

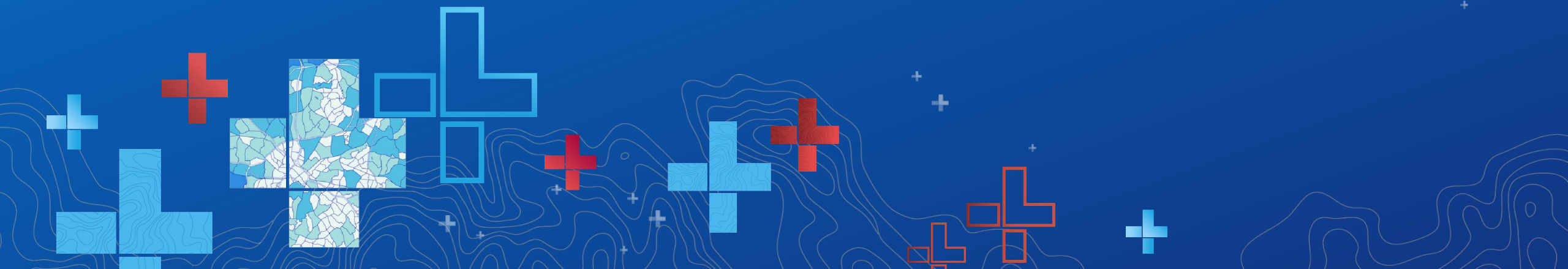
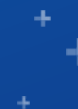


ArcGIS Runtime SDK for Java: Building Apps

Gary Sheppard

David Cardella

2020 ESRI FEDERAL GIS CONFERENCE | WASHINGTON, D.C.



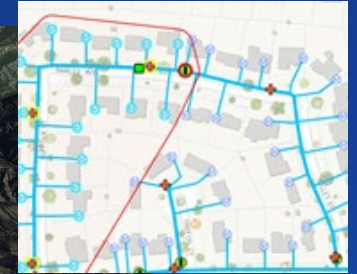
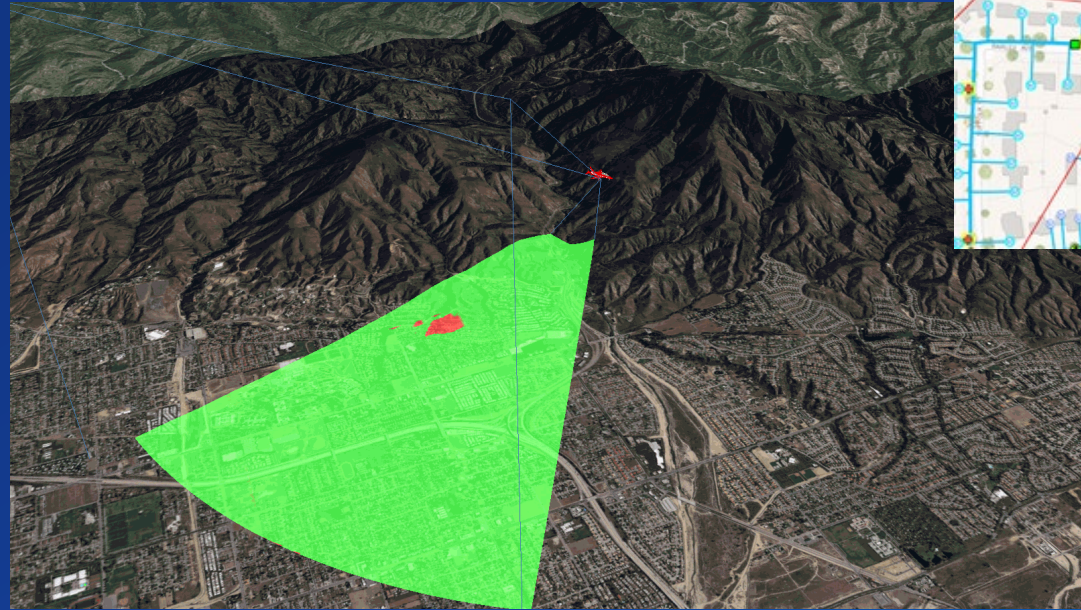
Agenda

- **ArcGIS Runtime**
- **Getting started**
- **Capabilities**
- **Licensing**
- **What's coming**



ArcGIS Runtime SDKs

- Native application development
- Advanced Cartography
- Excellent client to your web GIS
- Work Offline
- Cross-Platform and Cross-Device
- Distribute to App Stores



ArcGIS Runtime SDKs

Supporting Native App Development



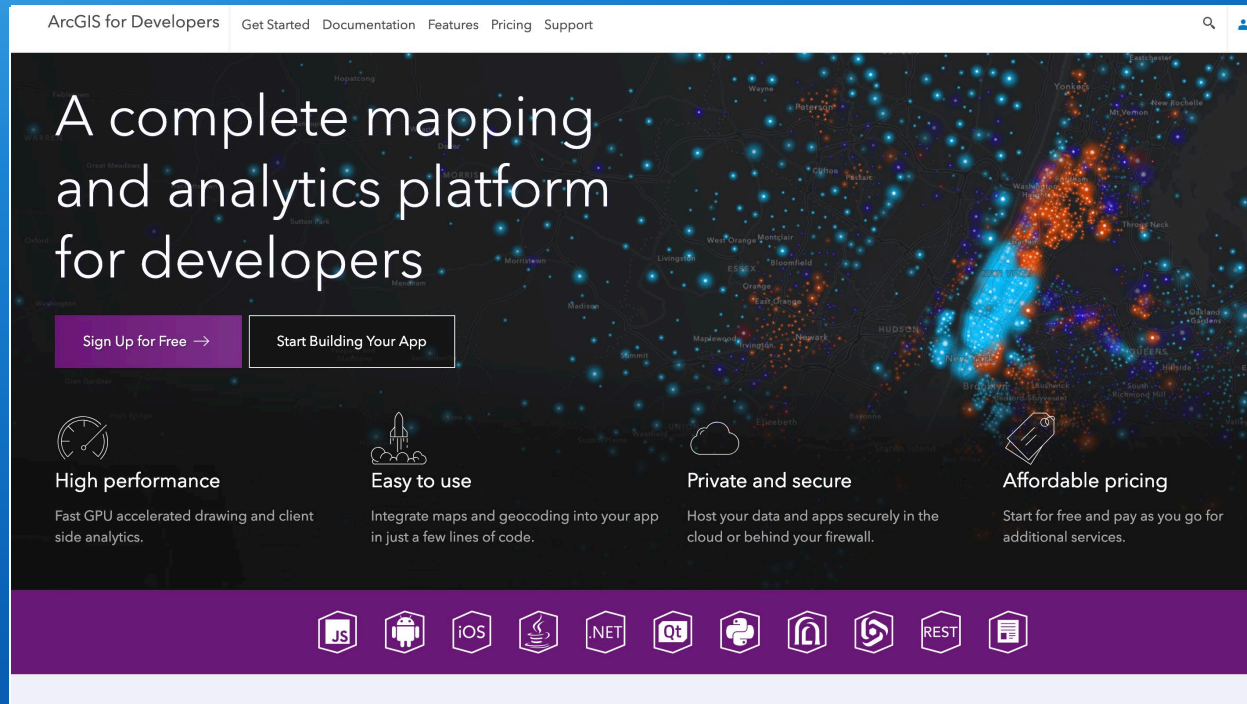
- **Allows you to select the development environment of your choice**
 - Integrates with your solution
 - Makes you productive
- **Your users benefit from the optimum solution**

ArcGIS Runtime Releases

- **3 releases/year**
 - Significant new capabilities
- **Development drivers**
 - Building apps for the platform
 - Support our internal apps group
 - Creating APIs that enable use of ArcGIS Platform functionality
 - Our partners/customers
 - Supporting key industry verticals



Supporting Public Safety and Utilities Industries

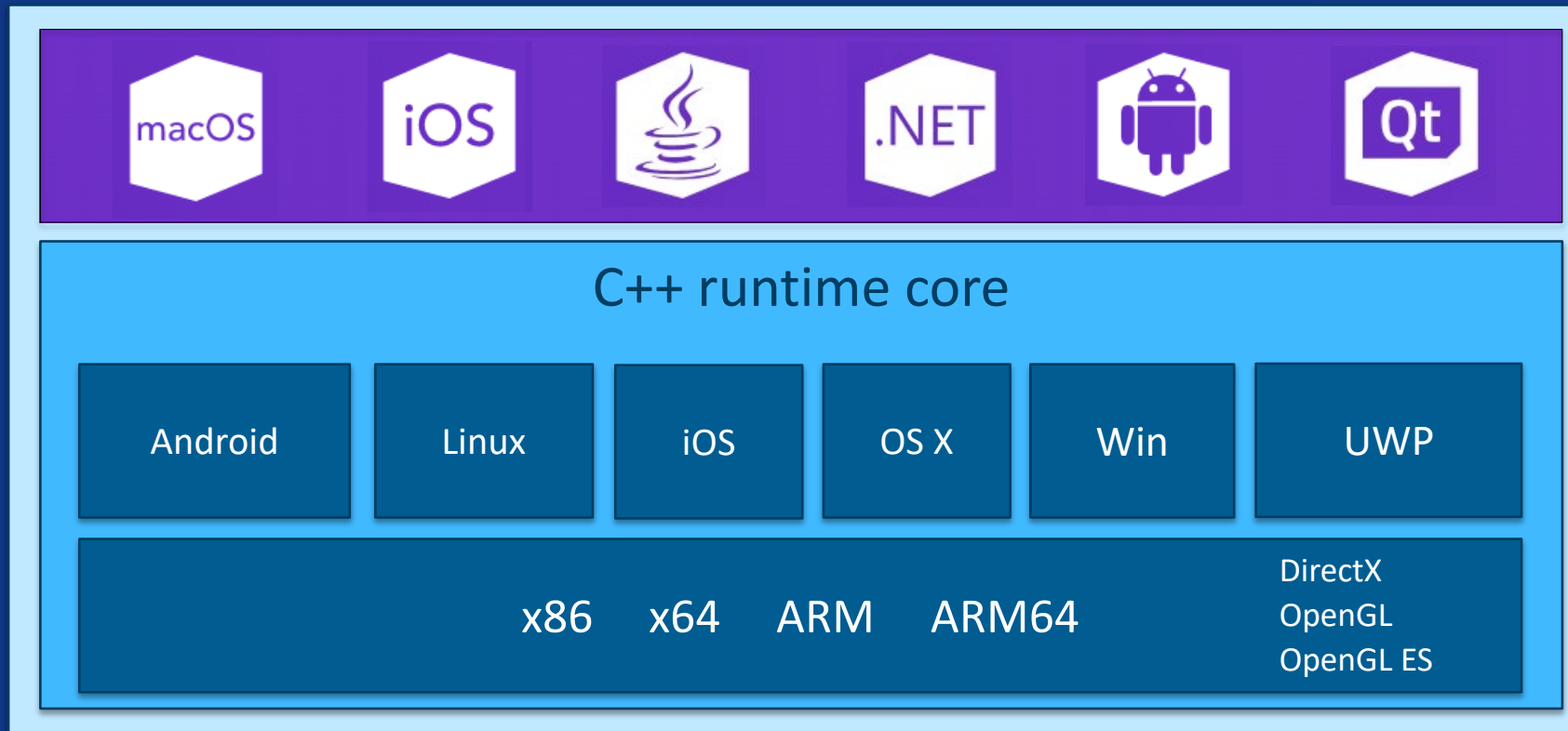


Getting Started

Gary

ArcGIS Runtime SDKs

An Architecture Designed to Maximize Performance and Reuse



ArcGIS Runtime SDKs

C++ Core has Advantages

- C++ core and hardware accelerated rendering offer best performance available
- Performance of C++ core is independent from API chosen
- Common conceptual model across all public APIs
- Capabilities the same across all APIs and devices*
- Public APIs can vary to conform to their platform norms

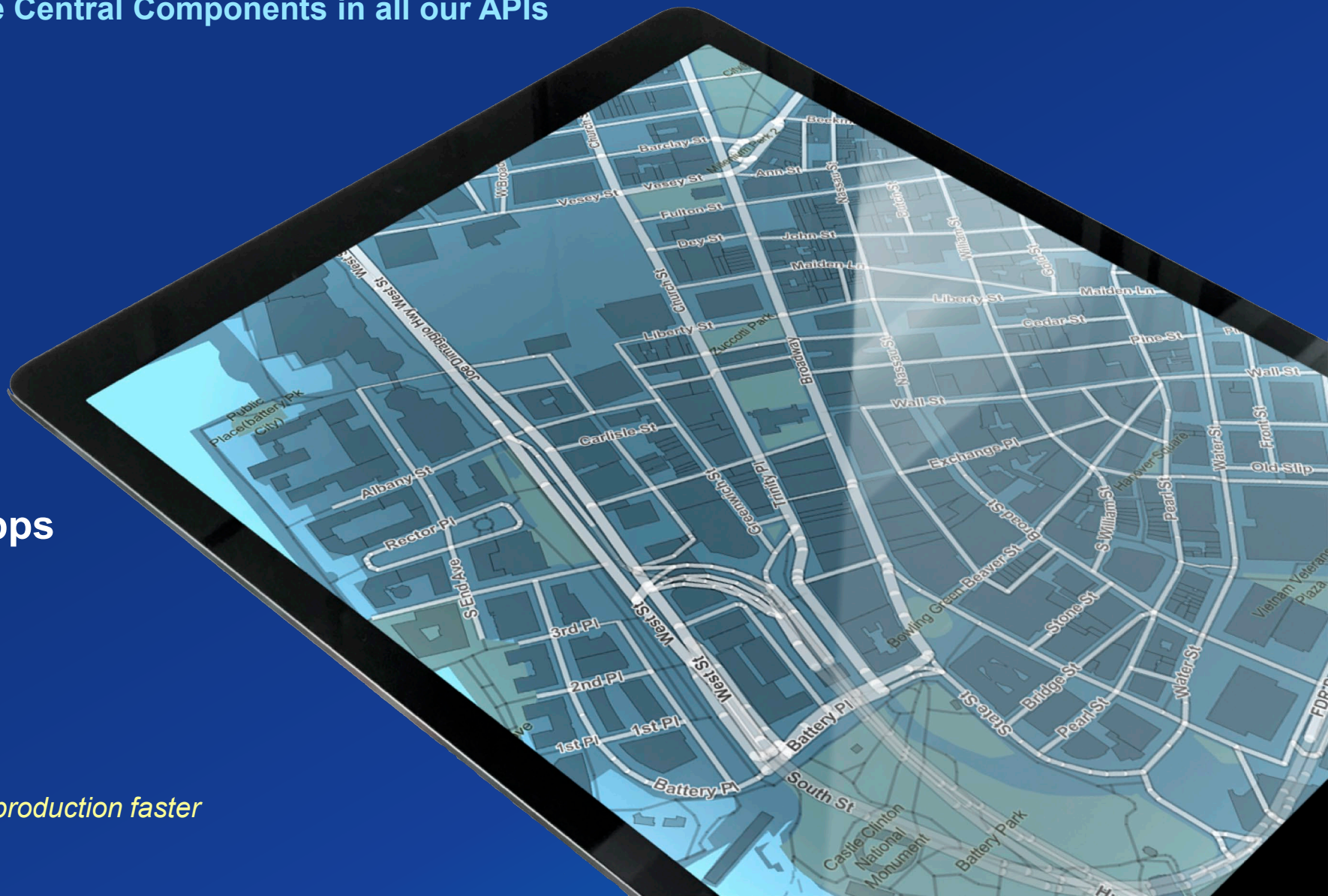
* Dependent on device support

Embracing the Web GIS Pattern

The WebMap and WebScene are Central Components in all our APIs

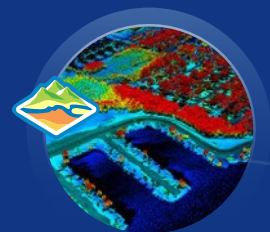
- Less code
- End-user app updates
- Leverage user roles
- Data flows between apps

Reduce development costs and get to production faster

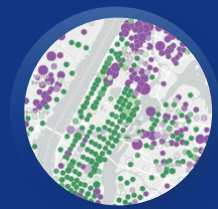




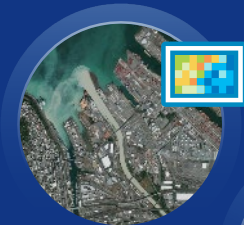
Working
with layers from local GIS data



Point Cloud



Feature Layer



Raster Layer



Scene Layer



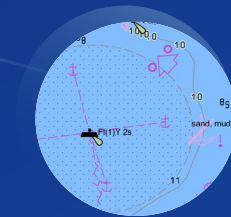
OGC Services



Vector Tiles



Image and Raster Files



ENC



Packages



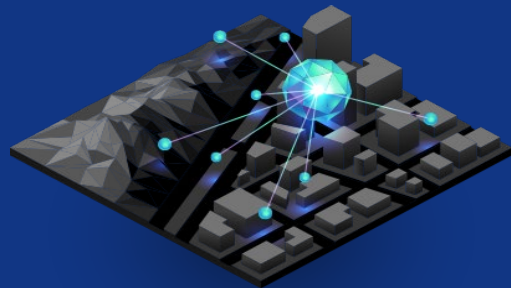
Shapefile,
GeoPackage
Mobile GDB
KML

Working
with layers from services

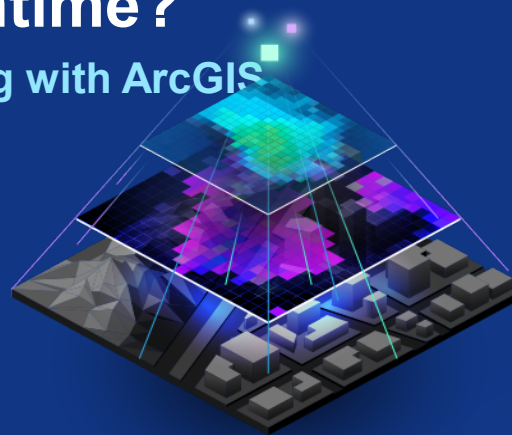


What can I do with ArcGIS Runtime?

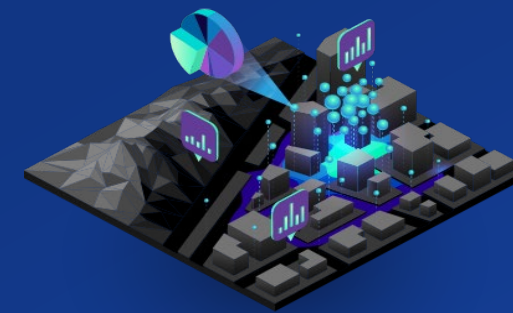
Software development kits (SDKs) for working with ArcGIS



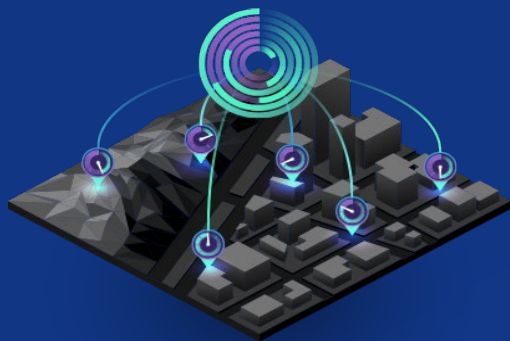
Spatial Analytics



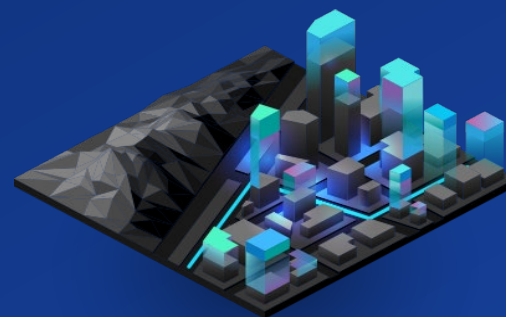
Imagery & Remote Sensing



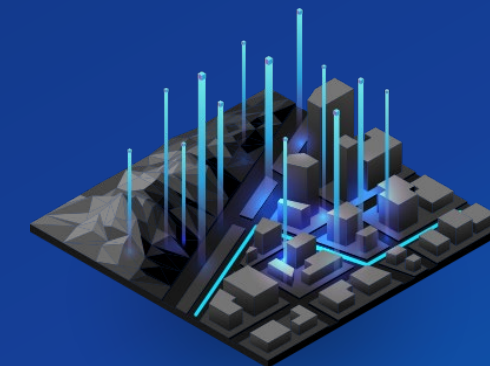
Mapping & Visualization



Real-Time GIS



3D GIS



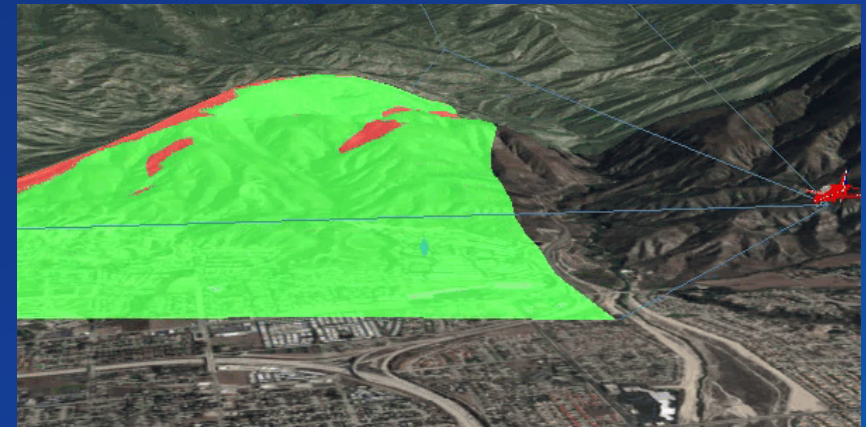
Data Collection & Management

Bringing the ArcGIS platform's full capabilities to mobile, desktop, and embedded devices

ArcGIS Runtime SDKs

Analysis

- Works with services
 - Geoprocessing
 - Network analyst
- Local Engines
 - Geometry
 - Projection
 - Network
- Interactive 3D Analysis



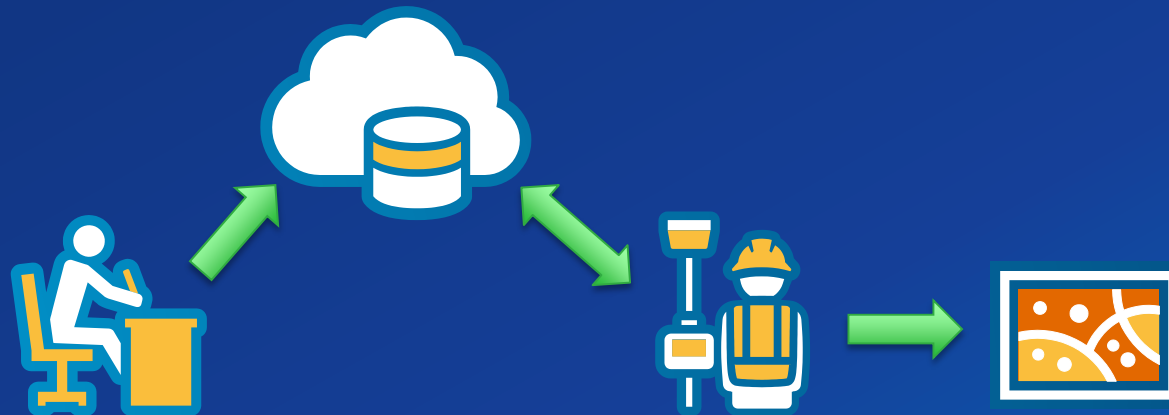
Working With Maps Offline

Apps are Not Always Connected

New

- Polygon map areas
- Scheduled updates
- Shared Basemaps

1. Build everything up in code and raw data on the device
2. Author maps in ArcGIS Pro and share via packages
3. Author map for use within Online or Enterprise and take offline using on-demand workflow
4. Author map for use within Online or Enterprise and take offline using pre-planned workflow




```

Callout callout = mapView.getCallout();

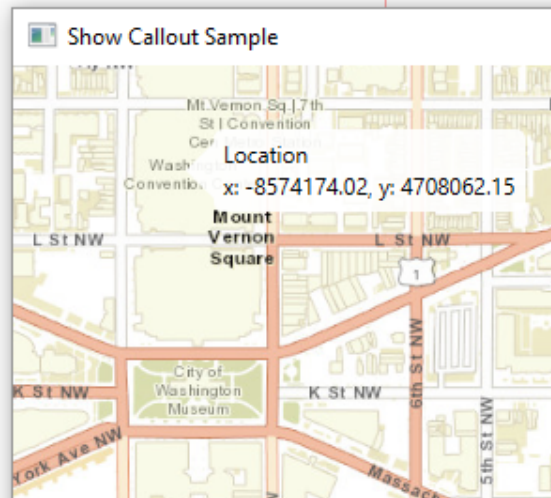
if (!callout.isVisible()) {
    // set the callout's details
    callout.setTitle("Location");
    callout.setDetail(String.format("x: %.2f, y: %.2f", mapPoint.getX(), mapPoint.getY()));

    // show the callout where the user clicked
    callout.showCalloutAt(mapPoint, DURATION);
} else {
    // hide the callout
    callout.dismiss();
}

// add map view and control panel to stack pane
stackPane.getChildren().addAll(mapView);

try {
    // on any error, print the stack trace
} catch (Exception e) {
    //
}

```



Capabilities

Gary

What's new in Update 6 & 7

- Track-focused roadmap
 - Utilities
 - Defense/Public Safety
 - Platform

100.5

100.6

100.7

2019

April

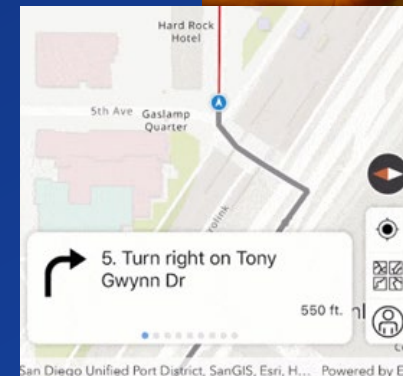
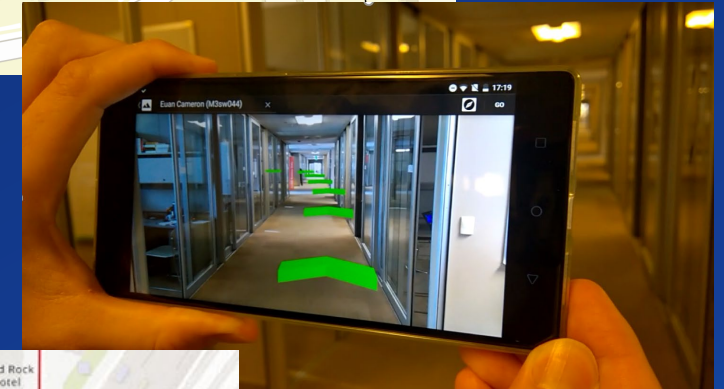
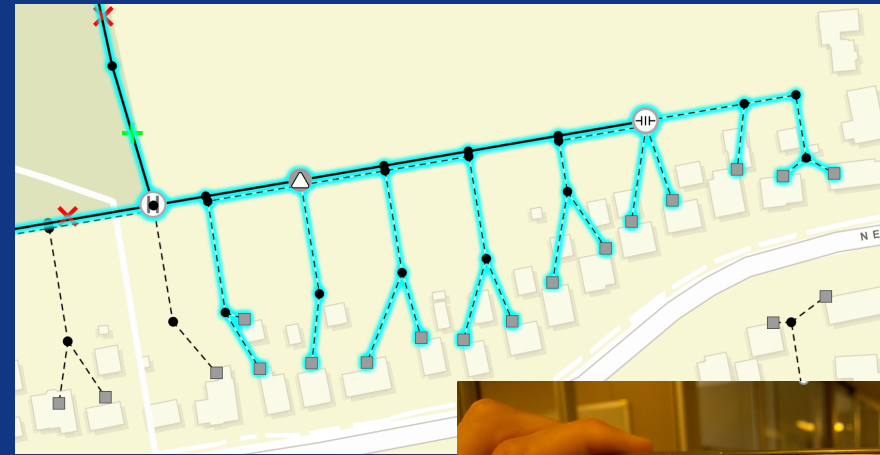
August

December



Utilities

- Utility network
 - Services only
 - View definitions, associations, properties
 - Tracing
 - Subtype group layers
- AR on mobile platforms (iOS, Android)
- Offline map workflows
 - Preplanned, scheduled updates
 - Polygon AOI
- Navigation API
 - Off-route detection, recalculate, and voice commands
- Annotation
 - API for sublayers
 - Download only, delta sync

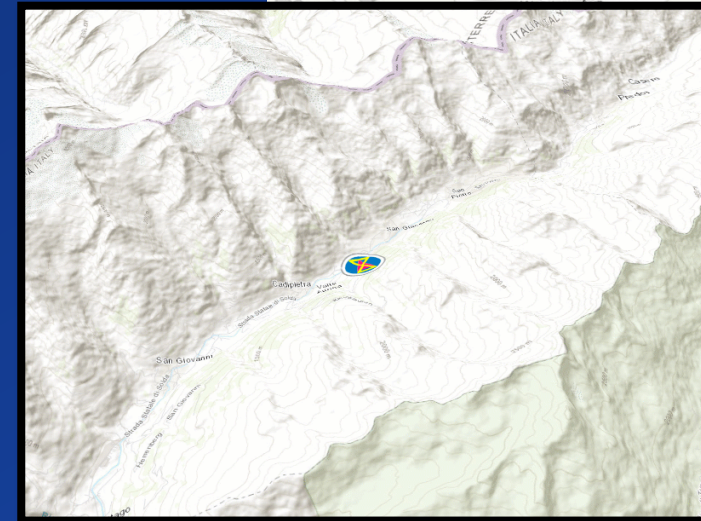


New in ArcGIS Runtime 100.6 & 100.7

```

concatenate(['style-', Lower(replace($
ng)) {
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    4.25) { ratingkey = 'rating-4.5' }
    3.75) { ratingkey = 'rating-4.0' }
    3.25) { ratingkey = 'rating-3.5' }
    2.75) { ratingkey = 'rating-3.0' }
    2.25) { ratingkey = 'rating-2.5' }
    1.75) { ratingkey = 'rating-2.0' }
    1.25) { ratingkey = 'rating-1.5' }
    ratingkey = 'rating-1.0' }

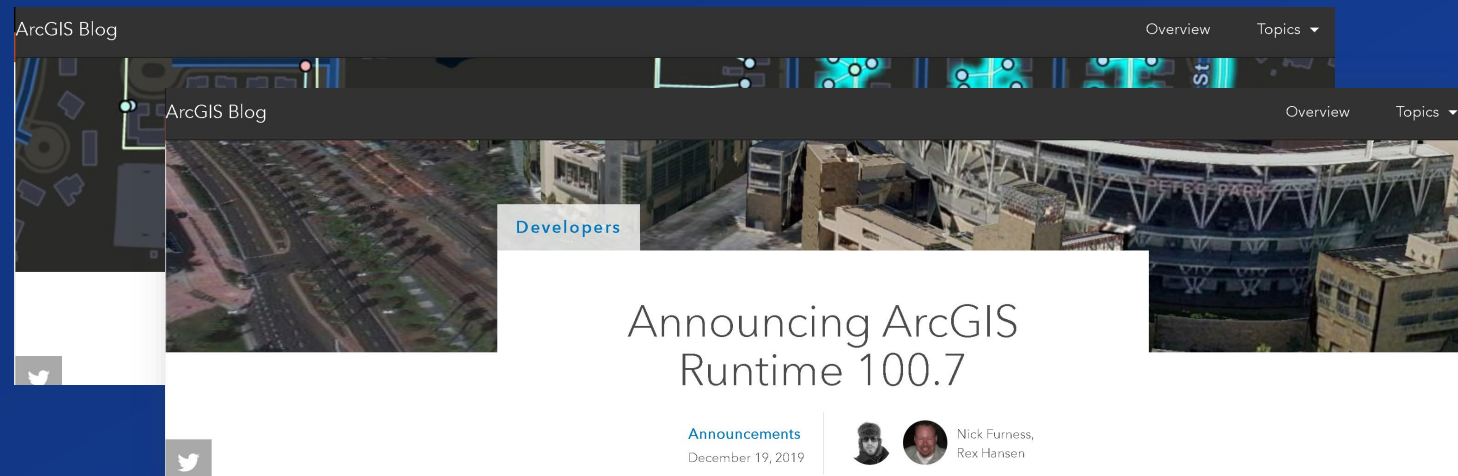
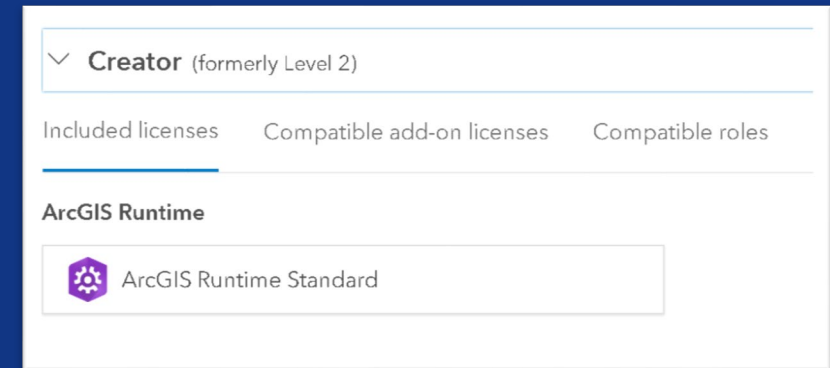
```



New in ArcGIS Runtime 100.6 & 100.7

Platform

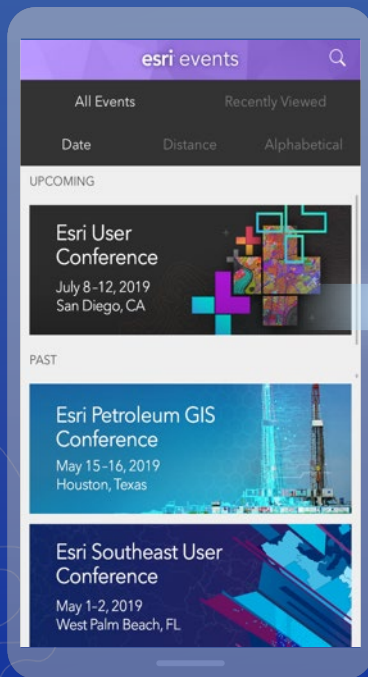
- License all levels and extensions with named users
- General improvements
 - Group layer in MMPK
 - Offsets for feature and scene layers, graphics overlays
 - Identify and select on point scene layers
- Effort to manage binary size



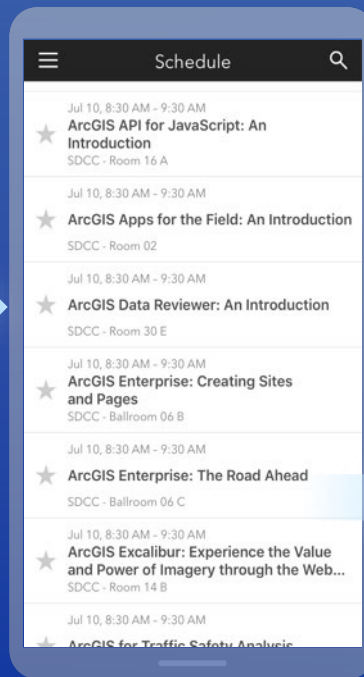
New in ArcGIS Runtime 100.6 & 100.7

Please Share Your Feedback in the App

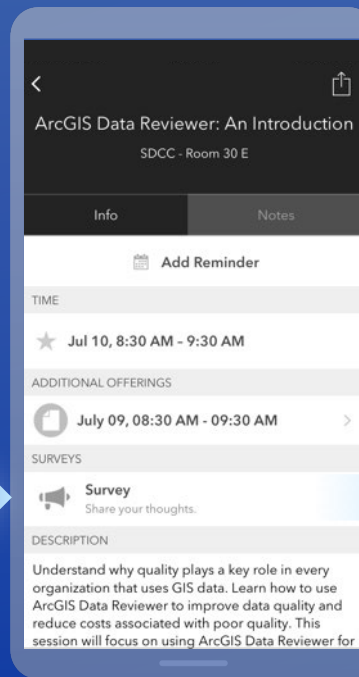
Download the Esri Events app and find your event



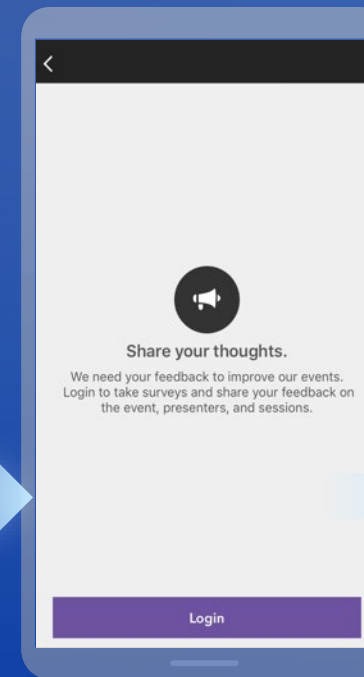
Select the session you attended



Scroll down to "Survey"



Log in to access the survey



Complete the survey and select "Submit"

