Android Device Manageability

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Evolution of Mobile Device Manageability
Security, Usability, and Manageability

- Windows CE was designed to be OPEN by default
  - This can be traced to its origin as a general purpose OS and the fact that mobile security was not yet a key requirement
  - Most management tasks could be done by ANY app
  - This was GOOD for manageability, but raised MAJOR security issues that had to be dealt with over time, often by the MDMs
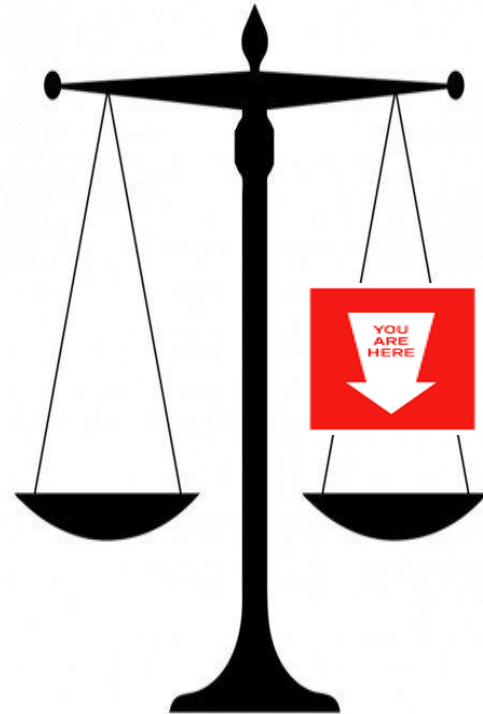
- Android was designed to be CLOSED by default
  - This can be traced to its origin as a Phone OS and the mandate to avoid compromising the Phone experience
  - Many management tasks could only be done by the Device User or by OEM-signed apps
  - This was GOOD for security, but a HUGE barrier to manageability and lead to a proliferation of proprietary solutions

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Evolution of Mobile Device Manageability

The Android Enterprise "Manageability Gap"

- For Android Consumer Devices
  - The Device User is generally the Device Owner
  - It therefore makes sense to leave configuration of the device to the Device User, via the in-device Settings UI
  - Manual configuration breaks down at scale if Enterprises try to adopt Consumer devices


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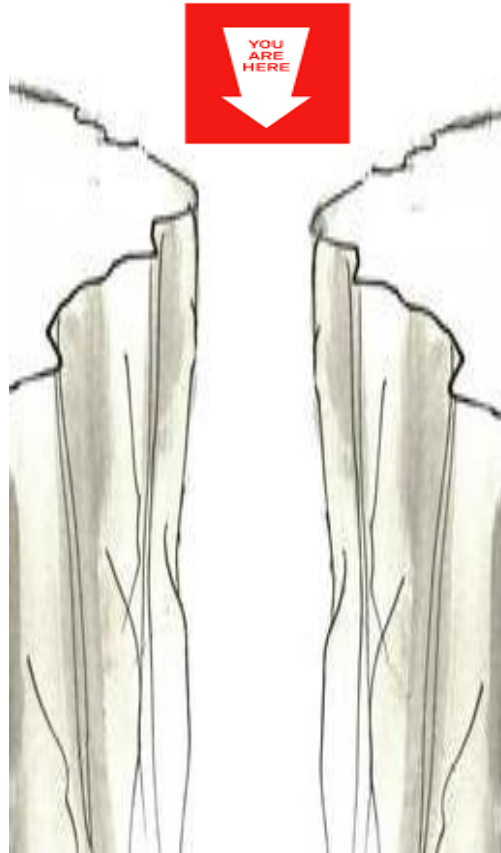
- When Enterprises use Android mobile devices for line of business applications
  - The Enterprise is often the owner of the devices
  - As such, the Enterprise needs a scalable way to manage devices to ensure they are configured in a manner that meets business needs and as is less at risk from Device User mistakes

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Evolution of Mobile Device Manageability

Zebra MX – Proprietary is better than nothing

Zebra created MX to fill the Enterprise "Manageability Gap" for Zebra Android devices

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2010s
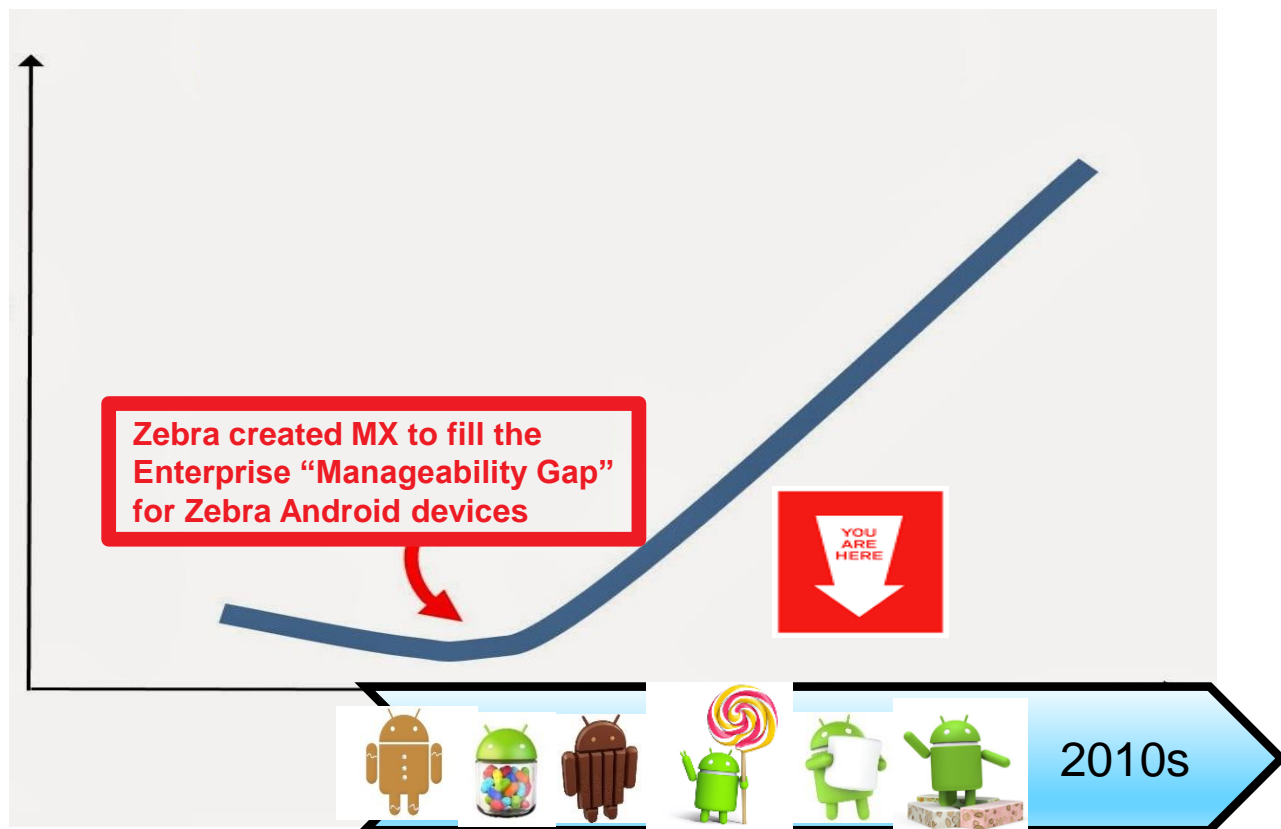
- MX was created to fill the Enterprise "Manageability Gap" for Zebra Android devices, by giving access to:
  - Privileged functions that would otherwise require an MDM Agent to be signed
  - Proprietary functions that would require an MDM Agent to be OEM specific

- Because it was proprietary, adoption of MX was SLOW

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Evolution of Android Manageability

Android and Android For Work (AFW)
(now known as "Android Enterprise")

- Android has had some "manageability APIs" since way back in FROYO
  - The DevicePolicyManager APIs were originally provided to enforce simple device policies (e.g. password requirements)
    - Over time, these APIs have evolved to act as an access mechanism for manageability features that would otherwise require OEM signing
    - These APIs have generally been useful but insufficient to meet the basic needs of most MDM solutions
    - In LOLLIPOP, Google began referring to these APIs, plus a few others, as "Android For Work"
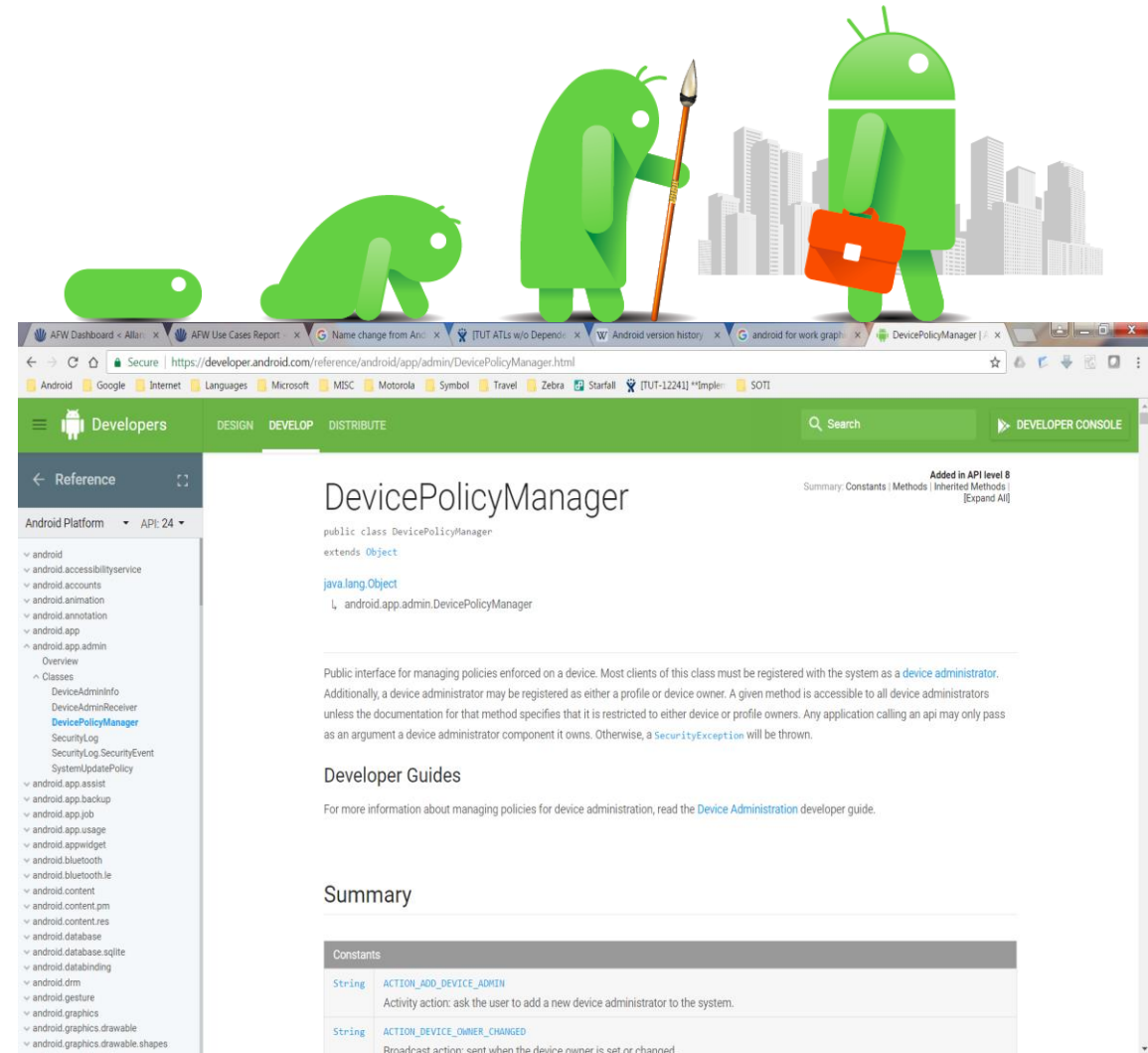
Industry Commitment to Managed Configs

IBM MaaS360   jamf   MobileIron   vmware airwatch

SOTI.   BlackBerry   cisco Meraki   SAP

Benefits of AppConfig

ISVs & Developers	Enterprises	EMM Providers
Build enterprise-ready apps faster	Leverage existing EMM investments	Leverage OS best practices
EMM vendor neutral solution	Use existing VPN and IAM solutions	Larger ecosystem of business apps
Reduce need for proprietary SDK	Better native onboarding user experience	Simplify app configuration
Reduce need for App Wrapping	Greater selection of business apps	Ease management workflows

Source: https://appconfig.org

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Exposing Zebra value Adds in AFW

- Addresses the 35% not supported directly by AFW

- Leverage an AFW Feature referred to as Managed Configuration
  - Initially intended to allow EMMs to manage settings of an application

- Zebra will have an App that configures the device rather than the App itself

- Apps Provide an XML defining the setting and possible values

- <u>EMM can dynamically create UI for Zebra value add settings (do not need to know about them when the console is developed)</u>

- EMMs returns an XML file with the specific value desired

- Google commented "this is a very elegant approach" and supports the approach

- Details being worked out for Response codes, distributing XML schema, serialization and handling complex data types

EMM

Request configurable items →

Return configurable items XML ←

```
Name: Port
Desc: "The Port
Address for ..."
Type: Integer 0 -255
```

EMM Returns Values to App →

```
Name: Port
Value: 80

Name: Server
Value: "myserver.com:
```

App
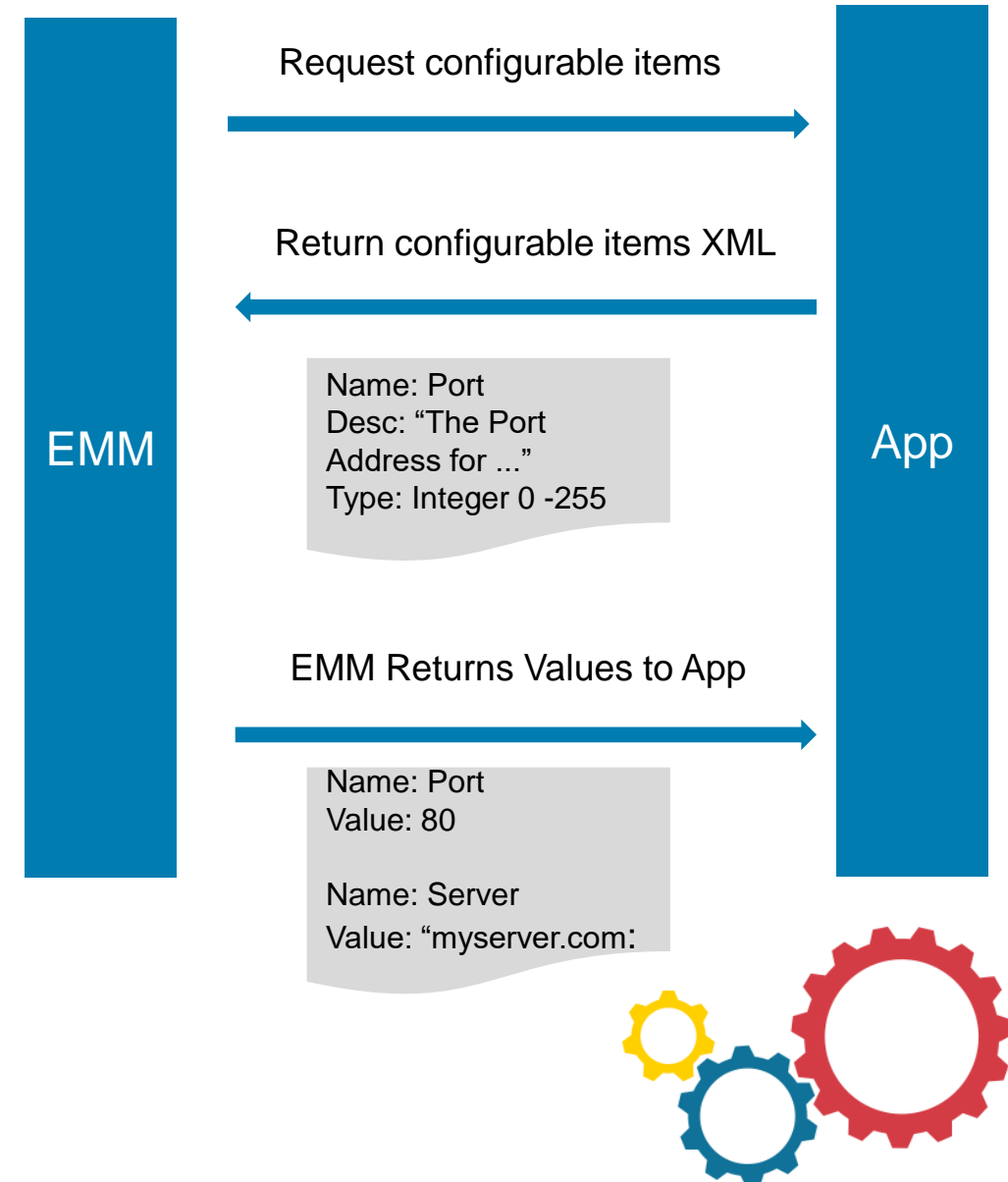
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THE BUSINESS CHALLENGE

You need to get your Zebra Android mobile devices in the hands of your workers with your configurations, your security settings and your apps installed, but…

…manual staging is time-consuming and error prone

…and automated staging with an MDM can be costly.
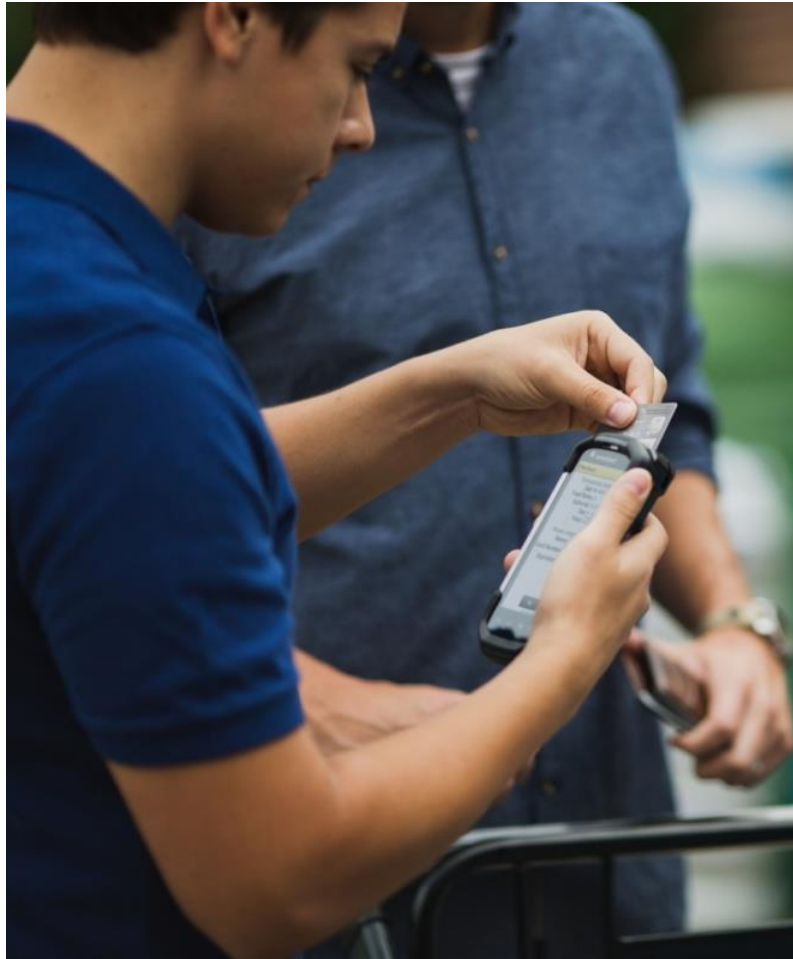
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THE SOLUTION: STAGENOW

THE EASY WAY TO STAGE YOUR ZEBRA ANDROID MOBILE COMPUTERS.

This free tool enables staging in just 3 easy steps:

1. Create staging Profiles with easy-to-use Wizards.

2. Output staging Profiles to a Barcode, NFC tag, and Audio.

3. Scan the bar codes, tap the NFC tag, or play Audio to stage.

[Device screen shows:]
StageNow
▼ ◢ 🔋 10:00
Barcode Staging
Begin scanning your staging barcode(s) now.
Note: Staging will commence after all barcodes are scanned.

symbol

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WHAT CAN YOU DO WITH STAGENOW?

- Perform OS updates

- Connect to a network

- Manage applications

- Enroll in an MDM

- Wipe device

- Manage device security

- Configure device settings

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BENEFITS

SAVE TIME - - → Greatly reduces staging costs

SAVE MONEY - - → Greatly reducing staging time — a device can be staged in minutes instead of hours

ELIMINATE ERRORS - - → Eliminates staging errors by automating the staging process

MINIMIZE YOUR DEPLOYMENT TIME - - → Frees IT to focus on more strategic business initiatives

MAXIMIZE PRODUCTIVITY - - → Begin realizing the benefits of mobility sooner through faster deployment of Android devices

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THE COMPONENTS

WORKSTATION TOOL
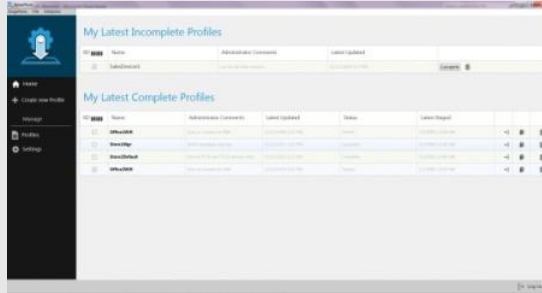
The application can be downloaded for free and installed on any Windows 7 PC with no pre-requisite software — no need to purchase, locate, license or install other components.

MOBILE DEVICE CLIENT

This small piece of software resides on the Android mobile device and executes the instructions in the staging Profiles created in the Workstation Tool.
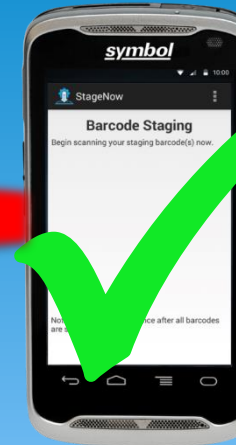
How it works...

1 Create your StageNow Profile

2 Create your barcode

3 Scan your barcode and automatically stage your device

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HOW MUCH IS DEVICE INVISIBILITY COSTING ORGANIZATIONS?

Operations

- Increased downtime
- Sluggish productivity
- Poor service
- Unforeseen costs

70% have a **30% discrepancy** between planned and actual inventory

Gartner

15% **lower total cost of ownership** for organizations that practice IT asset management

IDC

IT

- Excessive timelines
- Overspending on spares
- Misallocation of resources
- Vulnerability to lost/stolen devices

80

Minutes of productivity lost from device failure

VDC

$3.4M

Cost per year of device loss and theft

Ponemon, March 2014

75%

of organizations struggle to identify and track IT assets.

Alliey Collar, OrionTech, 2013

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WHAT ARE OUR CUSTOMERS SAYING?

309 Device Management Decision-Makers from NA, APAC, EMEA

FORRESTER®
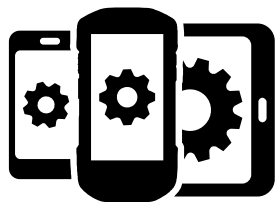
70% have MDM,
but 53% want more
from it

79% want directive
actions from MDM
to preempt issues

70% want providers
with a variety of
relevant reports

Many companies underutilize MDM investments as they find it difficult to implement functionality and integrate capabilities into their daily operations

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ASSET VISIBILITY SERVICE (AVS)

At-a-glance Insight to Asset Health

FOR ZEBRA MOBILE COMPUTING DEVICES AND ZEBRA LINK-OS™ NETWORKED PRINTERS

PREDICT OUTCOMES

GAIN ACTIONABLE SUGGESTIONS, rationale and details to help resolve issues before they happen
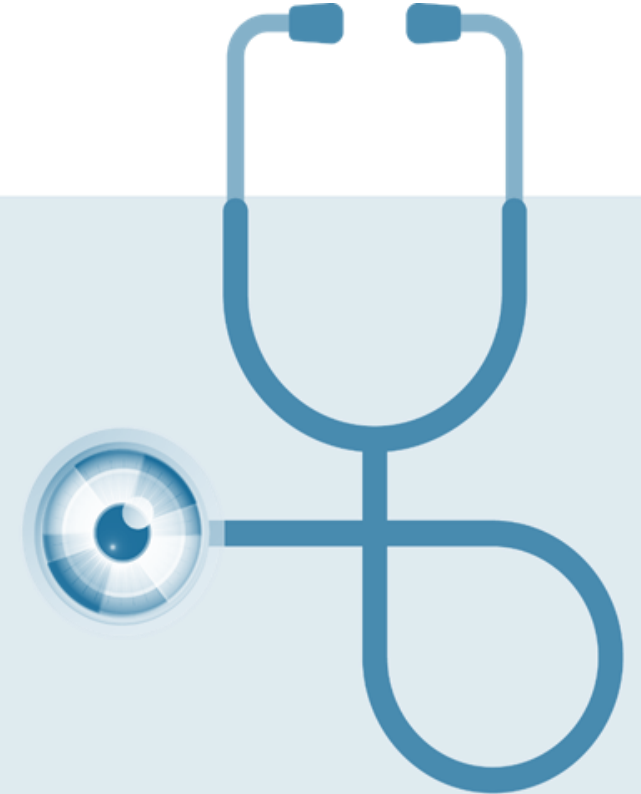
REPLACE YOUR MANUAL ASSET tracking spreadsheets

PREEMPT PROBLEMS; see which devices are in a warning or critical state

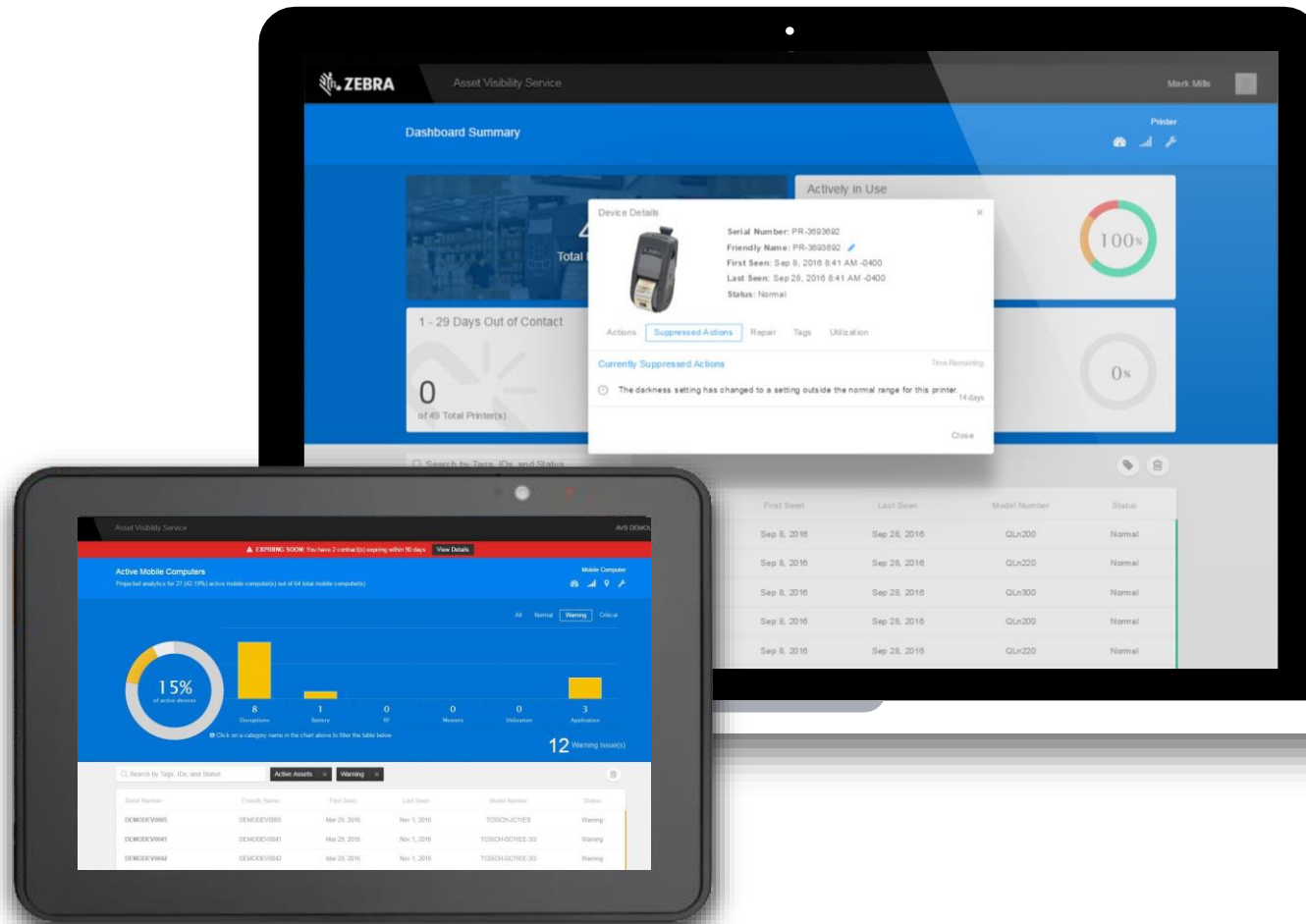**GET THE VISIBILITY ANYTIME,** anywhere from any browser or tablet app

NO MDM INVESTMENT REQUIRED

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ASSET VISIBILITY SERVICE (AVS)

Have the foresight to Act

AT-A-GLANCE DEVICE HEALTH

EASY-TO-READ, COLOR-CODING SYSTEM

- **GREEN:** Peak performance. No current action required.

- **YELLOW:** Predicts a potential health issue. Needs further investigation.

- **RED:** Predicts a potential critical condition. Immediate attention required.

OVS & OVS CONNECT DASHBOARD
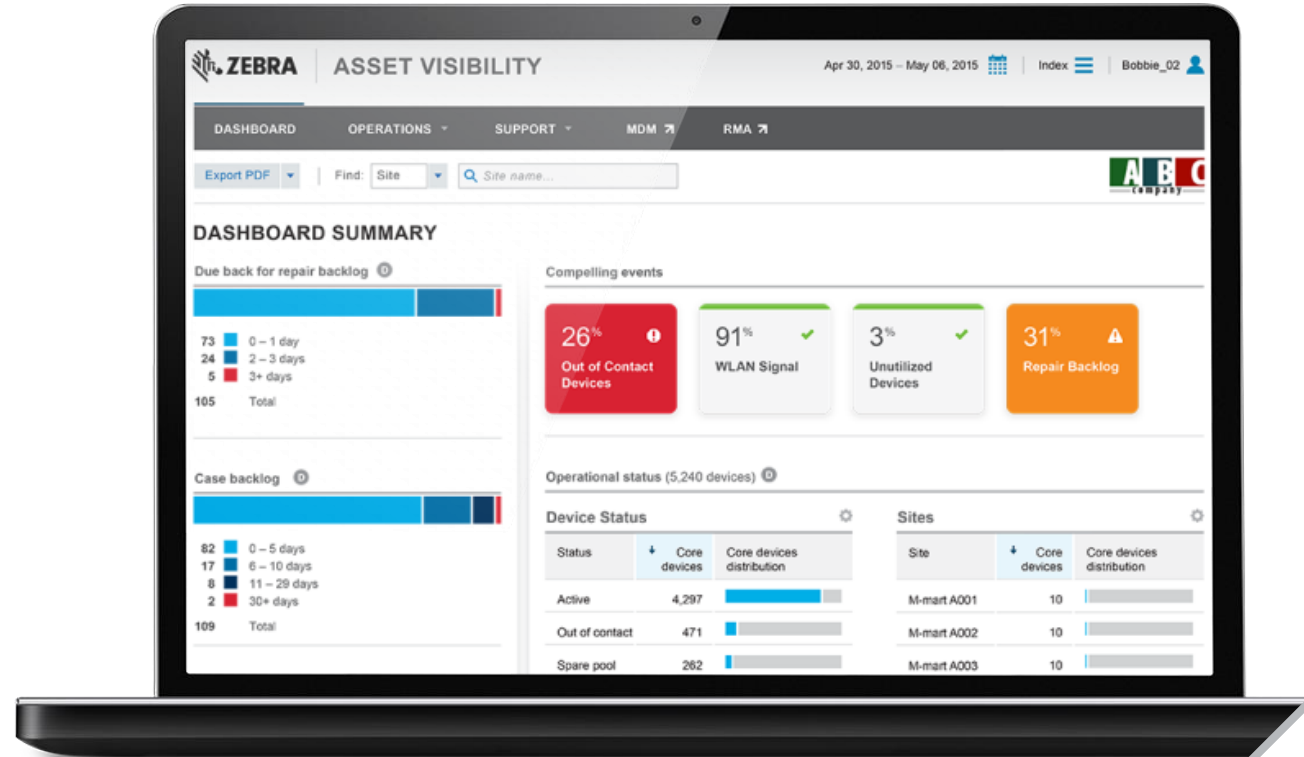
Comprehensive Dashboard & Interactive Reporting

Shows:
- Site level device inventory
- Deep operational analytics
- Detailed repair and technical case information

Leverages MDM
- OVS: SOTI
- OVS Connect: SOTI & Airwatch

Supports
- All Zebra Mobile Computers
- Link-OS v 4.0 Printers
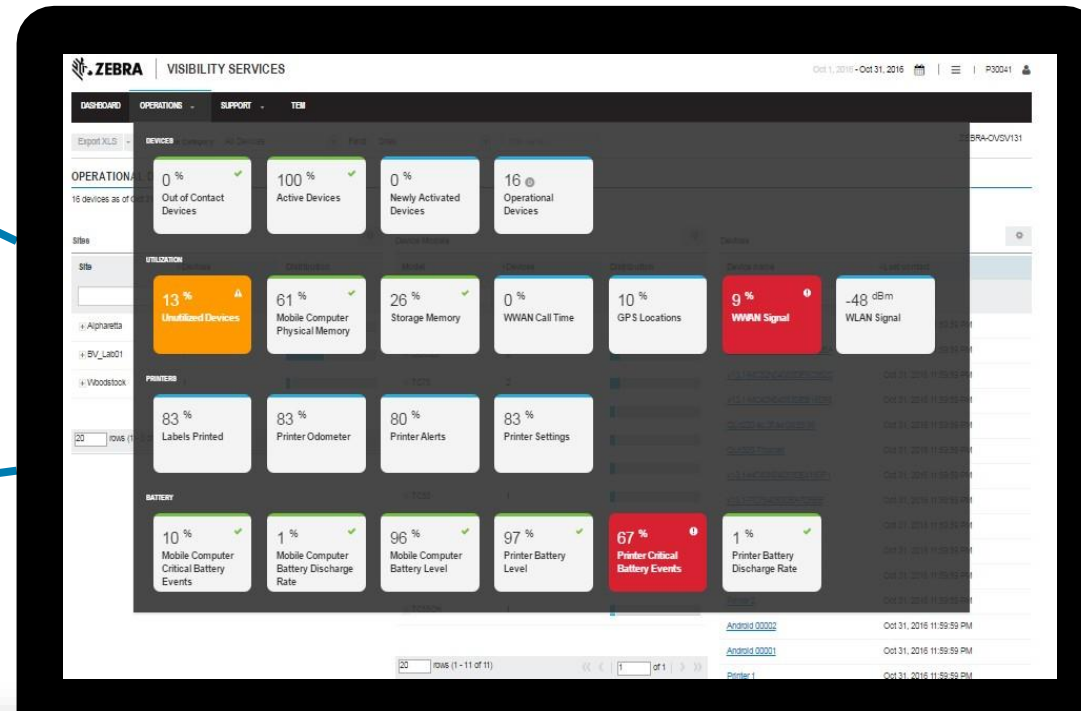- Third-party rugged and consumer devices