THE MOTOROLA ET1 ENTERPRISE TABLET

BUILDING AN ENTERPRISE-CLASS ANDROID DEVICE FROM THE GROUND UP

MOTOROLA

FORTIFYING ANDROID FOR THE ENTERPRISE: WHAT'S MISSING?

The Android operating system (OS) provides a distinct business advantage — it frees application designers from operating system constraints. As a result, enterprises have a blank slate when it comes to application design. At last, businesses can focus first on creating the simplest and most intuitive applications possible — instead of working with a framework that dictates the placement of menus and more.

However, since Android devices were originally created for the consumer, they lack many of the key functionalities required for enterprise deployments. Following is a discussion of those functions, and how Motorola expanded the Android OS and added new device-level features to address each and every one.

SIX NEW FUNCTIONS THAT TAKE ANDROID DEVICES FROM CONSUMER-FOCUSED TO ENTERPRISE-READY

Through additions to both the Android OS itself as well as the device, Motorola has successfully created an Android device that's flat-out enterprise. You get the best of all worlds — robust rule-free application development in a device that is secure, easy to manage, ready for enterprise tasks and built to last. The ET1 has what it takes to go the distance with your enterprise. The result? A total cost of ownership that makes an investment in this business-class Android tablet a smart choice.

The six functions are:

- Multi-user functionality
- Data and device security
- Device expandability
- Application development and management
- Device management
- Scanning support

MULTI-USER FUNCTIONALITY

The issue: The typical log-in feature on a mobile device grants users full access to the device when a valid user ID and password are entered — there is no way to provision a device for different users on the fly. For organizations with shift workers who perform different tasks, this translates into the need to purchase one device per person, pushing capital and operational expenses up.

The solution — built-in multi-user support: Multi-user log-in eliminates this issue. Since permissions are tied to each user ID and password combination, devices are basically commissioned on the fly for that specific user upon log-in. Each user is automatically granted access to the right applications — no IT time required.

DATA AND DEVICE SECURITY

The issue: Every mobile device in the enterprise must offer the security required to protect data. Yet, Android was born a consumer-class OS, without vital enterprise-class security features.

The solution — operating system and device-level features that keep data safe: Motorola infused three new features into the Android OS to provide the level of security required to protect the device, the data resident on the device and the networks and network resources that the device can access. Combine these OS-level features with device-level support for the very latest in enterprise-class authentication — WPA and WPA2 — and you have an Android device that offers the maximum security possible today.

The new OS-level features are:

- **Data encryption:** In seconds, devices can be configured to encrypt not only the data resident on the device itself, but also on any media card in the external media card slot. So no matter where the data is located, it is protected.

  Data is encrypted using AES256, protecting your files with the same encryption protocols used by governments around the globe to protect the most sensitive information.

  You can create as many encrypted file systems as you need. Once provisioned, the encrypted file system is mounted automatically, ready for applications to use. Each encrypted file system appears simply as a folder. All files stored in that folder are automatically encrypted, and the encryption is transparent to the user.

Since keys are centrally managed, your data is safe, always easy to recover. If keys are lost, become unreadable or are wiped due to non-compliance with a policy you have set (for example if a device remains off the network for too many hours), you can simply restore the keys to gain access to the data in the encrypted files — and get the device and the user back up and running.

- **Remote lock and wipe:** Lost and stolen devices are among the most serious security threats. Unauthorized users could gain access to the data that resides both on the device and in key business applications on servers inside the enterprise. Support for Motorola's Mobility Services Platform (MSP) has been added to Android, providing enterprises with a key MSP security feature — lock and wipe. In the event a device is lost or stolen, it can be either remotely locked to prevent anyone from accessing the device, or if the device contains extremely sensitive data or access to very sensitive data on your servers, all data on the internal drive and any installed media cards can be deleted.
- **Application permissions:** While user log-in determines which enterprise applications each user can access, this feature prevents users from downloading unauthorized applications. Any application that is not on the approved application list will not even be visible to users.

DEVICE EXPANDABILITY

The issue: Since Android is typically utilized in consumer-style devices, to date, there has been no native support for business-class accessories. Creating applications that utilize accessories, such as a payment card reader to process credit card transactions or a portable printer for on-the-spot printing of receipts, could be a daunting and expensive task.

The solution — built-in OS- and device-level peripheral support: We know that businesses often add accessories to mobile computers to expand functionality for specific user and applications — and increase the value of the mobile computer. For example, adding a mobile payment card reader to create a mobile point of sale (POS) allows associates in a retail store to ring up customers right in the aisle of the store. To support these value-add accessories, Motorola added two features to the Android OS.

First, we created an expansion module port on our ET1 Enterprise Tablet, so enterprises can simply snap in the desired accessory. But physically attaching accessories to a mobile computer is only half the battle. The second feature is enabling the accessory functionality in software applications. By embedding protocol support in the Android kernel for traditional enterprise peripherals, developers can quickly integrate accessory functionality into applications, greatly reducing development time and cost.

APPLICATION DEVELOPMENT AND MANAGEMENT

The issue: Introducing another OS into the enterprise makes application management even more complex — and costly. Now, IT must develop, support and manage applications written for the Android OS, in addition to all the other applications written for other operating systems in use in the enterprise.

The solution — create a single application version that runs on multiple operating systems: Motorola realized that as growth within the mobile industry exploded, companies needed the freedom to select the devices and operating systems that would best serve specific workgroups — without incurring massive costs to develop and maintain proprietary applications for every OS. Motorola's RhoElements addresses this issue by enabling the creation of OS-independent applications. Today, RhoElements allows you to create a single version of an application that not only runs on Motorola mobile computers with the Android, Microsoft Windows Mobile or Windows CE operating systems, but also looks, feels and acts exactly the same way on all supported Motorola devices — regardless of OS, hardware platform or screen size. Even during the inevitable occasional loss of connectivity to Wi-Fi or cellular networks, these web-based applications can remain available, ensuring continued productivity. With RhoElements, your development team can incorporate data capture features resident on your Motorola mobile computers, allowing you to reap the full value of this investment. And in the future, RhoElements support will expand, allowing your applications to run on more operating systems and third party mobile devices.

Now, enterprises truly have the power of one. One application to develop. One application to manage. One application to maintain. Application management is greatly simplified. And time and resource application-related costs are dramatically reduced.

DEVICE MANAGEMENT

The issue: The Android OS is not typically supported by enterprise-class device management applications. As a result, Android devices can be very costly

to manage. IT will need to spend hours preparing devices for use, updating devices and resolving device issues. In addition, today's consumer Android devices require users to accept updates to configuration files, applications and more, placing your devices at risk. Users may purposefully or inadvertently choose to refuse an update.

The solution — fully automated updates and more, no user action required: We added support for MSP to bring real enterprise-class management to Android devices. Now, MSP brings the same centralized remote control available to Motorola and other Windows Mobile and Windows CE devices to Motorola Android-based devices. Devices can be staged for initial use, complete with ready-to-use applications that might require dynamic information — no user interaction required. Operating systems, firmware, configurations and applications can be automatically and remotely updated — no hands-on required. Devices can be updated in the middle of the night when devices are not in use, preventing disruptions that could impact productivity. In the near future, IT will be able to monitor and proactively spot and resolve device issues, as well as troubleshoot user issues, all from afar.

In addition, we allow the Android OS to automatically accept updates without any user action required. The choice to update is no longer in the hands of your users, ensuring that your Android-based devices remain in compliance with all your policies at all times — protecting your data and worker productivity.

We even have a service that allows you to outsource everyday user support as well as maximize device availability and uptime. Our multilingual help desk provides a first point of contact in the user's native language. Our technicians have the tools to take complete control of the ET1 to identify and resolve issues, with minimal user involvement. This fully featured service also includes real-time asset tracking, device usage profiling and proactive device monitoring to identify and correct device issues before users are impacted.

SCANNING SUPPORT RIGHT OUT OF THE BOX

The issue: The consumer-focused Android OS does not provide native support for bar code scanning. This is not an issue for most consumers, who will rarely need bar code scanning. But for the enterprise, bar code scanning is a core capability that will be used day-in and day-out to automate the capture of information and improve business efficiency and task accuracy.

The solution — integrated 1D and 2D scanning: Motorola integrated bar code scanning into the Android OS to allow scanning right out of the box — no development time required. And since scanning utilizes the camera inside of the ET1 or other Motorola Android-based devices, it can scan any bar code — 1D or 2D.

(Note that the scanning solution integrated into the ET1 offers performance suitable for occasional scanning — for example, the occasional price check. For more scan intensive applications, such as inventory takes, Motorola recommends connecting a dedicated scanner to the ET1 via either the integrated expansion port or Bluetooth®.)

ONE FINAL INGREDIENT: ENTERPRISE-CLASS OS SUPPORT

If you have an OS-related issue with Windows Mobile and Windows CE, you can turn to Microsoft for full support. But there is no equivalent manufacturer-level support for Android, leaving enterprises with no clear pathway to resolve OS issues — and their Android-based mobile solutions very vulnerable.

Motorola addressed this issue through a software support program that provides the Android-OS support enterprises need to confidently invest in a Motorola/Android-based solution. Motorola's integrated solution includes anytime access to technical support resources, software releases and web self-service — all backed by our extensive infrastructure and proven expertise. When you choose Motorola for your OS support needs, you get industry-leading response times and access to a team of experts with the highest level of product knowledge available.

For more information on how your organization can benefit from Motorola's Android-based mobile computers, visit or access our global contact directory at www.motorola.com/enterprisemobility/contactus

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