ArcGIS Field Apps: Working with Mobile Device Management Systems

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DEVELOPER SUMMIT

Agenda

- Field Operations and the ArcGIS Field Apps
- Mobile Device Management (MDM) technology
- Field Apps and MDM Capabilities
- Demo
- Deployment Considerations

Field Operations | ArcGIS Field Maps and specialized apps…

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- ArcGIS Collector
- ArcGIS Explorer
- ArcGIS Tracker
- ArcGIS Workforce
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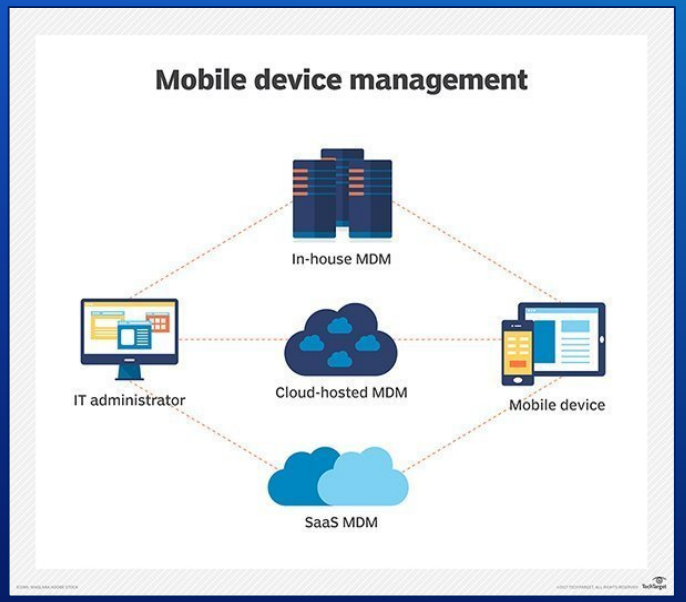
Specialized Apps

- ArcGIS Survey123
- ArcGIS QuickCapture
- ArcGIS Indoors
- ArcGIS Mission Responder
- ArcGIS Earth

What is Mobile Device Management (MDM) Technology?

- 3rd party software that IT administrators use to control, secure, and enforce policies on smartphones, tablets, and other devices
- Optimize the functionality and security of mobile devices within the enterprise, while simultaneously protecting the corporate network
- Typically used by mid-large organizations



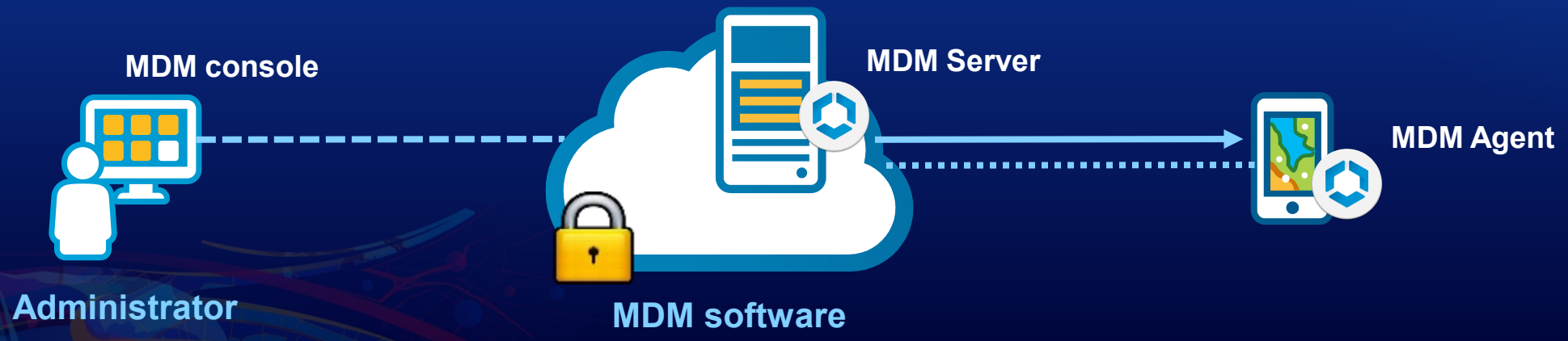
Components of MDM Technology

Benefits: Why do Organizations use MDM Technology?

- Easily manage devices in your organization
- Improve efficiency of app deployments
- Keep apps and data secure
- Active monitoring for malware and other threats
- Enable BYOD and corporate device strategy

How does MDM Software Work?

- 2 key elements:
  - An MDM Server and an MDM Agent that resides on a mobile device
- MDM admin defines and assigns policies/restrictions/apps in the MDM console
- Server pushes the configuration to the Agent
- Agent applies the configuration to the mobile device via its device built-in APIs



Field Apps & MDM Capabilities

- Follow AppConfig community standards
- Community focused on providing tools and best practices to configure and secure mobile apps
  - a set of standard functionality/parameters that all MDM software should support

Field Apps Capabilities

- App configuration
- App Tunnel / per-App VPN

APPCONFIG COMMUNITY

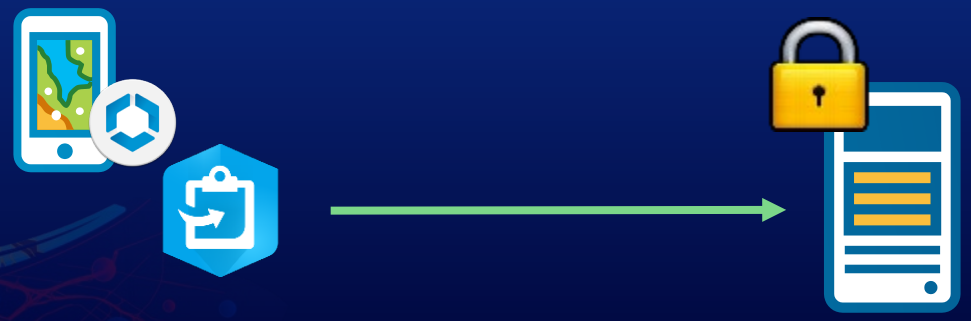
App Configuration

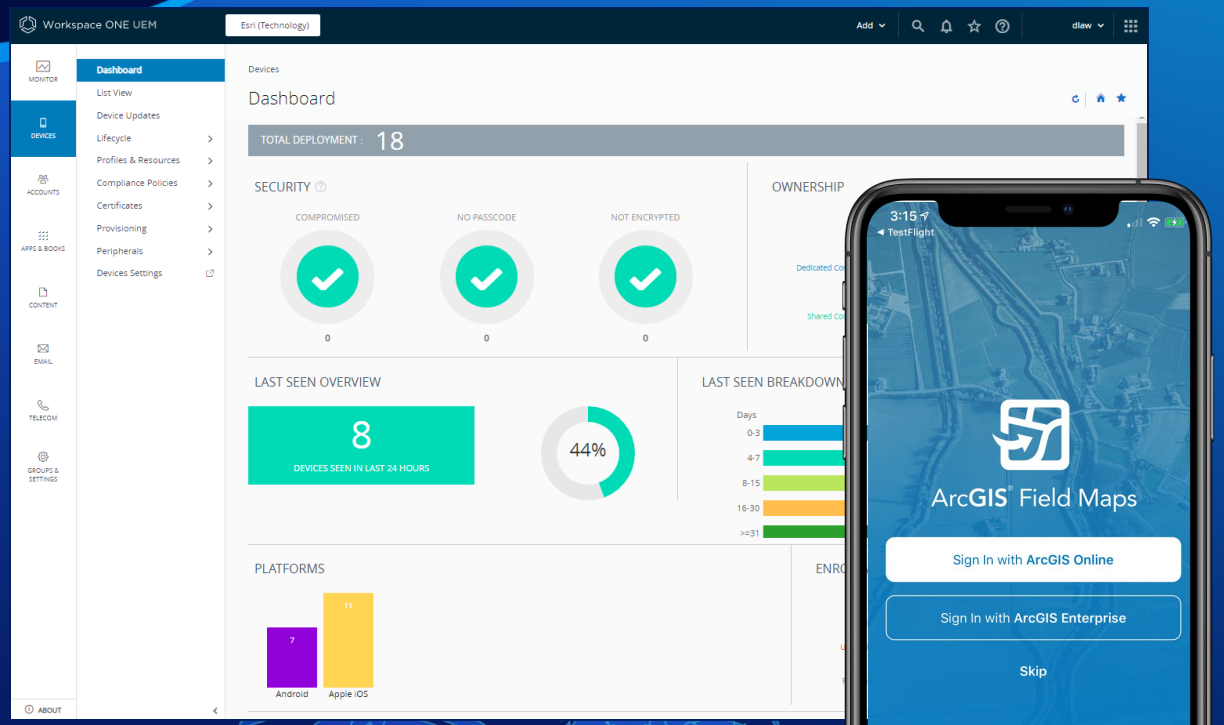
- Remotely configure settings of a managed app
- Configured for each app using specific keys-value pairs
- E.g. Field Maps supports authentication and location tracking parameters

Key	Description
`portalURL`	Your organization's portal URL
`trackingUploadLKLFrequency`	Specifies last known location upload frequency
`trackingUploadTracksFrequency`	Specifies the track upload frequency
`anonymousAccess`	Specifies whether to sign in anonymously or require credentials
`useInAppAuth`	Specifies whether a webview is used for sign in and authentication

App Tunnel / per-App VPN

- A VPN tunnel insulates and encapsulates internet traffic, often with encryption
  - Provides a secure, private connection between device and server
- Admins can selectively enable approved apps to use an app tunnel to connect to backend and corporate networks.
- per-app VPN setting on deployed app establishes connectivity at an application level instead of on a per-device basis





Deploying Field Apps with AirWatch

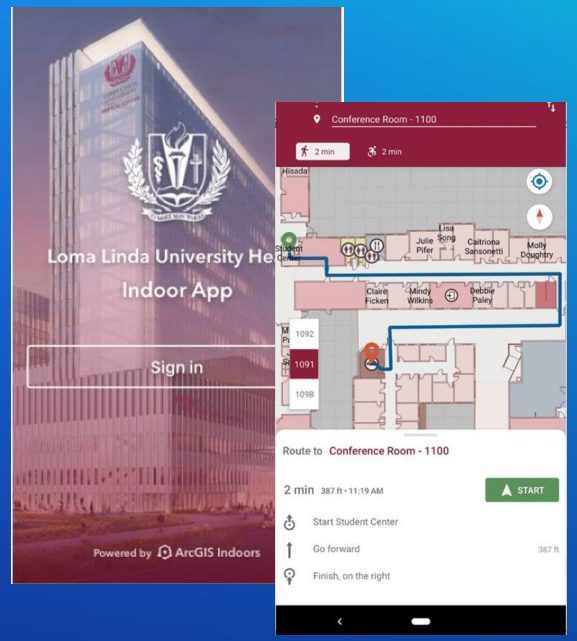
Joel Whitney

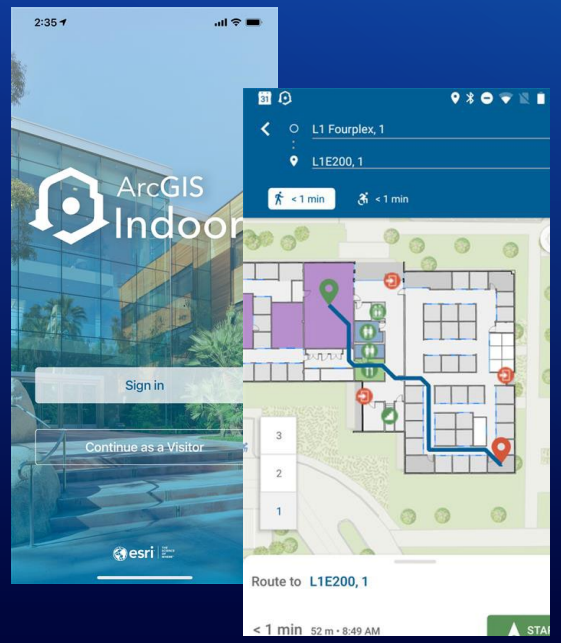
ArcGIS Field Apps: App Configuration Support

	portalURL	App Specific Settings
Field Maps	✓	Authentication settings Anonymous access to Enterprise Tracks and LKL upload frequency
Explorer	✓	Authentication settings Anonymous access to Enterprise
Collector	✓	
Tracker	✓	Tracks and LKL upload frequency
Navigator	✓	Biometric authentication
Workforce	✓	

Specialized Apps: App Configuration Support

	portalURL	App Specific Settings
Business Analyst	✓	
Earth	(coming soon)	
Indoors	✓	Branding
Mission	(on the roadmap)	
Survey123	✓	Authentication Portal configuration Diagnostics Data recovery
QuickCapture	✓	
AppStudio	✓	Portal configuration User-defined for custom apps





Deployment Considerations

- App Configuration can streamline workflows
  - Android Enterprise required for App Config support
  - Android Legacy does not support sending
- VPN and Network configuration
  - Ensure network configured to allow access
  - Browser technology often driving Sign in experience
    - Safari Domains, Chrome tabs, external browsers, block/allow lists
- Troubleshooting
  - Log network traffic (e.g. Fiddler or Charles Proxy)
- Consult Blog and help topics
  - Give us feedback! (especially on App Config parameters)

Resources

- **Resource: ArcGIS Secure Mobile Implementation Patterns whitepaper**
- **ESRI Help and Blogs**

Field Maps **Tracker** **Navigator** **Indoors** **Survey123**

Explorer **Collector** **Workforce** **AppStudio** **Business Analyst**

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