAP-certified data collection solutions that feature real-time, bi-directional information exchange with SAP. RFgen's SAP enterprise mobility software supports real-time voice integration, wireless barcoding, and mobile applications. RFgen can be easily and quickly adapted to unique workflows.

RFgen's SAP enterprise mobility software deploys rapidly (usually twice as quickly as other systems), is considerably less expensive to maintain than other systems, and is easy to learn how to use. RFgen Mobile Foundations for SAP comes with more than 50 ready-to-use and easily customizable mobile apps in the areas of: Inventory management, warehouse management, production order processing, purchase order processing, plant maintenance, sales order processing, and time entry.

¹ <http://www.sapwmmobile.com/ITSmobile.html>

The Build vs. Buy Decision

Build a new software application or buy it—it's the age-old question for corporate IT departments. In a perfect world, IT departments would have the time and resources to build and maintain completely customized solutions that fit the exact needs of their businesses. But that's not the reality at most companies. When an enterprise decides to purchase a commercial software solution, it's usually because of cost and time constraints.

When might it be best to build your own solution?

- For limited, ad hoc applications.
- If the problem is perceived as unique or highly unusual.
- To solve a “stand-alone” problem that does not affect any other area of the business.
- For a one-time solution with a relatively short life span.
- If the organization maintains a large and talented IT staff that is dedicated to remaining with the company for a long time.

Three primary constraints to consider before building

The decision to build or buy any application usually comes down to three primary considerations, and it is no different when considering the choice between custom ITSmobile application development and pre-built RFgen mobile apps.

1. What is the nature of the problem and the complexity of the application to be built?

For many companies, the most important question to ask before building software is this: Will building our own solution allow us to deliver a unique competitive advantage to the business? The IT adage says “buy to standardize, but build to compete.” In this way, you take advantage of cost efficiencies for routine processes while investing time and energy in areas that can make your business stand out from the crowd.

If your process is very unique and it's a key part of your competitive advantage, you may need to build. But in truth, you may also find advantage in looking at the way commercial software performs certain business processes. The vendor has often based the process on industry best practices, and adopting their way of doing things may make your operation more efficient. In the case of mobile data collection, finding a pre-built solution that also allows for easy adaptability to your business processes might be the best way to balance the need to deploy quickly and cost-effectively against the need to customize for your business processes.

The IT adage says “buy to standardize, but build to compete.”

2. Does the organization have the expert resources to build and support the application long-term?

Building your own solution with ITSmobile requires a set of developers with the right coding skills to develop ITSmobile apps. If your company does not currently have employees with this skill set, you will have to invest considerable time and money in training existing employees or recruiting new employees to complete the job. Alternatively, you could outsource the job to third-party custom development consultants; however, these solutions tend to be more costly than both building in-house or buying pre-built commercial software.

3. Is there time to build and support the application?

Your company needs to see productivity and efficiency savings as soon as possible with your mobile data collection initiative. There is no faster way to achieve your data collection goals than choosing to buy an existing, pre-built software solution. Purchasing a solution eliminates the software development process, leaving only the implementation, testing and deployment phases to complete. If you do choose to build your own mobile data collection solution, your development team (in-house or third-party consultant) is likely to underestimate the amount of time it will take to complete the project. Time overruns set back your schedule, and in the case of third-party developers, they can also be quite costly.

When it comes to difficult build versus buy decisions, there's some very good news with mobile data collection solutions. Affordable, best-of-breed, prebuilt solutions exist that are flexible enough to adapt to the business processes of most companies, while delivering a rich feature set. For example, RFgen Mobile Foundations for SAP features over 50 pre-built mobile apps that have been built with SAP-certified integration using open standards architecture.

Building your own solution with ITSmobile requires a set of developers with the right coding skills to develop ITSmobile apps.

There is no faster way to achieve your data collection goals than choosing to buy an existing, pre-built software solution.

Advantages of Building Your Own Solutions with ITSmobile

As you consider whether to build or buy a mobility solution for SAP, here are some advantages of developing your applications in-house using ITSmobile:

- **Included with SAP Netweaver.**² You will not incur additional license fees for using ITSmobile beyond your regular costs with Netweaver. ITSmobile is included with Netweaver 7.0, 7.1, 7.2, and 7.3. It is important to note that ITSmobile does not include predefined workflows, so there will be additional development costs in order to use ITSmobile as your SAP barcoding solution.
- **SAP Single Sign-On.** If you use ITSmobile to build a custom mobile app, users will be able to access that application without having to provide their SAP credentials again.

Drawbacks to Building Custom Mobile Apps with ITSmobile

The general drawbacks to building software versus buying include costs, resources, and time. Specifically, these factors may impact your decision to build with ITSmobile in the following ways:

No out-of-the-box, industry best practice based workflows provided with ITSmobile. You'll need to have a programmer(s) on your team who is proficient in SAP ABAP®, or you will have to hire an outside firm to develop and maintain the solution.

Development time and cost. Typically, businesses will need to spend more time and money to develop customized mobile apps with ITSmobile. Applications developed with ITSmobile are programmed in complex ABAP and use HTML as an editor.³ The initial deployment of ITSmobile takes months—often many months.

Example: To provide one example of the difference in development time and costs, one manufacturer sought outside development help in order to customize ITSmobile for its business requirements. The company received an estimate of 300-600 development hours from outside consultants. Ultimately, the company selected RFgen instead, which was customized and deployed at the site in 40-50 hours.

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^{2, 3} <http://www.sapwmmobile.com/ITSMobile.html>

Implementation of ITSmobile can be complex. The implementation of ITSmobile involves many steps to activate services and configure paths and properties for each device type. For a step-by-step comparison of the implementation processes in both ITSmobile and RFgen, please see the next section of this paper.

ITSmobile does not natively support all standard hardware features. Using ITSmobile, with some devices and operating systems, your developers would need to use Java Script to activate standard function keys, work with cameras, GPS modems, etc. in addition to programming in ABAP.

Additional configuration of SAP required. You'll have to do additional configuration within SAP to set up ITSmobile before you can generate templates. Some prebuilt mobility solutions that reside on their own servers, including RFgen, do not make any changes to the SAP environment, nor require additional configuration.

Browser-based development limits functionality. ITSmobile applications look similar to SAP screens, but are rendered within the mobile devices web browser. With ITSmobile, developers are essentially building a static form to be used in a web browser. They lack the dynamic control to include functionality within the forms, such as toggling features or the ability hide things. This can limit the flexibility of your mobile barcoding applications.

By comparison, RFgen uses a standard SAP BAPI remote interface to provide highly functional user screens that can be tweaked easily for different use cases or workflows. RFgen can enable native device features such as touch screens and deploys on different devices using different thin clients.

Long term stability. SAP has gone through several mobile environments over the past 15 years—most recently phasing out SAPconsole for ITSmobile.

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Advantages of Deploying Prebuilt Mobile Solutions from RFgen

As a pre-built mobile data collection solution, RFgen Mobile Foundations for SAP offers the advantage of being highly useable, affordable, and adaptable to match the needs of your business.

Ready-made, proven solution. RFgen is a Mobile Application Development Platform (MADP) that can be used for all mobility and automation needs. It's trusted by companies in 35 countries, with over 2,800 installations globally. Thousands of hours of research and development went into the design of RFgen's SAP-specific automation. The functionality of each mobile app for SAP is continuously enhanced through customer feedback and supported by SAP experts.

Rapid, easy deployment. RFgen was designed to be highly flexible and adaptable. It's typically deployed at an initial company site in 6-8 weeks, then rolled out to other locations at a rate of one site every two weeks thereafter. This leads to a much more rapid ROI. Here's a quick comparison of the steps involved in enabling ITSmobile versus RFgen:

Step	ITSmobile Implementation Steps	RFgen Implementation Steps
1	Create a custom package.	Install pre-built customizable mobile applications.*
2	Activate 10 services in SAP.	Customize apps using a drag and drop style of screen design with basic .Net scripting.
3	Configure the path and properties for the new service, such as: HTML sites, custom CSS files, pixels vs. other screen drawing measurements, etc.	
4	Create login and error pages.	
5	Create display templates.	
6	Repeat this process for different devices due to different ways device browsers render screens.	

*With RFgen, there is no service to create or activate, no text files that separately hold solution properties, and any designed screen will work on any Windows, Windows CE/Mobile, Android and iOS device.

RFgen provides native support for standard hardware features. In contrast to ITSmobile, all device capabilities are pre-integrated with the RFgen clients. There is no effort required by the developer to be compatible with Function keys, cameras, scanners, GPS modems, etc., when using RFgen mobile applications.

Competitive functionality. Professional software firms like RFgen create applications with a depth of functionality and an ease-of-use that is hard to create in-house. Applications are built using best practices for data collection, mobility and automation. They are built by RFgen's experts in SAP automation.

Certified integration to SAP. RFgen integration is certified by SAP for versions 4.6c to 6.05 and SAP HANA®, so you can be assured your mobile apps will continue to perform properly with each SAP upgrade you perform.

Leaves no footprint on your SAP server. RFgen does not install on your ERP server nor modify your ERP environment, so there won't be any hassle when it's time to upgrade SAP.

Rapid deployment. RFgen was designed to be highly flexible and adaptable. It's typically deployed at an initial company site in 6-8 weeks, then rolled out to other locations at a rate of one site every two weeks thereafter. This leads to a much more rapid ROI.

Highly adaptable and easily customizable. With RFgen, 80% of common business needs are built into the solution, and the last 20% can be modified to meet your specific business workflows and use cases. RFgen can meet each site's specific requirements for online and offline mobility or automation. You can get very specific workflows that create maximum efficiency of end users at each site with RFgen.

Based on best practices and industry standards. Leave room for future development and easier integrations by choosing a solution that utilizes industry standards. If mobile apps are written in one of the most commonly used programming languages, you can quickly and easily develop and implement mobile applications in a fraction of the time it would take with other applications.

Device independent. RFgen apps can be used on any mobile device—from barcode scanners to tablets and phones—including those using the Microsoft® Windows® Mobile, Microsoft® Windows® CE, Android™, and iOS™ operating systems. However, each pre-built app was developed with native client architecture, so your employees will benefit from a much richer feature set. RFgen can be used on ruggedized devices, such as those used in the warehouse, route sales or field service. It can also be used on consumer-grade devices, giving you the freedom to choose the best device-type for your needs.

Runs in every mode needed for your operational environment.

Different companies in different industries need very different mobile data collection apps. Whether you support remote warehouses, oil platforms, route sales or field service, RFgen allows you to use the devices you need in several different modes:

- **Wireless:** Use real-time solutions to provide immediate visibility of all activities within the supply chain with mobile apps updates handled in real-time.
- **High Availability (offline ERP mode):** RFgen offers support for roaming, occasionally-connected data collection using on-demand cellular/Wi-Fi connectivity to SAP.
- **Mobile (offline device mode):** RFgen also supports fully disconnected scenarios where data is pre-loaded on the device, remote activities are locally validated, and workflows are exchanged with SAP at various intervals.
- **Voice:** Combine text-to-speech and speech recognition capabilities to allow users to perform various tasks in an eyes-free, hands-free environment.

Functional Comparison of RFgen and ITSmobile

Functionality and Architectural Considerations	RFgen Software	ITSmobile*
Available Workflows	Unlimited possible, 50+ are pre-built.	Zero workflows are supplied by SAP.
Wireless Environment	<ul style="list-style-type: none"> Fully supported. Modified Telnet to support guaranteed packet delivery. RFgen sends as a block requiring 90% less wireless traffic. 	<ul style="list-style-type: none"> No support for edge and out-of-range scenarios. Uses Web protocols.
Batch/Roaming/Mobile Environments	Fully supported.	Not supported.
Graphical User Experience	<ul style="list-style-type: none"> Supports character and graphical environments. Listboxes, Comboboxes, Checkboxes, Images, Buttons, ListView and Signature. Capture prompts and message boxes provide higher efficiencies. Smaller devices do not have full keyboard options requiring either shift keys, function key combinations or using the soft keyboard which is difficult without a stylus. 	<ul style="list-style-type: none"> Web page style interface. Does not support character-based devices.
Queuing Workflows	Fully supported.	Not supported.
Screen Display Per Workflow	Unlimited variations for size or language with one code base.	Only one screen.
User Menus	Based on SAP or RFgen credentials to allow non-SAP users to collect data.	Based on SAP credentials.
Required Skill Set	Drag-and-drop screen design with VBA/.NET scripting as needed.	ABAP

Functionality and Architectural Considerations	RFgen Software	ITSmobile*
Server Management	<ul style="list-style-type: none"> • Admin may see and/or interact with any online RFgen session. • Admin may message one or all users. • Admin may suspend one or all users. • Admin may terminate the session of one or all users. 	Not supported.
Long-Term Costs	Drag-and-drop speeds with VBA/.NET skills are significantly less expensive.	ABAP skill costs and time required are significantly higher.
Stability	RFgen has maintained and enhanced the same platform for 20 years. There are no concerns with workflows having to be rewritten or changed for a new platform.	According to SAP, ITSmobile is supported long term as an integrated part of SAP NetWeaver Application Server ABAP. ⁴ It is worth noting, however, that over the past 15 years, SAPconsole was replaced by ITSmobile and there is some speculation in the user community that ITSmobile may one day get replaced by SAP Fiori. There is always time and cost associated with porting or rewriting workflows for any new platform.

* Data presented has been compiled from public sources and is subject to change.

⁴ http://help.sap.com/saphelp_nw70/helpdata/en/47/34432448a2200ee1000000a1553f7/content.htm

Conclusion

The decision to build or buy mobile apps for SAP software comes down to three variables: resources (developers or money), time (for development and support), and the nature of the problem (how complex and how strategic). RFGen Mobile Foundations for SAP delivers more than 50 pre-built, yet highly adaptable, mobile applications with certified integration to SAP.

RFGen mobile apps can be customized easily to match different workflows at different sites, offering businesses running SAP a rapidly deployed, highly functional solution. When considering the functionality and ease of customization of RFGen versus the cost and time involved with building an in-house mobility solution, RFGen is often the quickest, most cost effective way to implement SAP mobility.

RFgen Software—The Mobile Data Collection Experts

RFgen Software helps organizations reduce supply chain implementation costs and increase accuracy and efficiency with the industry's most reliable and flexible wireless and mobile automated data collection (ADC) software and industry standards based supply chain solutions.

In business since 1983, RFgen is known in the manufacturing and distribution industry for its solid, high-quality products and high customer satisfaction ratings among its more than 2,800 customers. With a global reach and local touch, RFgen and its network of more than 140 certified solution partners can service and support your organization no matter where your operations are located around the world.

Using RFgen, businesses are able to quickly take their current manual processes and turn them into real-time mobile applications using barcoding, RFID, mobile and wearable technologies. RFgen's Mobile Foundation Suites accelerate the integration of mobile and barcoding technologies into your environment providing certified solutions that can simplify existing processes as well as combine multiple ERP operations into an optimized workflow.

Whether you are looking for solutions to automate your warehouse and better manage your inventory, comply with government regulations, ensure 24/7 warehouse operations, track and trace your products, voice-enable your warehouse, or manage your remote inventory, RFgen is the smart choice.

To learn more, please call us at 888-426-2286, or visit our website at: www.RFgen.com.

Reduce supply chain implementation costs with RFgen Software—one of the industry's most reliable and flexible mobile and wireless automated data collection solutions on the market today.

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