

**Esri Developer Summit**

March 8–11, 2016 | Palm Springs, CA



# Collector for ArcGIS

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# Field Operations with ArcGIS



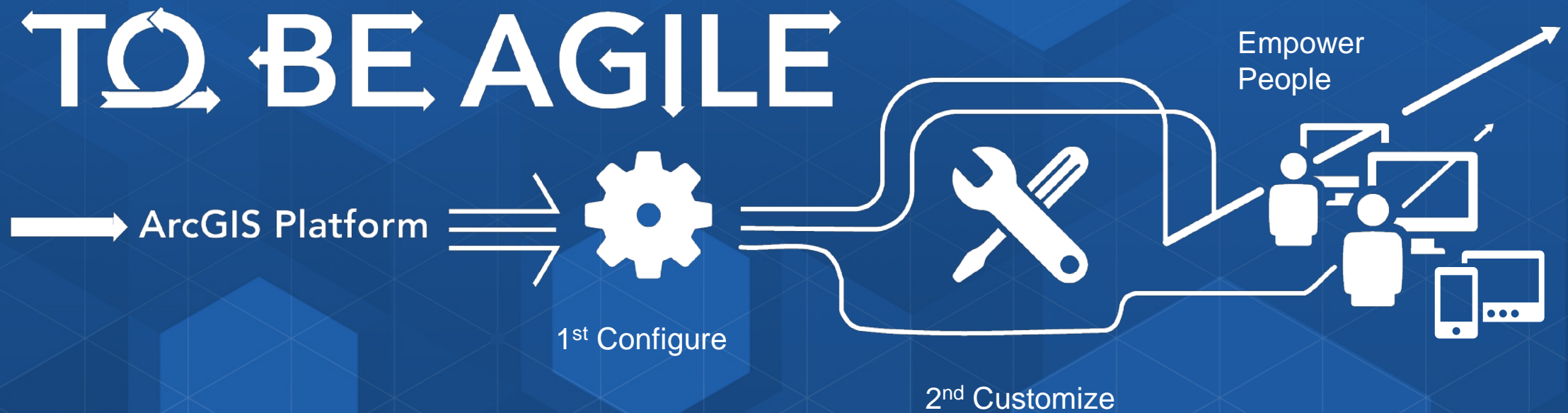
# Esri Strategy toward mobile apps

- Extend the reach of Web GIS
- Target specific functional needs
- Work together on your device
- Office and Field integration
- Platform agnostic



## Key Principle

- ▶ Employing the agile methodology will deliver immediate value to your business today and into the future



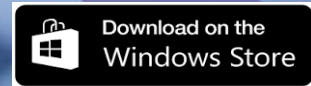
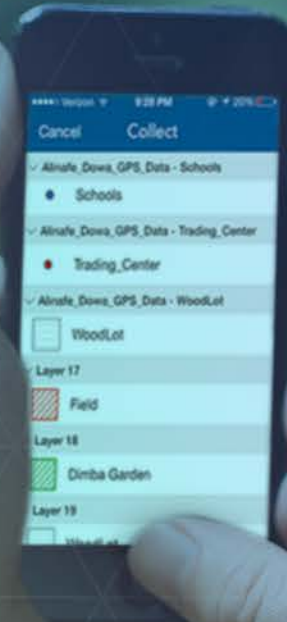


# Collector for ArcGIS

Map Centric Data Collection

High Precision

Works offline



**DEMO**

# Collector for ArcGIS | ArcGIS Platform Integration

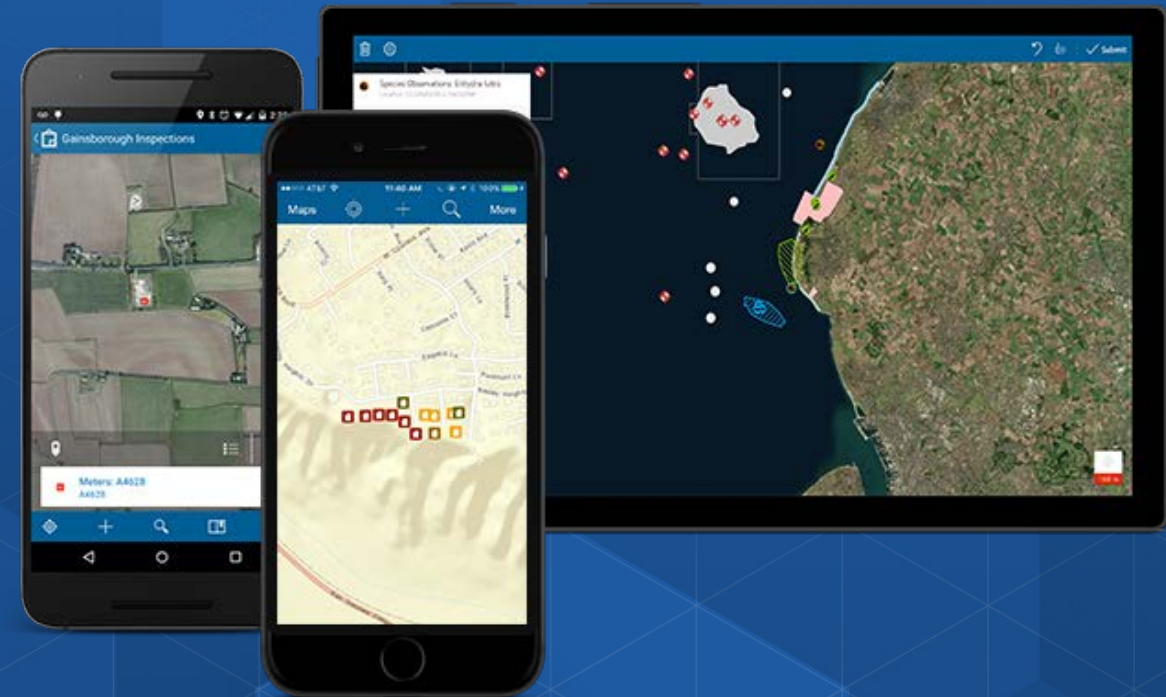


- **Identity**

- ArcGIS Online Identity
- Enterprise Identity
- SAML provider
- Multi-factor authentication

- **Maps**

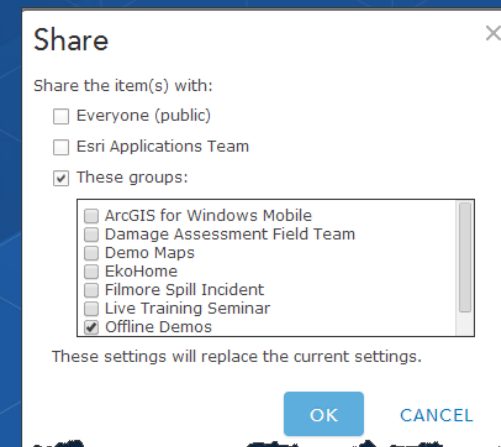
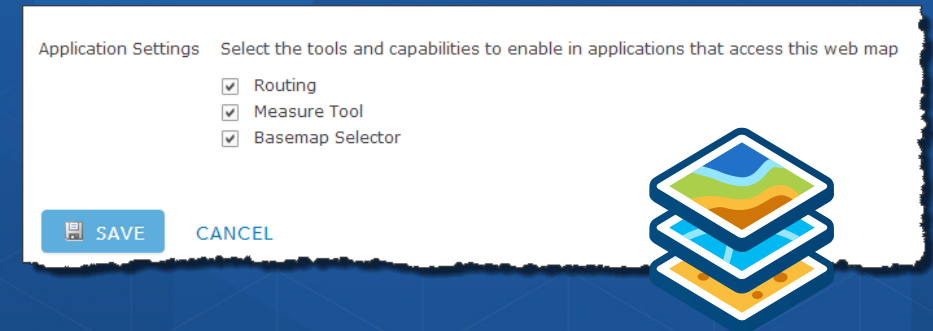
- Created using ArcGIS Online/Portal for ArcGIS
- Maps can be shared across organizations
- Layers based upon web services (Hosted or On-Premises)
- Download them to your device or connected



# Deploying Mobile Solutions| Collector uses Web Maps

- **Collector uses maps that include:**
  - Layers from 1+ feature services (editable)
  - Location Tracking layer (optional)
  - Basemap
  - Application settings
  - Offline Mode advanced settings

- **Share Maps to field workers using Groups:**
  - Create Named Users for each field worker
  - Invite field workers to groups
  - Share maps into groups





# Collector for ArcGIS | Edit Using Feature Layers

- **Supported Types:**

- ArcGIS Online (Hosted)
- ArcGIS Server (On Premise)

- **Supported Operations:**

- Editing options
- Sync capabilities

- **Popups and fields:**

- Define the form experience in Collector
- Take advantage of Geodatabase capabilities
  - Domains and Subtypes
  - Related Tables
  - Feature Templates
  - Field validation
  - Editor tracking

The image shows several screenshots from the Collector for ArcGIS interface. At the top right, the 'Editing' section is visible with options to enable editing and allow editors to add, update, and delete features. Below it, the 'Export Data' section has an option to allow others to export to different formats. The 'Sync' section has an option to enable sync. The 'Track Edits' section has an option to keep track of who created and last updated features.

In the center, the 'Configure Attributes' dialog is shown. It has a table with columns for 'Display', 'Field Name', and 'Field Alias'. The table lists several fields with their corresponding aliases and display checkboxes.

At the bottom left, the 'Create Features' dialog is shown. It has a search bar and a list of feature types: Affected, Destroyed, Inaccessible, and Minor.

At the bottom right, the 'Field Properties' dialog is shown. It has a table with columns for 'Field Name' and 'Data Type'. The table lists several fields with their corresponding data types. Below the table, there is a section for 'Field Properties' with a table for 'Alias', 'Extent of Damage', 'Allow NULL values', 'Default Value', 'Domain', and 'Length'.

Field Name	Data Type
SHAPE	Geometry
REPRESENT	Text
PRIMRES	Text
HABITABLE	Text
NUMOCCUP	Long Integer
STRINSUR	Text
EARINSUR	Text
FLOODINSUR	Text
FIREINSUR	Text
DEDUCT	Double
PREDISVAL	Double
STRLOSS	Double
TYPDAMAGE	Text

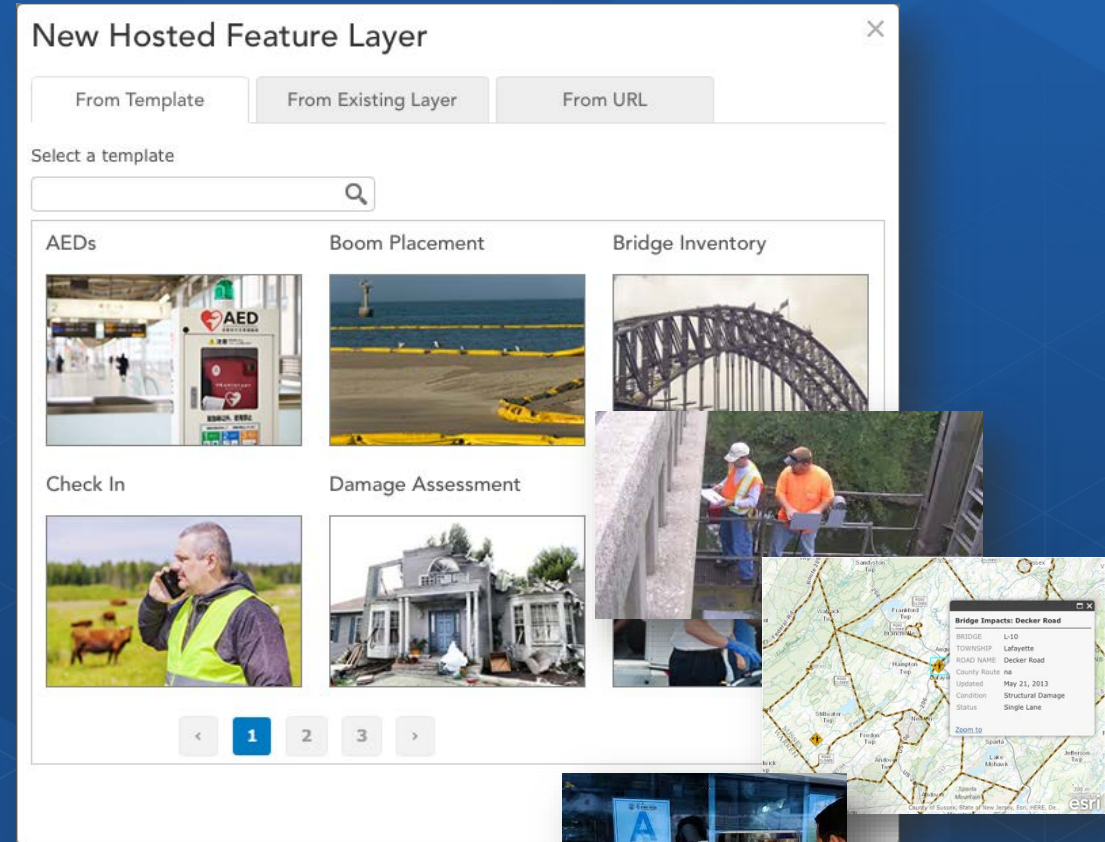
Field Name	Data Type
Alias	Extent of Damage
Allow NULL values	Yes
Default Value	
Domain	daDegreeDamage
Length	20

# Collector for ArcGIS| Use Feature Layer Templates

- Templates for creating new feature layers
- Use directly *or* fine tune them with the map viewer

- Examples:

- Inspections – restaurants, construction, bridges, permits
- Damage assessment
- Road closure
- Water quality assessment
- Environmental Impact



**DEMO**

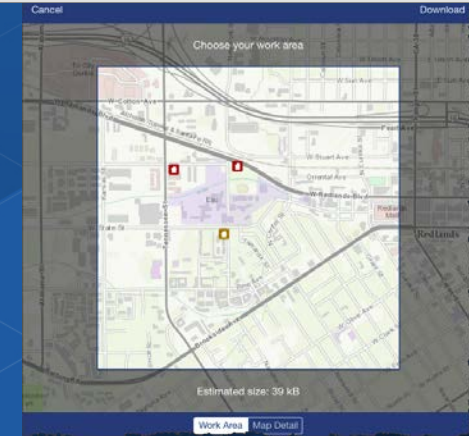
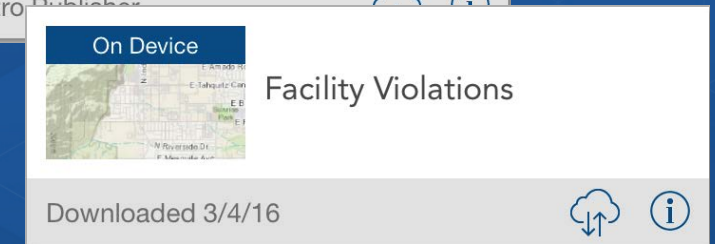
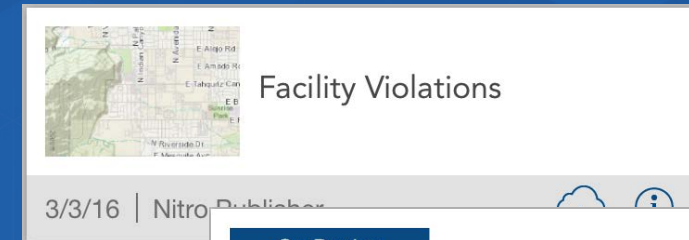
# Collector for ArcGIS| Offline Map Use

- **Field user can take their map offline and...**

- View and interact with map
- Measure distances and areas
- View popups and media
- Search for features
- Collect and update features
- Synchronize changes between field and office

- **Map layer support for disconnected editing...**

- Feature Services that support editing operations (Create, Update, or Delete)  
\*\*Must have Sync enabled (see options)
- Tiled Map Services (on-premises/hosted)
- Esri Basemap Services

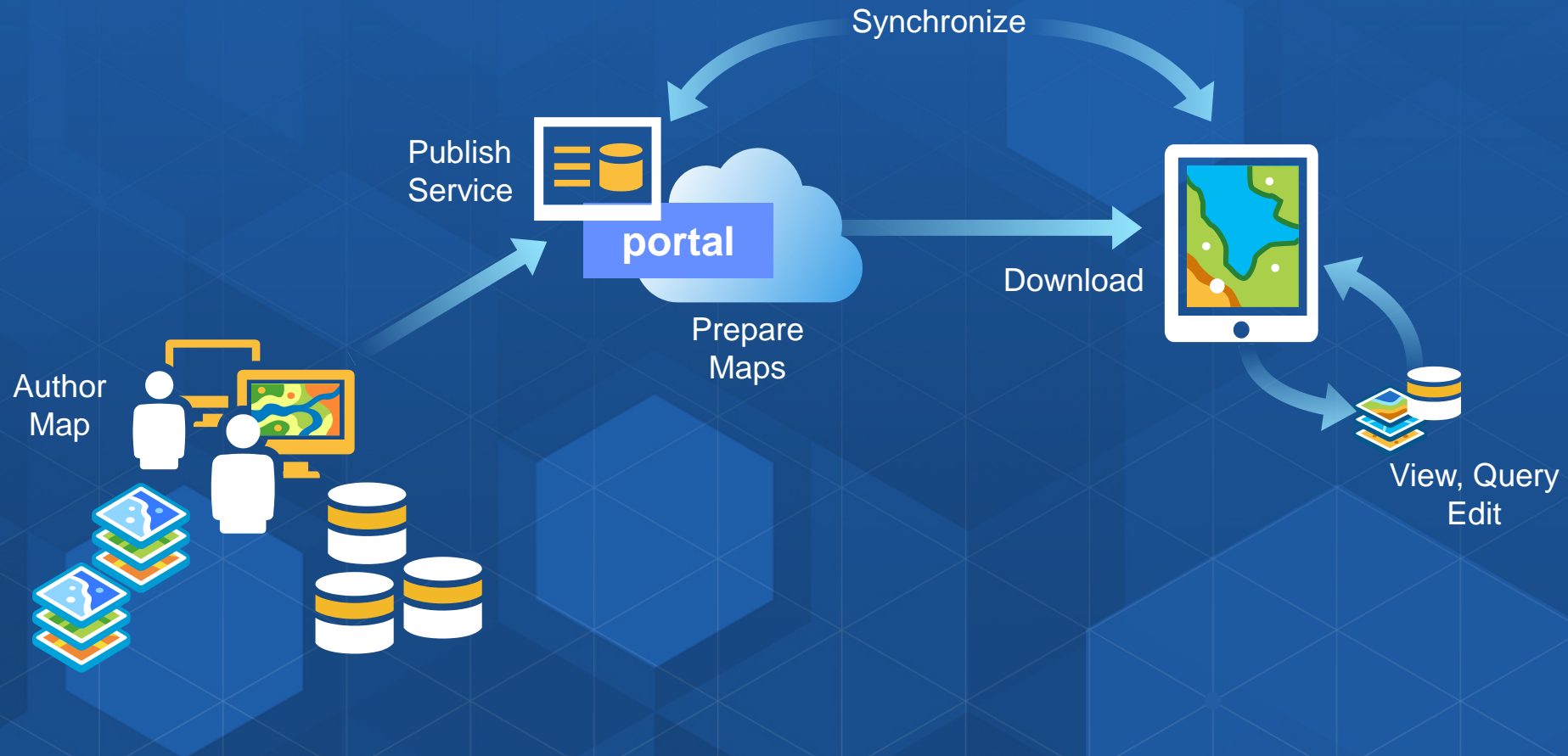


# Offline Patterns | User-defined Offline Maps User Workflow



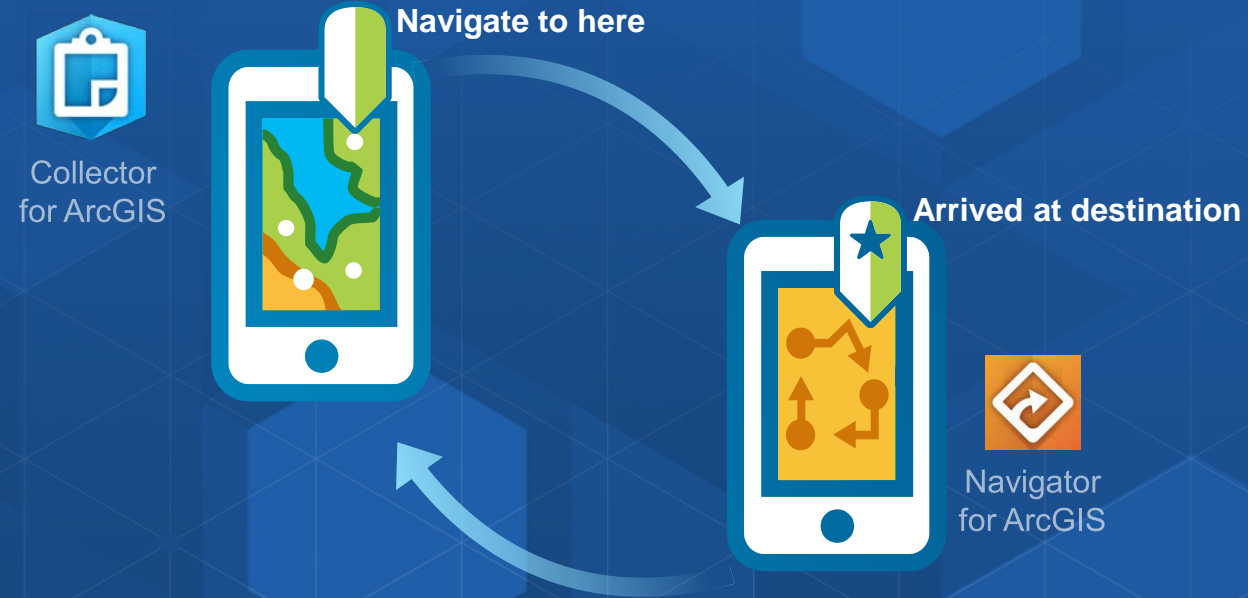
Mobile user selects area of interest, downloads map w/ data to their device

# Collector | User-defined Offline Maps Data Workflow



# Collector | Companion app with Navigator for ArcGIS

Navigator coming to Android in Q2, Windows Later



# Collector | Companion app with Workforce for ArcGIS

Workforce coming to Android in Q2, Windows later





# Deploying Mobile Apps| App Store model



App Stores



Devices

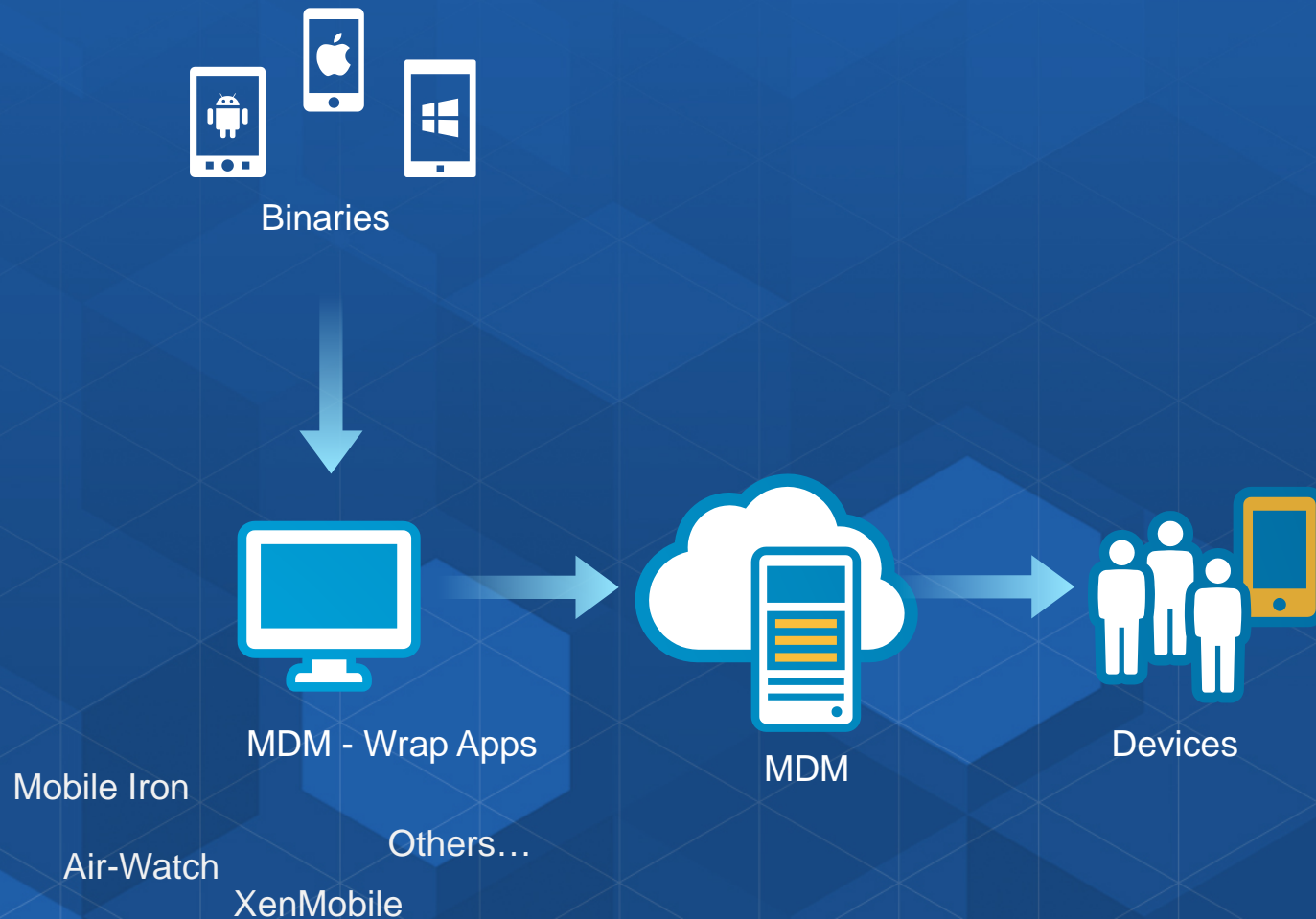
## Benefits

- Always up to date with latest version

## Cons

- Always up to date...
- Mixed versions in production
- Device-level VPN required

# Deploying Mobile Apps| MDM model (App-level VPN via binaries)



## Benefits

- Controlled Distribution to Devices
- App level VPN capability

## Cons

- Difficult to stay in sync with updates
- Requires wrapping
- Requires binaries from Esri

# Latest and What's Next

# Collector for ArcGIS | 10.3.7 Release

- **Improving Download and Sync Capabilities**

- Hosted Feature Services
- ArcGIS for Server 10.4 Feature Services

## Advanced Offline Options

**Editable Layers**  
Edits are always sent to the server. Choose what data is retrieved.

- Features
  - Attachments

**Read-Only Layers**  
Features are always retrieved from the server.

- Attachments

# Collector| Locational accuracy (10.4 release)



What's Coming in the next release:

- Leverage OS location services API or Leverage External GNSS receiver
- Display and filter collection by accuracy
- Datum transformations
- Metadata and alerts

