

Developing Applications with the ArcGIS Mobile API

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Agenda

- **Introduction**
 - **What is Mobile**
 - **Positioning**
- **Software Development Kit**
 - **Core SDK**
 - **Architecture**
 - **Demo**
 - **Application SDK**
 - **Introduction and Key Concepts**
 - **Demo**
- **Road Map**



Introduction

```
function onMapLoaded() {  
  var map = new esri.Map(  
    "map", {  
      layers: [ledwapServiceLayer],  
      basemap: "esri/arcgis/rest/services/Esri_Imagery/Esri_Imagery_Mosaic/MapService",  
      map: addLayer("ledwapServiceLayer")  
    }  
  );  
  function getDriveTimePolylines(  
    var features = result.features;  
    for (var f=0, fLen=features.length; f<fLen; f++) {  
      var feature = features[f];  
      var polySymbol = new esri.PolySymbol(  
        "Symbol", {color: "#0000FF", width: 2, style: "solid"});  
      feature.setSymbol(polySymbol);  
    }  
  }  
  new dojo.ColorSymbol({color: "#0000FF", width: 2, style: "solid"});  
  feature.setSymbol(polySymbol);  
}
```

What is mobile GIS?

Extends the reach of ArcGIS from the office to the field

- **With a mobile GIS solution you can**
 - Carry your maps to the field
 - Collect and Update Geographic Information
 - Track and Geo-collaborate



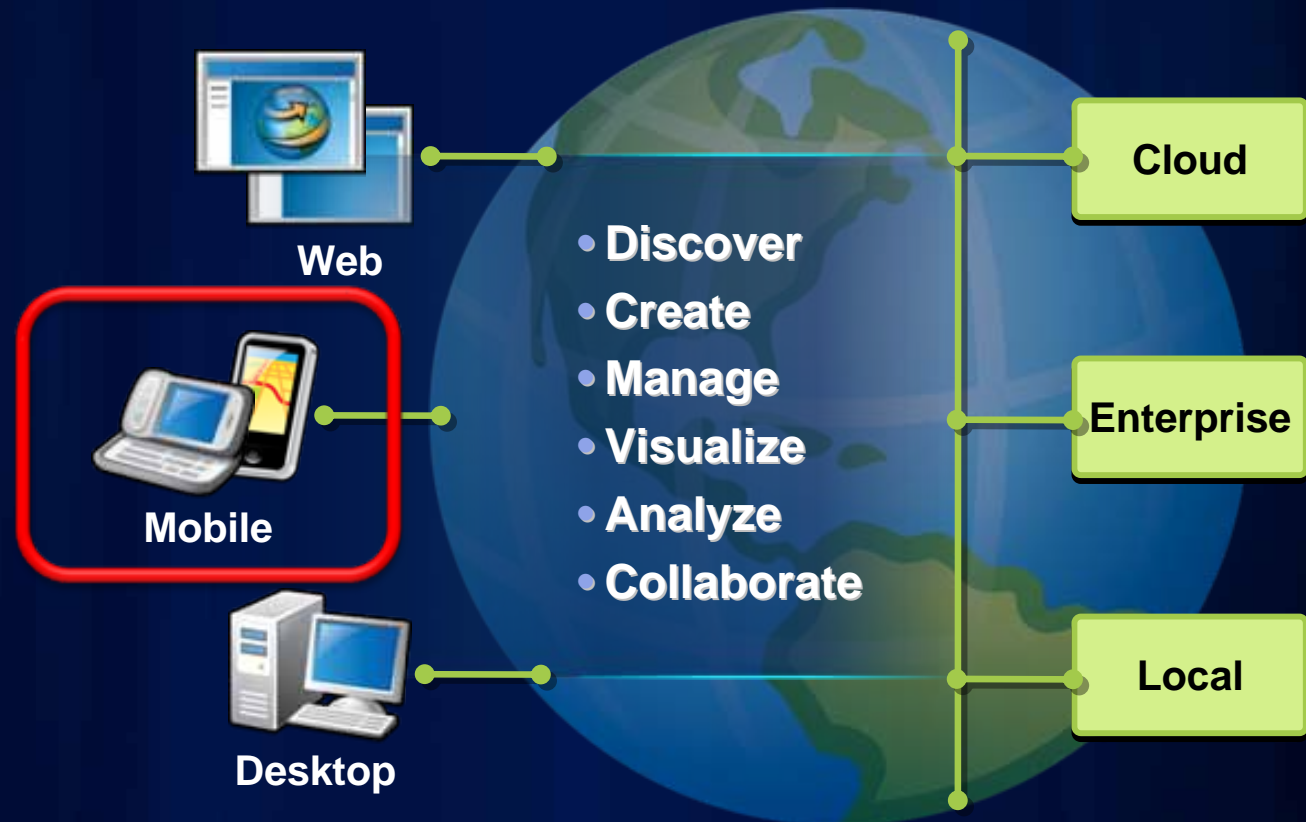
What are the benefits of mobile GIS?

Leverages the investment of your enterprise GIS

- **Improve Efficiency and Accuracy of Field Operations**
- **Rapid Data Collection and Seamless Data Integration**
- **Helps to Make Informed and Timely Decisions**
- **Replaces paper based work flows**



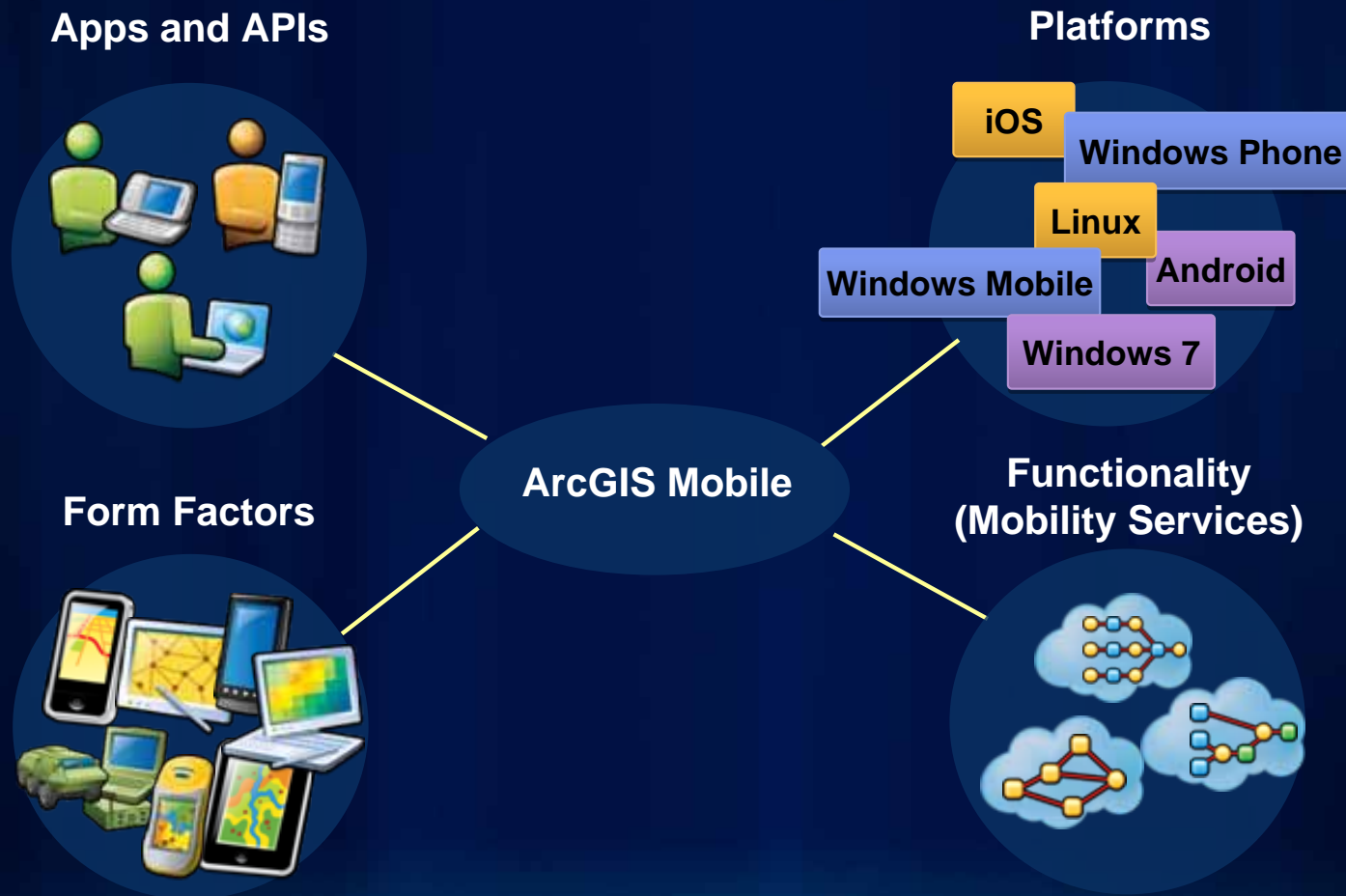
ArcGIS System



ArcGIS mobile functionality exposed through applications and APIs

Esri Mobile Technologies

Mobile capabilities of the ArcGIS system



Esri Mobile Products

ArcGIS for ...

Rugged Devices

ArcGIS Mobile

ArcPad



Smartphones and Slates

iOS



Android

Microsoft
Windows Phone



ArcGIS for Windows Mobile

Windows and Windows Mobile Devices

- Designed for harsh field conditions
- One handed/vehicle-mounted use
- Occasionally connected workflows
- High accuracy data collection
 - GPS integration
 - Laser integration
- Replace Paper Surveys
 - Intelligent forms
 - Barcode integration



Water Facilities Mapping

Asset Maintenance/Inspection

First Responders

Land Management

ArcGIS for Windows Mobile

- **Client Applications**

- Rapid Deployment of Maps, Apps & Projects
- Task-based, Workflow Driven User Experience
- Synchronization of Data between Field & Office
- Local Caching of Data

- **API**

- Coarse-grained .NET API
- Build focused, custom solutions
- Extend COTS application

- **Platforms:**

- Windows XP, Vista, Windows 7
- Windows Mobile



Software Developer Kit

Core SDK API

- Builds new field applications from scratch
- Embed GIS into existing Line-of-business applications
- Connected or occasionally connected filed operations

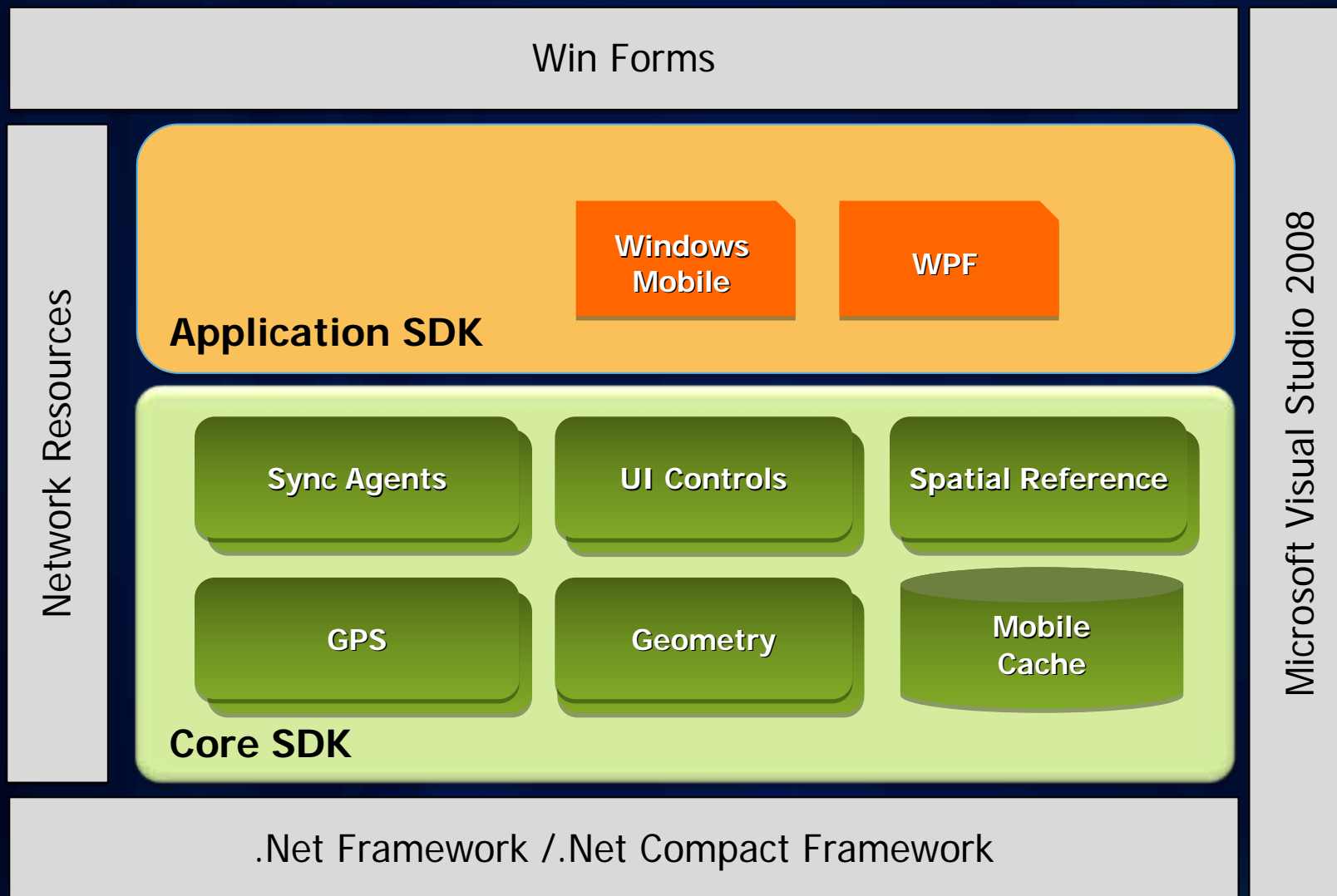
Conceptual
Documentation,
API Reference,
VS components
& templates

Sample Code

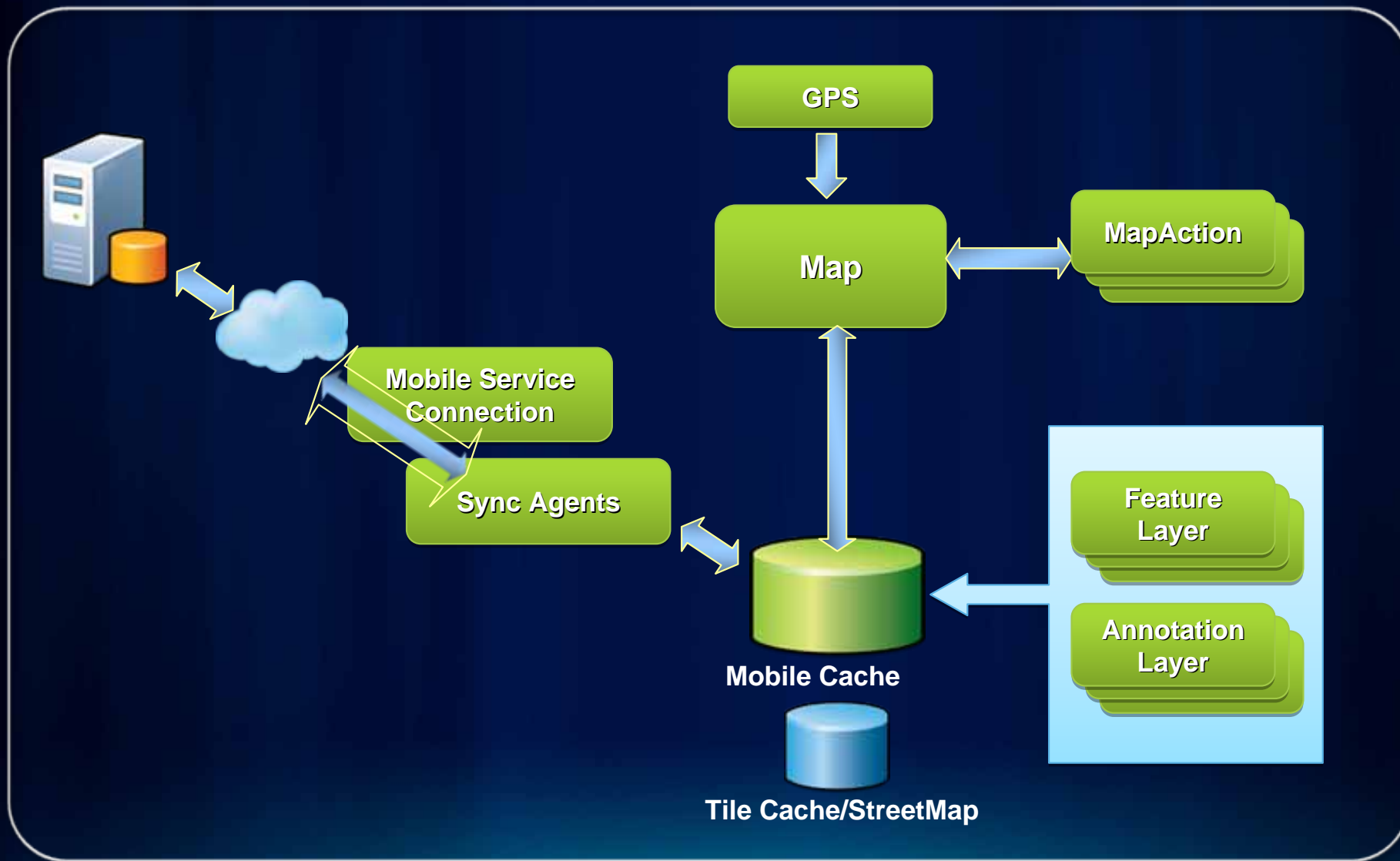
Application SDK API

- Extends ready-to-deploy applications
- Creates new tasks or customizing existing functions
- Available for Windows and Windows Mobile

Core SDK and Application SDK



Core SDK API

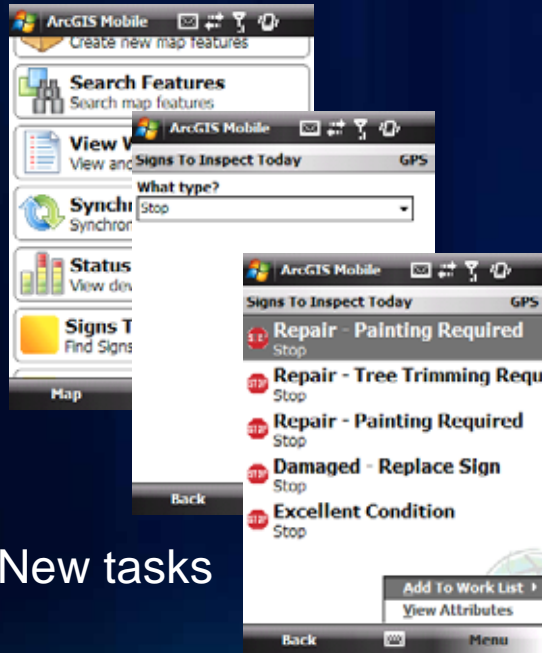


Demo - Core SDK

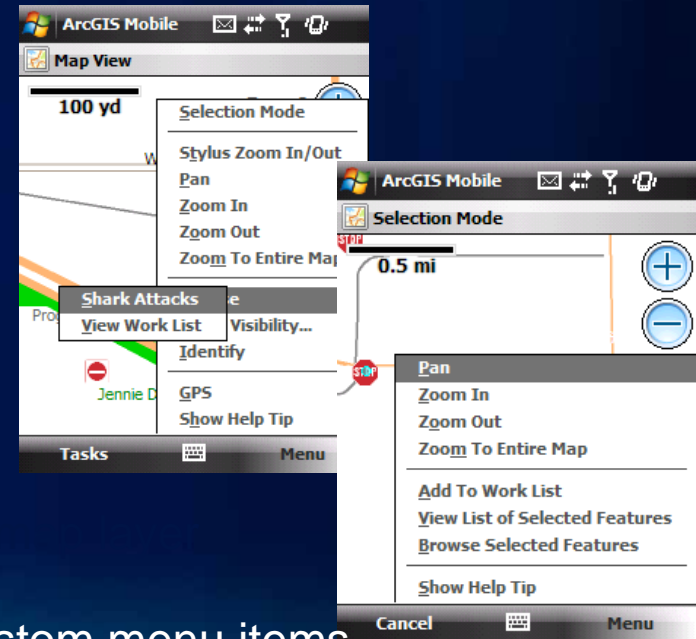
- **Windows Mobile**
 - **Getting Data**
 - **Editing**
 - **Synchronization**
- **WPF**
 - **Query/Select**
 - **Bluetooth camera integration**

Application SDK - Introduction

- Designed for ready-to-deploy tablet and Windows Mobile applications
- Allows developers to customize the applications
 - Changes existing tasks/functions
 - Integrates new business logic and Implementations



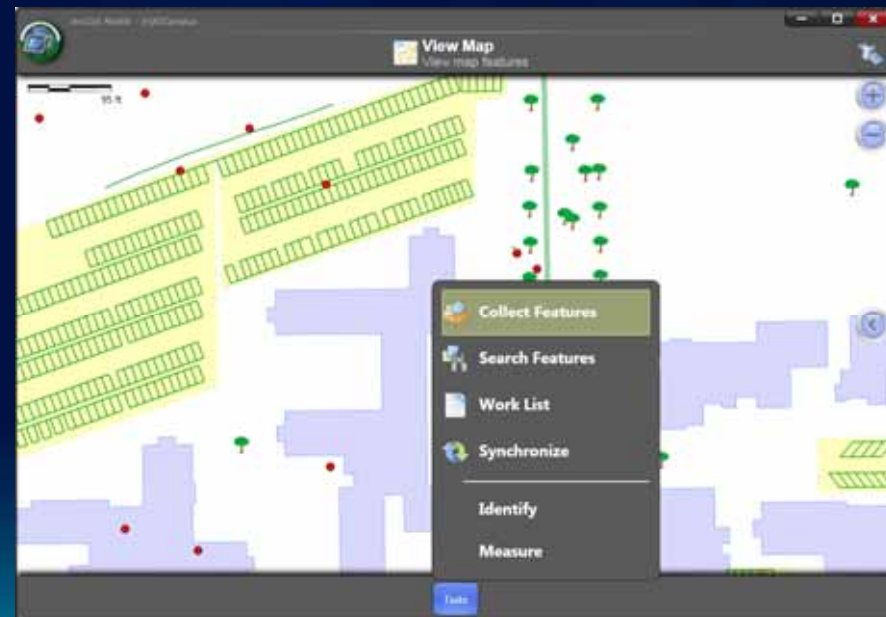
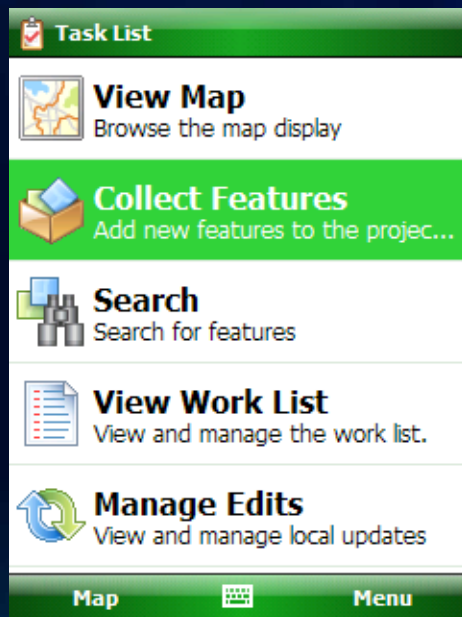
New tasks



Custom menu items

Application SDK – Key Concepts

- **Task**
 - Defines a workflow for field operation
 - Embeds organization-specific business logic
 - Creates an entry on Select Task Page
 - Implements ITask interface
 - Example
 - Custom Data Collection Task

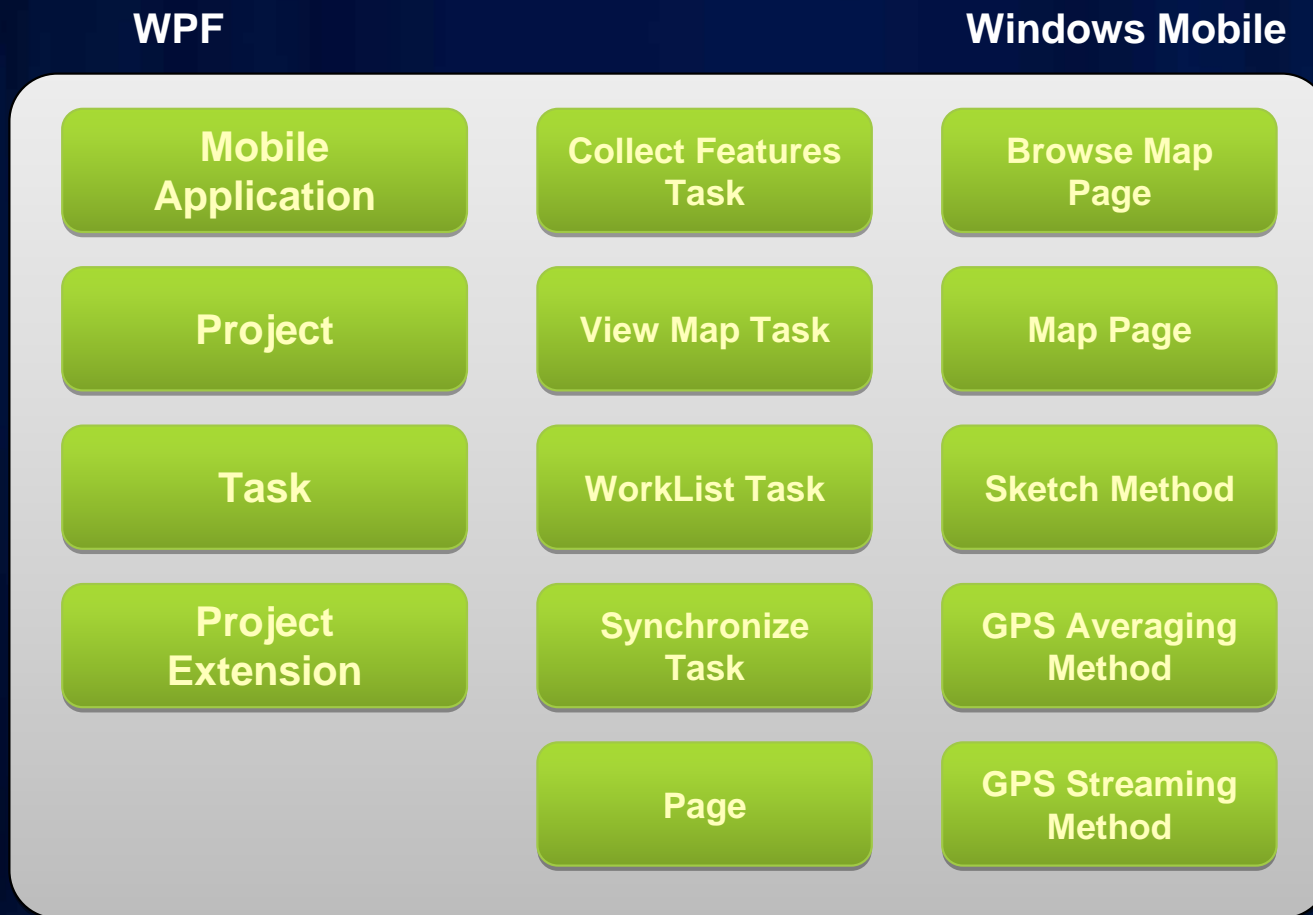


Application SDK – Key Concepts (cont.)

- **Extension**

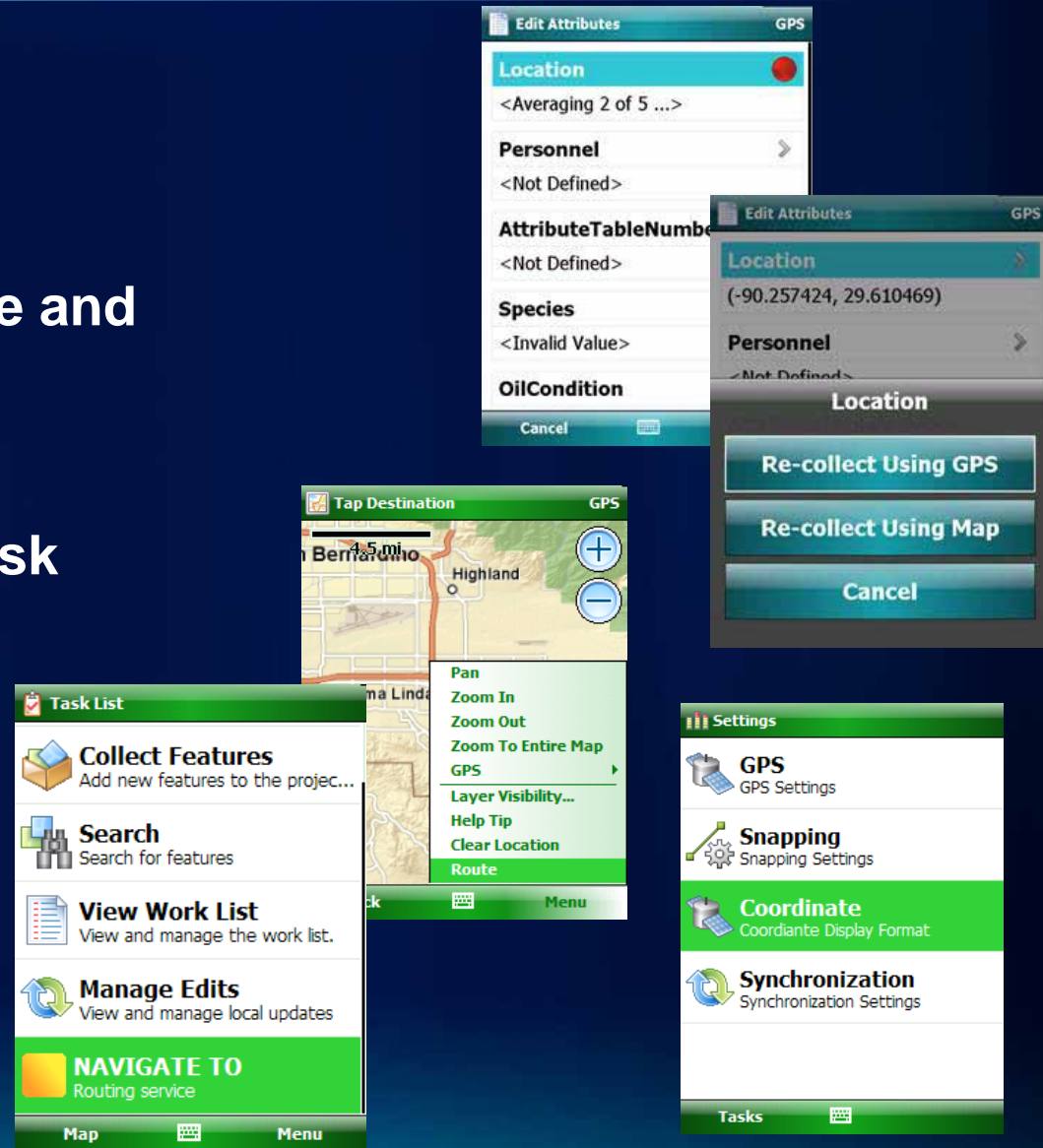
- **Customize behavior of existing Tasks or functions**
- **Needs to hook up to an extensible point in framework**
- **Implements ProjectExtension**
- **Either modifies existing workflow or introduce new business logic**
- **Example:**
 - **Rangefinder Extension**

Application SDK – Conceptual Architecture



Application SDK – Extensible Points

- MapPage
- CollectFeaturesTask
- View/Edit Attributes Page and Dialog
- MenuDialog
- SearchTask/WorkList Task
- SettingsPage
- Measuring Methods
- and more...



How to Get Started?

- **Project Templates**
 - Seamless integration with Visual Studio IDE
 - Creates Task or ProjectExtension solutions
 - Supports both Windows and Windows Mobile
 - Includes VS project for MPC
- **Developer Help**
 - Discusses architecture of the framework
 - Reveals extensible points with code snippets
- **SDK Samples**
 - Implemented in C#
 - Demonstrates various extensible points

Demo

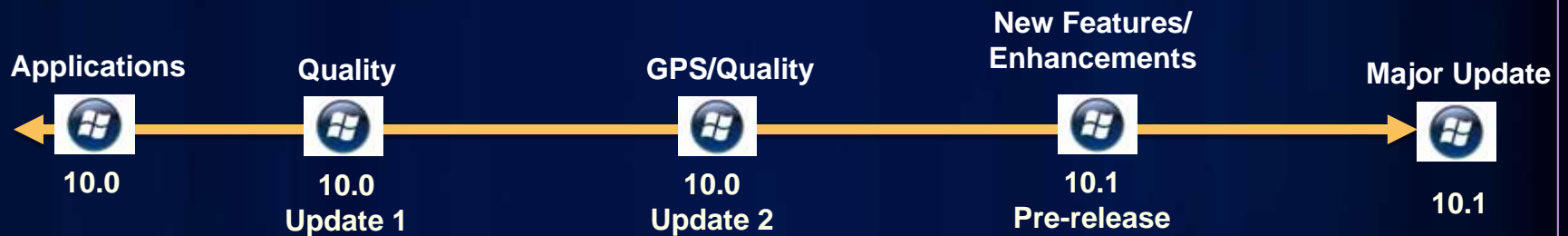
- **Waypoint navigation**
- **Auto-populates field values**

Road Map

ArcGIS for Windows Mobile Release Schedule

July Oct Jan April July Oct

**ArcGIS
Mobile**



ArcGIS Mobile 10.1

- **Data Model Support**
 - Support tables, attachments
- **Data Collection and Editing**
 - Simplified Data Collection Experience
 - Editing of Existing Feature Geometry
 - Related feature data collection
 - Improved GPS Collection (GNSS/RTK support)
- **Map Display**
 - Waypoint Navigation
 - GPS Improvements (Heads-up display, Configuration)
 - Coordinate display (MGRS, DMS, ...)
- **Publishing and Deployment**
 - Map Analyzer and Publishing support (MSD)
 - Project Center improvements
 - Improved Ux
 - Packaging projects and cache
 - Basemap Catalog
 - Improvements to support desktop workflows
 - Improved ArcGIS Online/Portal integration



Questions?

