AVOIDING THE MILLION DOLLAR MOBILE OS MIGRATION MISTAKE

How to Protect Your Enterprise Mobility Investment with RFgen's Mobile Unity Platform™

RFgen

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INTRODUCTION

A RAPIDLY-CHANGING LANDSCAPE FOR ENTERPRISE MOBILITY

In the past, when enterprises made major investments in industrial mobile applications, most apps were built to run on a legacy Windows® embedded operating system. Microsoft mobile operating systems, including Windows Mobile (Windows Embedded Handheld) and Windows CE, dominated the industrial mobile device market. As recently as 2016, there were more than 15 million enterprise devices dependent on Windows embedded mobile operating systems to function.[1]

The expiration clock is ticking on these legacy mobile devices, as they reach the end of their useful lives. Microsoft announced it will phase out support for Window Embedded operating systems. Depending on the exact OS and version, Microsoft will discontinue support sometime between 2018 and 2020. In a 2017 report, VDC concluded that 56% of organizations plan to upgrade their existing mobile hardware as their devices near end-of-life.[2]

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Organizations needing to redevelop mobile apps for a new OS may not have as much time as they think. In 2015, Andy McBain, Head of Product Management EMEA for Zebra Technologies, cautioned that "given the time it takes to develop, distribute, and support a solution used globally — and not to mention the long latency between upgrades — companies relying on these [legacy Windows mobile] platforms had better already be thinking about the transition to their next OS."[3]

WHAT COMES NEXT FOR ENTERPRISE MOBILITY?

Organizations forced to migrate off legacy Windows mobile operating systems may have to spend hundreds of thousands or even millions of dollars in new hardware and software investment. Developing mobile software that only runs on one of the mobile operating systems locks the enterprise in to that platform — a very expensive mistake if you bet on the wrong OS. To avoid wasting resources, time, and money, IT executives are trying to determine which platform will win the next phase of the industrial enterprise mobility war — Android®, iOS, or Windows 10? But the battle for market dominance in industrial mobility is far from settled.

"The Android OS offers more sophisticated and functional mobile solutions than the legacy products it may replace, allowing warehouse and DC operations executives to improve efficiency, reduce errors, and fulfill orders faster."

- David Krebs, Executive Vice President, VDC Research

GOOGLE'S ANDROID IS THE NEW LEADER IN INDUSTRIAL COMPUTING.

According to IDC, Android has captured 84% of the overall global device market, so it is also poised to dominate the enterprise mobile device market.[4] Already, VDC Research observed that Android "went from 5% of the rugged device market in 2015 to 30% of the market in the fourth quarter of 2016."[5]

- A Vision Mobile report found 74% of enterprise developers already target Android.[6]
- Industrial device manufacturers, Honeywell and Zebra, are both designing new mobile devices that support Android.[7]
- Developers can modify Android "to add capabilities and restrictions not supported in the core OS." Examples include setting the time zone or enabling Bluetooth without user input.[8]
- Android meets security requirements for industrial regulations in several important industries, including: Retail (PCI-DSS), Healthcare (HIPAA) and Government (FIPS 140-2).[9]

"The Android OS offers more sophisticated and functional mobile solutions than the legacy products it may replace, allowing warehouse and DC operations executives to improve efficiency, reduce errors, and fulfill orders faster," wrote David Krebs, Executive Vice President at VDC Research.[10]

APPLE'S IOS IS STILL A CONTENDER, ESPECIALLY IN THE U.S.

Globally, Android is pulling away from competitors in the enterprise mobility space, but the popularity of Apple's consumer devices in the U.S. helps it retain market share. According to IDC, iOS commands about 20% of the worldwide consumer mobile device market (more in the U.S. market).[11] iOS is the second-most popular OS with developers. Apple is definitely making a play for enterprise mobility, as it has recently pursued high profile IoT partnerships with GE®, IBM®, Deloitte®, SAP® Software and Accenture®.[12]

Migrating to Windows 10 requires a software rebuild, even from a legacy Windows OS.[14]

SOME ENTERPRISES HAVE TAKEN UP WINDOWS 10 IOT MOBILE ENTERPRISE, BUT THE FUTURE SEEMS LESS CERTAIN.

In October 2017, Microsoft announced that they would not develop any new features for their Windows Phone initiative, citing a lack of developer support for Windows mobile apps.[13] Many technology experts concluded this represented a major shift in Microsoft's mobile strategy and could mean an uncertain future for Windows 10, which has made inroads in the enterprise tablet market. Migrating to Windows 10 requires a software rebuild, even from a legacy Windows OS.[14] Windows is losing major market share – VDC reported that for new devices in 2016, 54% ran Android compared to 4% running Windows 10 IoT Mobile Enterprise.[15]

MOBILITY MIGRATION IN THE NEWS

COMPANY: HOME DEPOT
MIGRATION: WINDOWS TO ANDROID

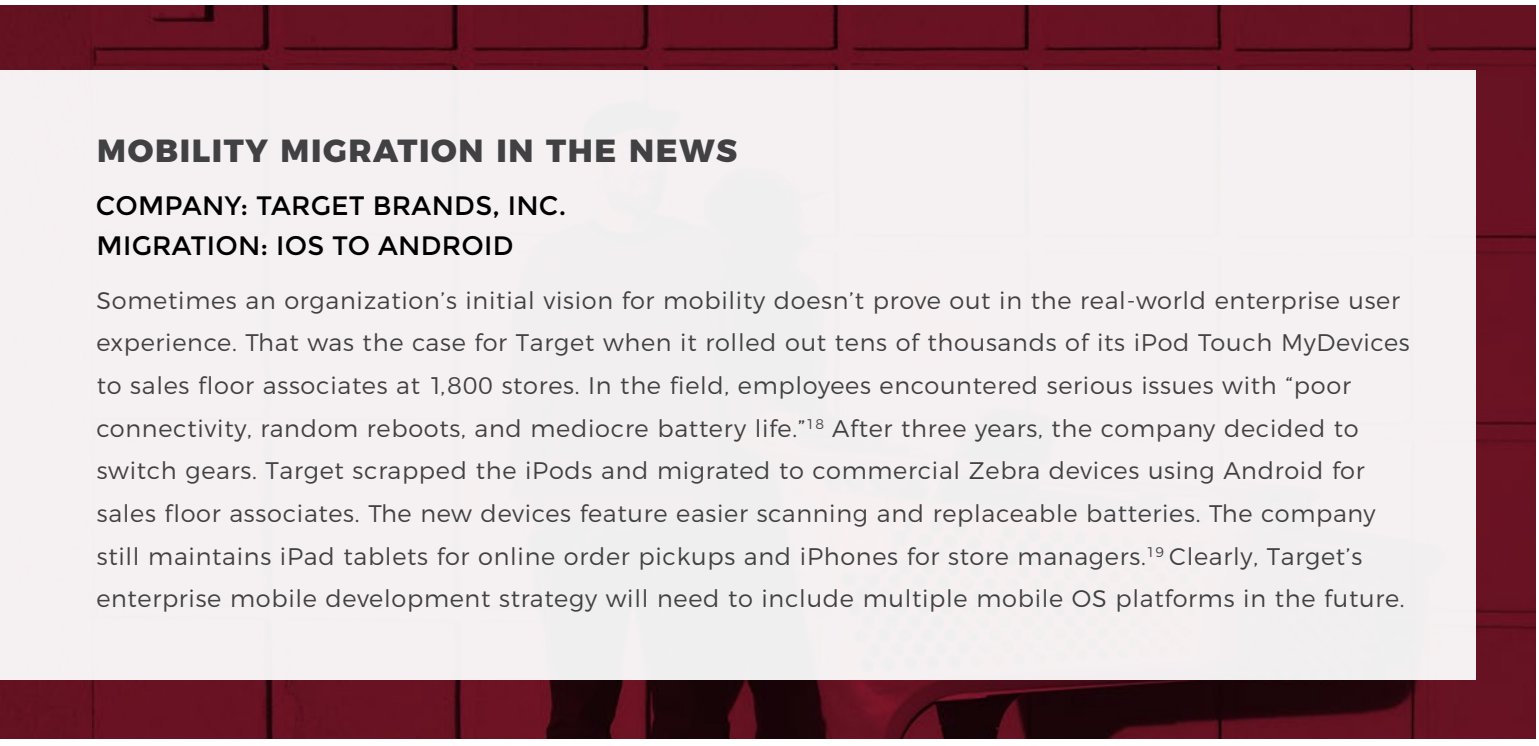
Home Depot is among the very large enterprises that migrated from a legacy Windows mobile OS to Android. In an article published in InfoWorld, Mark Kirstein, Senior Director of Enterprise Software at Zebra, explained that large enterprises often utilize dozens of specialty-device apps and some of those applications are quite complex from a development perspective.[16] "It took Home Depot four years to migrate 28 apps," he recalled, adding that the transition to a new mobile OS platform can cost large enterprises as much as $10 million dollars. Initially Home Depot planned to deploy on Windows Embedded 8 for Handhelds, but when told to wait for Windows 10, the company moved on and rolled out Android devices and mobile apps instead.

THE CHALLENGE

MIGRATING MOBILE APPS WHILE AVOIDING THE MILLION DOLLAR MISTAKE

Instead of losing sleep over which enterprise mobile OS will rule the day, IT executives should seek to develop apps that will run on any device, regardless of platform. With mobility evolving at such a rapid pace, it's possible — if not probable — that your organization will want to use different devices and/or a different OS for part of your business processes in the future. Relying on a mobile application development platform (MADP), like RFgen's Mobile Unity Platform™, as a powerful ally in adopting a flexible enterprise mobility strategy can be a smart decision.

"Today's industrial enterprise requires more flexibility in its approach to mobility," explained Dustin Caudell, Vice President of RFgen Software. "Consider a manufacturer with 10 distribution centers employing 50 people each. This enterprise requires 500 industrial mobile devices, and the average cost of enterprise mobility per employee mobile device per year is slightly under $2,000.[17] That's nearly $1 million in hardware alone, before mobile software development costs. If a major business system like inventory control or warehouse management only works with the old Windows CE devices, software replacement could add millions more in expense. With that kind of financial risk, businesses must be able to deploy apps across any device or operating system without additional development costs."



MOBILITY MIGRATION IN THE NEWS

COMPANY: TARGET BRANDS, INC.
MIGRATION: IOS TO ANDROID

Sometimes an organization's initial vision for mobility doesn't prove out in the real-world enterprise user experience. That was the case for Target when it rolled out tens of thousands of its iPod Touch MyDevices to sales floor associates at 1,800 stores. In the field, employees encountered serious issues with "poor connectivity, random reboots, and mediocre battery life."[18] After three years, the company decided to switch gears. Target scrapped the iPods and migrated to commercial Zebra devices using Android for sales floor associates. The new devices feature easier scanning and replaceable batteries. The company still maintains iPad tablets for online order pickups and iPhones for store managers.[19] Clearly, Target's enterprise mobile development strategy will need to include multiple mobile OS platforms in the future.

THE SOLUTION

DEVELOP ONCE, DEPLOY ON ANY DEVICE WITH RFGEN'S MOBILE UNITY PLATFORM™

RFgen Software understood this change was coming, and we intentionally built a mobile application development platform that supports your enterprise through multiple future changes in your mobility strategy. RFgen's Mobile Unity Platform™ delivers native mobile apps that can be deployed across any device, running any mobile OS your business requires — from legacy Windows platforms for your existing hardware — to Android, iOS, and Windows 10 for complete flexibility in the future.

We've named this enhanced version of our mobile technology RFgen's Mobile Unity Platform™ as it provides a unified user experience and seamless interoperability regardless of OS, form factor, or level of ruggedness.

RFgen's Mobile Unity Platform™ delivers native mobile apps that can be deployed across any devices, running any mobile OS your business requires.

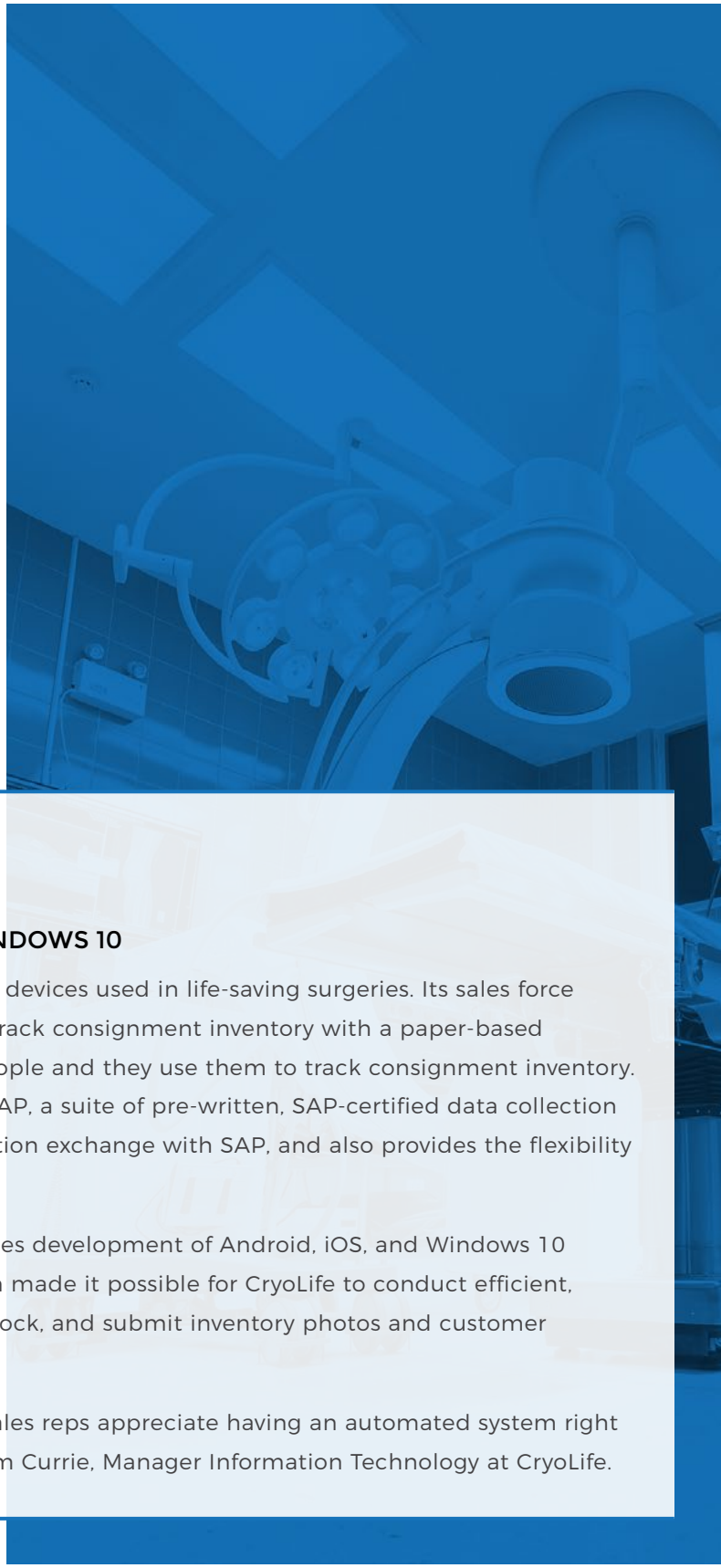
RFgen's Mobile Unity Platform™ reduces costs and business risk. Our customers tell us RFgen saves them significant money because it runs on all of their platforms at the same time, so they can phase in new mobile hardware whenever they need it, without development delays or expense to rebuild software. If you have RFgen, you don't have to worry about who wins the enterprise mobility battle, because you already have the software you will need for any platform.

- Developers can write a mobile app once and deploy it across all mobile platforms, as a native app taking advantage of the full complement of device-specific functionality.
- Businesses can reduce support costs and plan effectively for the future.
- Replace hardware when you want, with whatever devices you prefer.
- Take full advantage of the Internet of Things (IoT) with full capability to connect your ERP to machinery, scales, monitors, robots, etc.
- Ease the migration from your legacy mobile solutions and take advantage of our pre-written mobile workflows with validated integration to leading ERP systems like SAP and Oracle.

RFGEN'S MOBILE UNITY PLATFORM™ SUPPORTS MOBILE OPERATIONS INSIDE AND OUTSIDE THE FOUR WALLS.

RFgen's Mobile Unity Platform™ will continue to provide the same fast and reliable applications inside the four walls of the warehouse, but now gives you an enhanced option to upgrade your remote data collection activities while consolidating your technology stack.

- Perfect for remote or disconnected environments like consignment inventory management, direct sales delivery (DSD), and field service.
- Enjoy the same user experience whether your enterprise opts for ruggedized industrial devices or consumer-grade mobile devices such as tablets.



ENTERPRISE MOBILITY HIGHLIGHT

COMPANY: CRYOLIFE
MOBILITY PLATFORM: APPLE IOS, ANDROID, AND WINDOWS 10

CryoLife is a global biomedical company that manufactures devices used in life-saving surgeries. Its sales force serves over 550 hospitals and surgical centers and used to track consignment inventory with a paper-based process. Today, CryoLife issues Apple® iPhones® to sales people and they use them to track consignment inventory. Each phone is loaded with RFgen Mobile Foundations for SAP, a suite of pre-written, SAP-certified data collection mobile apps that supports real-time, bi-directional information exchange with SAP, and also provides the flexibility to operate offline in disconnected areas within hospitals.

Built on RFgen's Mobile Unity Platform™, the solution enables development of Android, iOS, and Windows 10 mobile apps and supports any type of mobile device. RFgen made it possible for CryoLife to conduct efficient, paperless cycle counts of consignment inventory, transfer stock, and submit inventory photos and customer signatures from any mobile device.

"RFgen is certainly making the cycle count process easier. Sales reps appreciate having an automated system right on their iPhone versus the old paper-based system," said Tim Currie, Manager Information Technology at CryoLife.

RFGEN SOFTWARE

THE MOBILE SUPPLY CHAIN EXPERTS

RFgen Software helps organizations reduce supply chain implementation costs while increasing accuracy and efficiency with the industry's most reliable and flexible mobile data collection and digital supply chain solutions.

Enabling you to mobilize critical warehouse and supply chain workflows, RFgen helps keep your mobile workforce connected by providing real-time and on-demand access to enterprise data. Further, RFgen's Mobile Unity Platform™ enables you to simplify your process workflows and deliver easy-to-use and customized mobile apps that work on Windows, Android, and iOS devices like barcode scanners, tablets, handheld computers, and RFID systems, all while interacting real-time with your ERP system.

Offering on-premise, cloud, connected, and disconnected solutions, RFgen enables you to connect your ERP system to any mobile device, machine, or monitor.

The RFgen Mobile Development Studio coupled with a suite of dozens of pre-built mobile applications gives you the ability to implement mobile data collection in a matter of weeks, not months.

Reduce supply chain implementation costs with RFgen Software – the industry's most reliable and flexible mobile data collection and digital supply chain solutions.

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.

SOURCES

[1] Mark Kirstein, "The Changing Mobile OS Landscape in the Enterprise," DZone, September 17, 2016.

[2] "Study: More than half of warehousing organizations to upgrade mobile devices," Supply Chain Quarterly, December 20, 2016

[3] Andy McBain, "With Windows Mobile and CE about to sunset, Android and Windows 10 are tomorrow's top options," IT Pro Portal, December 15, 2015.

[4] Mark Kirstein, "The Changing Mobile OS Landscape in the Enterprise," DZone, September 17, 2016.

[5] Roberto Michel, "Android's growth in the warehouse," Modern Materials Handling, November 3, 2017

[6] Mark Kirstein, "The Changing Mobile OS Landscape in the Enterprise," DZone, September 17, 2016.

[7] Ron Amadeo, "Android everywhere: If it has a screen, it will probably run Android soon," December 15, 2016.

[8] Galen Gruman, "Android is ousting Windows from its last mobile bastion," InfoWorld, January 5, 2016

[9] Andy McBain, "With Windows Mobile and CE about to sunset, Android and Windows 10 are tomorrow's top options," IT Pro Portal, December 15, 2015.

[10] "Study: More than half of warehousing organizations to upgrade mobile devices," Supply Chain Quarterly, December 20, 2016

[11] Mark Kirstein, "The Changing Mobile OS Landscape in the Enterprise," DZone, September 17, 2016.

[12] John Kennedy, "Industrial iOS: Apple and GE in major IoT apps pact," Silicon Republic, October 18, 2017.

[13] Simon Bisson, "Microsoft's new love for Android is no betrayal," InfoWorld, April 5 2017.

[14] Mark Kirstein, "The Changing Mobile OS Landscape in the Enterprise," DZone, September 17, 2016.

[15] Brian Albright, "There Is a Rugged Handheld/Smartphone Evolution Underway," Field Technologies, February 1, 2017.

[16] Galen Gruman, "Android is ousting Windows from its last mobile bastion," InfoWorld, January 5, 2016.

[17] Wandera press release, "The True Cost of Mobility: U.S. Enterprises Spending $1,840 Per Employee Mobile Device Annually."

[18] Ryan Whitwam, "Target stores are switching from iOS to Android sales floor devices," Android Police, September 13, 2017.

[19] Bryan Menegus, "Target Sales Floors Are Switching from Apple to Android Devices," Gizmodo, September 12, 2017.

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