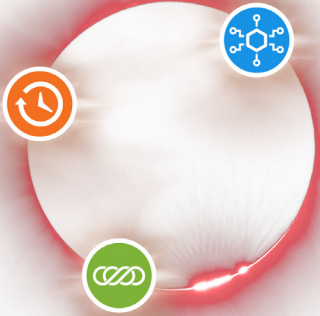


FUTURE PROOFING WITH MOBILITY EDGE

A Honeywell White Paper



Abstract



Empowering employees, delivering customer experience, maintaining productivity, streamlining mobile devices, and keeping pace in an ever-changing industry are common business goals. Your business needs a future proof and cost-effective mobile platform to achieve these goals, but many fall short when they are put to the test. High-performing businesses need mobile technology solutions that will simplify and elevate performance – with a long life span.

In addition to a mobile technology that will elevate performance, business leaders seek an operating platform that will excel under the demands placed upon it. The research is clear... the move to Android is on.

Many businesses often wonder is having a low-risk business change with device flexibility and OS longevity even achievable? Honeywell believes these business goals are most certainly achievable through the deployment of Mobility Edge™ devices.

After several business challenges and extensive research, Mobility Edge by Honeywell was created to simplify deployments, strengthen performance, and be a cost-effective, future-proof way for businesses to deploy mobile solutions.

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Future proofing with Mobility Edge

Introduction

What if you could empower your employees to deliver exceptional customer experience anywhere? What if you could maintain productivity in the face of worker turnover and temporary workers? What if you could go years between mobile device refreshes? What if your operating system road map allowed for continuity and the same apps to be run on different devices?

Today, there are so many “what ifs” that many mobile platforms fall short. Organizations have a complex combination of multiple devices, apps, and infrastructure – all which could be slowing them down. The deluge of devices and apps written for mobile solutions on differing operating systems are time-and-cost intensive to manage and maintain. In addition, mobile solutions built on separate technology platforms create silo-provisioning and application support. Inflexible mobile platforms prevent businesses from keeping pace with the rapid change that markets and customers require. This all puts a strain on delivering functional and secure end-user mobile enablement to optimize business performance. Honeywell has answered many of these “what ifs” with Mobility Edge™.

Business Challenges

Increased Customer Expectation

Mobile technologies continue to transform global industries, and businesses must stay ahead of these changes. Customers expect exceptional performances by employees; to make their experience feel like a well-played symphony. In retail, it's about creating new connections – between shoppers, mobile computers/smart phones, store shelves, software, budgets, and staffing. Considering delivery, it's keeping the customer informed throughout the cycle: where and when the items are to be delivered along with its current location, allowing changes “in transit”, and notifying the recipient and customer upon delivery. It's about empowering employees to deliver stand-out service anywhere, anytime.

Increased Demand for Mobile Computers and Process Change

In an ever-evolving marketplace driven primarily by a constant push for maximum efficiency, productivity, and workforce mobility, companies must deploy the latest in mobile technology solutions in order to succeed. New changes are always difficult because businesses must examine the stages of deployment, performance, and care of the life-cycle for the product/process change until everything runs smoothly again. The cost of inefficient processes is very relevant; in the average distribution center (DC), 3,000 hours are lost per year on inefficient processes (Honeywell/YouGov Study).

Focus on Total Cost of Ownership (TCO) Rather than Initial Cost

When it comes to delivering better customer service and optimized labor efficiencies, global transportation and logistics (T&L) firms agree that investing in new technology is key. Increasingly, this means investing in mobile technology. In a research study conducted by Peerless Media and commissioned by Honeywell, 76% of T&L firms reported they were putting more money into technology to make operations quicker and more efficient. For many, often the initial cost of the devices overshadows the TCO. It's vital to compare the two when making a large investment.

Diverse Use Cases and Work Force Needs

The pace of mobile adoption is accelerating which increases range of use cases and requirements. There are also many user preferences to consider: touch vs. keypad, rugged vs semi-rugged, field based vs. on-site, etc. Devices may all run on an Android™ platform, but not in the same way or with the same user experience which requires more siloed developments, more certifications, more deployments, and more training.

Skilled Labour Shortage

In a Honeywell survey, 43 % of DC managers reported that high employee turnover is their biggest issue. Skilled labour shortages including high turnover and reliance on seasonal workers heightens the need for solutions with quicker and easier user adoption. Due to this skills gap, there are temporary workers in all types of roles, and businesses need a simplified user experience to make training easier. In retail, mobile workers need real-time workforce management and asset visibility to enhance the customer experience. In T&L, one device does “not fit all” as some operators require keys, some require a large touchscreen, and yet others are in the field trying to interface via the Internet with DC counterparts.

Fragmented Technologies

Juggling multiple devices with varying operating systems across the enterprise introduces complexities as it adds risk to daily operations. Other complexities include laborious and costly testing, certification, and deployment of applications across multiple form factors. The challenge is further exacerbated by continuous patches and updates, leading to managing varying OS versions across multiple devices.

Protecting Data

Security requirements for Enterprise IT need effective methods to protect against mobile OS and application vulnerabilities. A rapid upgrade path to maintain enterprise-class data security should be a priority as there are risks related to system security, compliance, and the cost of future enterprise-wide upgrades. Security is a growing concern globally; businesses seek peace of mind that their data is protected at all times, ensuring no loop holes in security updates and patches.

Operating System Shifts

Customers currently running applications that require a legacy Microsoft operating system (Windows CE 6 or Windows Mobile/Windows Embedded Handheld 6.5) face the end of support for their platform. Mainstream support, which includes regular updates, has ended for both legacy systems. Microsoft extended support (security fixes) will end for Windows Embedded Handheld 6.5 in early 2020. After this date, vendors will be unable to provide patches should a vulnerability or error be found in Microsoft code. For this and other reasons, many customers have begun planning a transition to new applications running under a modern operating system. A leading research firm estimates mobile device shipments will exceed 1.74 billion by 2021, with over 85% of the devices being powered by Android, as evidenced by the Gartner research below.

The Move to Android Defined.

WORLDWIDE SMART PHONE OPERATING SYSTEM MARKETING SHARE (based on unit sales)

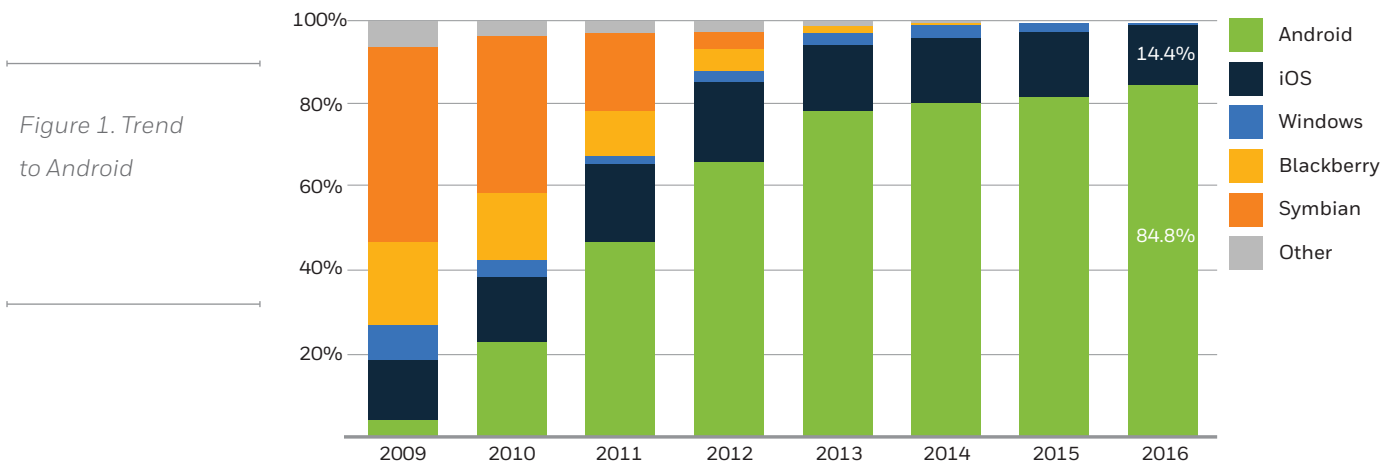


Figure 1. Trend to Android

Source: Gartner

Business Solution

After talking with many customers and carefully analyzing user experience from a range of technologies, Honeywell completely rethought the approach to challenges of supporting a mobile workforce. Honeywell quickly realized that no new simple upgrade in technology was enough – something comprehensive and dynamic was needed. Research also showed that businesses craved a unified platform for all form factors – one that allowed for rapid deployments, robust performance, and adaptability to changing needs.



To solve the business challenges and based on extensive research and development, Honeywell created Mobility Edge, a unified platform for mobile computing designed to simplify deployments, strengthen performance, and extend the product life cycle. Honeywell's Mobility Edge platform helps businesses overcome complexity to build, manage, and deploy mobile solutions across their enterprise better, faster, easier, with less risk and less cost.

Honeywell leveraged over ten years of service and support data to create a unified, dynamic platform. Products were optimized based on actual user patterns that delivered more realistic testing and precise engineering requirements. Service disruptions were preemptively avoided using historical insights from service data to address top failures during the design phase. Product quality was also improved through mining support data. By providing a unified, dynamic hardware-and-software platform that offers an agile approach, Honeywell can deliver improved, more secure, and more reliable solutions across a business.

Mobility Edge is an integrated, repeatable, scalable approach that is based on a common hardware and software platform. Developed for Android, it delivers a unified platform that all software solutions are based on. Businesses can **deploy and develop faster** while **reducing development costs**.

The benefits are many including the **development and certification of an application once** while serving **different use cases, seasonal needs, and environmental demands** with different device classes and form factors. There's a **consistent software application environment** within the SDK while security updates and software patches/updates are consistently applied across a business' entire estate of products.

This platform focuses the core computing and communications capability into a modular approach while embodying use-case specific features into the individual device form factors. The revolutionary System-on-Module (SoM) core is a single, certified module that includes:

- CPU
- Memory
- WWAN (only in selected devices)
- WLAN
- Bluetooth
- Near-field communication (NFC)
- Zigbee (only in selected devices)

Figure 2. Mobility Edge “At A Glance”

Integrated. Secure. Scalable.

Mobility Edge is designed to unleash users from the burdens of fragmented mobile computing. How? By providing a unified, dynamic hardware-and-software platform that offers an agile approach to enabling Enterprise IT to deliver better mobile solutions across a business. The mobile computer is used as a communication and computing hub, rather than a single-use device.

Simplified deployments

Validate once. Deploy everywhere. Faster, easier, and at lower cost. Enabling versatile out-of-the-box capabilities and a rapid provisioning suite, Mobility Edge expedites development, certification, setup, and training involving multiple form factors at once. Designed to get devices into service more quickly, it includes a set up wizard, secure provisioning, a settings editor, staging hub, and keypad creator. This enables the business to validate apps and updates once, and then deploy across all Mobility Edge form factors.

Optimized mobile worker performance

Boost productivity and drive efficiency. Data capture tools like Scan Wedge and Digital Scan Button enhance the usability of mobile devices. Wireless Tether prevents lost peripherals like Bluetooth headsets or scanners. Find My Device feature provides asset location in-premise by means of Bluetooth beacons, helping track down misplaced devices. The unified, intuitive experience facilitates user adoption and helps employees complete vital tasks. Mobility Edge provides a simplified user experience to get workers up-to-speed quicker. It also delivers real-time work-flow management and visibility required to drive e-commerce business performance. Employees are empowered to deliver high-quality, transactional service.

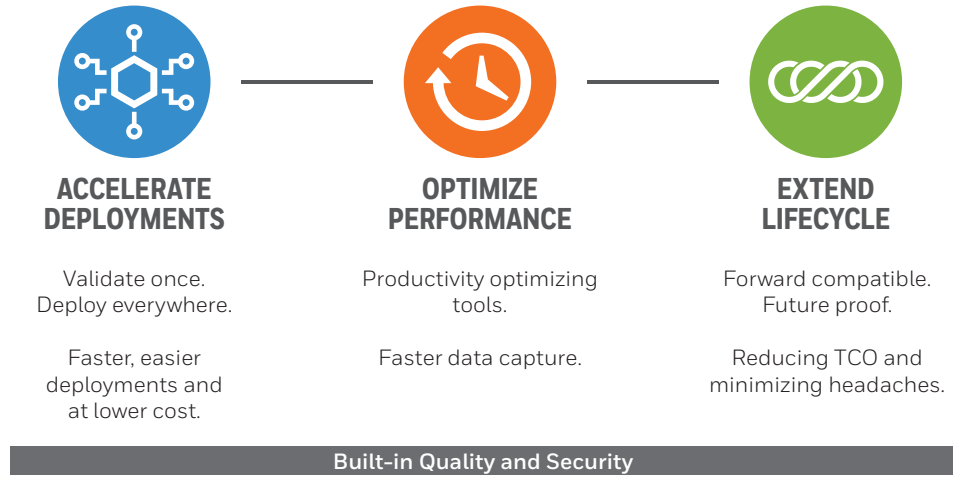
Extended life cycle

Forward compatible. Future-proof. Mobility Edge reduces TCO and minimizes headaches with an enterprise-wide approach to patch releases, and hardware designed to support twice the operating system upgrades – through Android R – as competitors’ products.

Recognizing enterprise needs to reduce cost of ownership, Honeywell’s platform strategy strikes the right balance between longevity and seamless, future-proof design. The platform supports five generations of Android (N to R), Generation 1 platform life through 2023. Mobility Edge provides periodic OS maintenance releases, including security updates, as Honeywell supports each Android version for the duration of Google’s security patch support (typically three years after initial release). It also supports lower long-term system upgrade cost and time through System-on-Module (SoM) design that preserves form factor.

Mobility Edge is built with a proprietary battery optimizer to enhance the performance of any deployed device and make sure it uses the potential of its battery to full capacity. In real-world scenarios, the optimizer will extend the operational duration of any Mobility Edge device providing confidence that it will last for an entire shift, or reducing the need for in-cab charging, and maximize worker uptime.

Figure 3. Mobility Edge Accelerate, Optimize, and Extend



Mobility Edge’s commitment to Android allows businesses to take advantage of future Android benefits and releases. Honeywell supports the Android releases for additional years, typically three years after initial Google release. The advanced chip in Mobility Edge mobile computers is the heart of the device and future-proofs the product. It allows new products to be quickly introduced as they contain the same “heart” in a different form factor. Commonality of devices removes complexity when attempting to create an update as the devices share the same architecture. Once its embedded and certified, developers become more innovative as they have confidence in the system’s performance.

Devices built on the Mobility Edge platform also share the same internal components. Therefore, when an update is pushed out, the devices respond similarly to the update. This drives down an organization’s risk while easing integration and increasing confidence.

With the increasing pace of changing needs and technological advances, protecting a business’ investment is of the utmost importance. To meet this need, a technology update utilizing Honeywell Mobility Edge only requires recertification versus the lengthy and complicated process of developing and certifying a form factor specific design.

Business Benefits With Mobility Edge

Simplifies Integration

To be competitive today, technology must help an enterprise improve operations. The downside is that many organizations have a number of devices that have difficulty communicating with each other. Mobility Edge offers a common platform for mobile technology based on the Android OS, making integration, deployment, and future upgrades much easier. This, in turn, helps reduce costs and headaches associated with managing and maintaining this equipment.

Optimizes Worker Performance

This powerful platform helps boost user productivity with a host of embedded tools that provide a fast and secure way to enhance communications, collect and receive data, and facilitate an overall outstanding user experience. Cycle counting and picking are usually separate tasks within the DC. In a study commissioned by Honeywell, 90% of DC managers reported productivity gains from interleaving cycle counting and picking. Devices utilizing Mobility Edge's unified, intuitive experience help employees complete vital tasks with ease.

Extends the Product Life Cycle

This repeatable and scalable platform helps future-proof an organization's investment. Patch releases and upgrades are easier to manage with devices that are engineered to last, so the burden lifts from the shoulders of the IT department and frees them up for other priorities of the business. The result is lower total cost of ownership and a smoother transition of future roll outs.

Mobile Connectivity

Connected workers are productive workers. Mobility Edge helps keep employees and operations optimized, organized, and cost effective. Even with different Mobility Edge-enabled devices, every worker is on the same team. Connectivity and streamlined work flows maximize resources so day-to-day tasks are done easier and faster.

Conclusion

From healthcare and transportation and logistics, to manufacturing and distribution, Mobility Edge maximizes operational efficiency and keeps businesses running smoothly. With its use and evolving technology, it enables employee empowerment, top-notch customer service, productivity, streamlined systems, and organization. Businesses who operate on the Mobility Edge platform can look forward to simplified, integrated technology, productive employees, connected workflows, and a future-proof investment.

For more information

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