EMDK FOR ANDROID 3.0

LESS TIME, EFFORT AND ERRORS ALLOWS YOU TO DEVELOP MORE WITH THE EMDK FOR ANDROID

OVERVIEW / INTRO

When mission critical Enterprise applications require tight integration and performance, the Enterprise Mobility Development Kit, or EMDK for Android delivers the feature set and capabilities you have grown to expect from Zebra. With a comprehensive set of APIs and sample code, the EMDK enables you to take full advantage of the purpose built capabilities our devices have to offer. The EMDK will also include continued support for the DataCapture Intent APIs. You can use standard Android development tools, including Google's Android SDK to interface with DataWedge and create Line of Business applications with the capability of processing its data. Utilizing DataWedge and Intents, offers you full control over the Scanning and MSR peripherals. With the Enterprise Mobility Development Kit for Android, you have complete control over the enterprise value added features our devices have to offer enabling you to maximize their functionality and adding value to your applications.

ADVANTAGES

Innovation is also a key aspect of all that we do and there is no better example than the exclusive Profile Manager Technology within the Eclipse IDE. This GUI based development tool built allows for fewer lines of code resulting in reduced development time, effort and errors. This innovative feature not only gives you easy access to critical functions such as bar code scanning and transaction processing via a magnetic stripe reader (MSR) but also functionality not available in Google's Android SDK.

CLASSIC JAVA APIS

The EMDK for Android offers several APIs from core classes to profile feature management, and new in EMDK Version 3.0: Barcode APIs for finer grain control of barcode data capture right within your java code.

EMDK CORE APIS

Core classes for obtaining EMDK version information and processing results

- **EMDKBase**- Base class that all classes are derived from
- **EMDKManager**- Class to get an instance to the EMDK in order to access features
- **EMDKResults**- Holds result data for processing profile features
- **VersionManager**- EMDK and subsystem feature version information

PROFILE MANAGEMENT

Profiles allow you to define behaviors using the Profile Manager Wizard in Eclipse and then apply them when appropriate in your application. This allows you to write less code and still access EMDK features like Data Capture and device configuration. Profile management APIs apply and process Profile Manager features mentioned on page 2.

Top level classes include:
- **ProfileManager**- Key class for processing profiles created with the Profile Manager Eclipse plug-in
- **ProfileConfig**- Class for altering profile features from within your application

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PROFILE MANAGER FEATURES

The Profile Manager is provided as an Eclipse plug-in that offers developers a GUI development tool. The tool creates a " profile" which is comprised of settings defined by the developer for value-add features listed below:

BARCODE PROFILE

Set / modify barcode symbologies / options and get barcode data via Profile Manager

MSR PROFILE

Enable / Disable MSR and obtain MSR data via Profile Manager

EMDK RUNTIME UPDATE

Device patch enabling EMDK support

APPLICATION MANAGER

Silent installation / uninstall of APKs via Profile Manager

CLOCK PROFILE

Setting the Date, Time and Time Zone via Profile Manager

CERTIFICATE MANAGEMENT

Install and management of certificates via Profile Manager

POWER MANAGER

Power management operations: reboot, sleep, reboot for OS update via Profile Manager

PERSIST MANAGER

Ability to persist settings within a XML profile via Profile Manager

BARCODE APIS *NEW

EMDK for Android v3.0 now offers Barcode APIs. The Barcode API is designed as a traditional or classic Java API similar to what has been offered for Windows CE and Windows Mobile. Although this may require more coding then using the Data Capture Profile feature, it allows you more control and access right from your Java code.

Top level classes include:

- **Barcode Manager**- This is the primary object to access the barcode scanning feature
- **Scanner**- Represents and provides access to the physical scanner on the device
- **ScanConfig**- Provides fine grain control of scanner behavior like decode and reader parameters
- **ScannerInfo**- Provides information of the scanner device like type and model number
- **StatusData**- Information about the current state of the scanner
- **ScanDataCollection**- Scanning result data
- **ScannerException**- Error handling information

INTENTS

An Intent is a standard Android inter-application messaging mechanism. The EMDK for Android v3.0 offers the ability to leverage several features through an Intent.

DATA CAPTURE INTENT

Set and control DataWedge barcode symbologies and options via an Android Intent.

BATTERY INTENT

Ability to obtain, battery life cycle, current charge level, via an Android Intent.

SPECIFICATION CHART

PC SYSTEM REQUIREMENTS

Microsoft® Windows 7 (32-bit and 64-bit) or Microsoft® Windows 8 (32-bit and 64-bit) or Microsoft® Windows 8.1 (32-bit and 64-bit)

Java Development Kit (JDK) v7u45 or higher

Android Developer Tools (ADT) v22.3.0-887826 or higher

SUPPORTED PRODUCTS

MC3200

MC40

MC67

TC55

TC70*

WHAT'S INCLUDED

Help and Readme

Sample applications for quick-start development

Integrator Utility for ADT Bundle or Eclipse IDE and Android SDK

Installer for Zebra Android USB Drivers

SDK add-on for ADT Bundle or Android SDK

Deployment Utility for EMDK device runtime

DEVICE REQUIREMENTS

Before using the EMDK for Android features on your mobile computer, you may need to update the device with EMDK device runtime:

1. Connect the Zebra Android device to the PC.
2. Launch "Device Runtime Deployment" shortcut from Start menu programs.
3. Click any key to continue.
4. This will do the deployment and reboot automatically to finish the OS update

IMPORTANT LINKS

Zebra Android Developer Community and Resources: www.zebra.com/software

EMDK for Android: www.zebra.com/software

Tutorials: www.zebra.com/software

EMDK for Android API Reference: www.zebra.com/software

EMDK for Android Profile Manager: www.zebra.com/software

EMDK for Android Samples: www.zebra.com/software

Android SDK: http://developer.android.com/sdk/index.html

Android API Reference: http://developer.android.com/reference/packages.html

APP WHITE LISTING PROFILE

Defined list of allowed applications via Profile Manager

WI-FI PROFILE

Band and Channel selection, 802.11d / country configuration , and Disable / Enable

GPRS PROFILE

Configuring GPRS APN settings via Profile Manager

UI MANAGER

Enable / Disable Enterprise Reset and Clipboard via Profile Manager

USB MANAGER

Enable / Disable USB module, ADB, and device storage via Profile Manager

TOUCH MANAGER

Ability to set the display's touch panel sensitivity via Profile Manager.

APPLICATION MANAGER

Enable / Disable Apps, listing, and Settings info via Profile Manager

WIRELESS PROFILE

Ability to Enable / Disable Bluetooth module via Profile Manager

EMDK Profile Manager Wizard plug-in for ADT Bundle or Eclipse IDE
- **Supported Profiles include Scanning and MSR**
- **Includes ProfileManager API class for profile management**

*Support is available through the EMDK for Android 3.0 release update

Supported APIs and Intents
- **Profile Manager**
- **DataWedge Intent**
- **Battery Inten**

EMDK FOR ANDROID FEATURE SET

FEATURE	EMDK FOR ANDROID 3.0	GOOGLE ANDROID SDK
Barcode / Scanning	Data Capture Intent Barcode Profile **Scanning API**	x
Image Capture	x	android.hardware.camera
MagStripe Reader	Data Capture Intent MSR Profile	x
Wi-Fi Settings	Wi-Fi Profile	android.net.wifi.WifiManager android.net.wifi.p2p.WifiP2pManager
Fusion Settings	Wi-Fi Profile	x
GPRS (APN) Settings	GPRS Profile	x
Battery Management	Battery Intent	android.os.BatteryManager
Touch Screen	**Touch Profile**	x
File management	Application Mgr Profile	java.io.File
Silent APK Install	Application Mgr Profile	x
Application White Listing	Access Mgr Profile	x
Application Management	**Application Profile**	x
USB Management	**USB Profile**	x
Display Attributes	x	android.view.Display
Audio Settings	x	android.media.AudioManager
Sensor (Symbol.Sensor)	x	android.hardware.SensorManager
Bluetooth Settings	x	android.BluetoothAdapter
SQL Database Management	x	android.database.sqlitea
Keyboard / Key Injection	x	android.inputmethodservice.Keyboard.Key
NFC	x	android.nfc
Notifications	x	android.service.notification
Printing	x	android.print
XML Serialization	x	org.xmlpull.v1.XmlSerializer, org.xml.sax
Interop Services	x	Java Native Interface

Threading	x	java.lang.Thread
Encryption	x	javax.crypto
Message Queue	x	android.os.MessageQueue
Network Communication	x	java.net.Socket

BOLD = NEW

The design of the EMDK is to provide developers with commonly required programmatic features for Line of Business applications. The EMDK for Android v3.0 is meant to be used alongside the Google Android SDK to provide developers a comprehensive set of features without having to have a signed application. Below is a list of key features and there availability within the EMDK for Android and Google's Android SDK. This is meant to be used as a reference guide to provide clarity on when to use the EMDK versus the Android SDK.

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