ArcGIS for iOS

Jeff Shaner and Russ Roberts

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
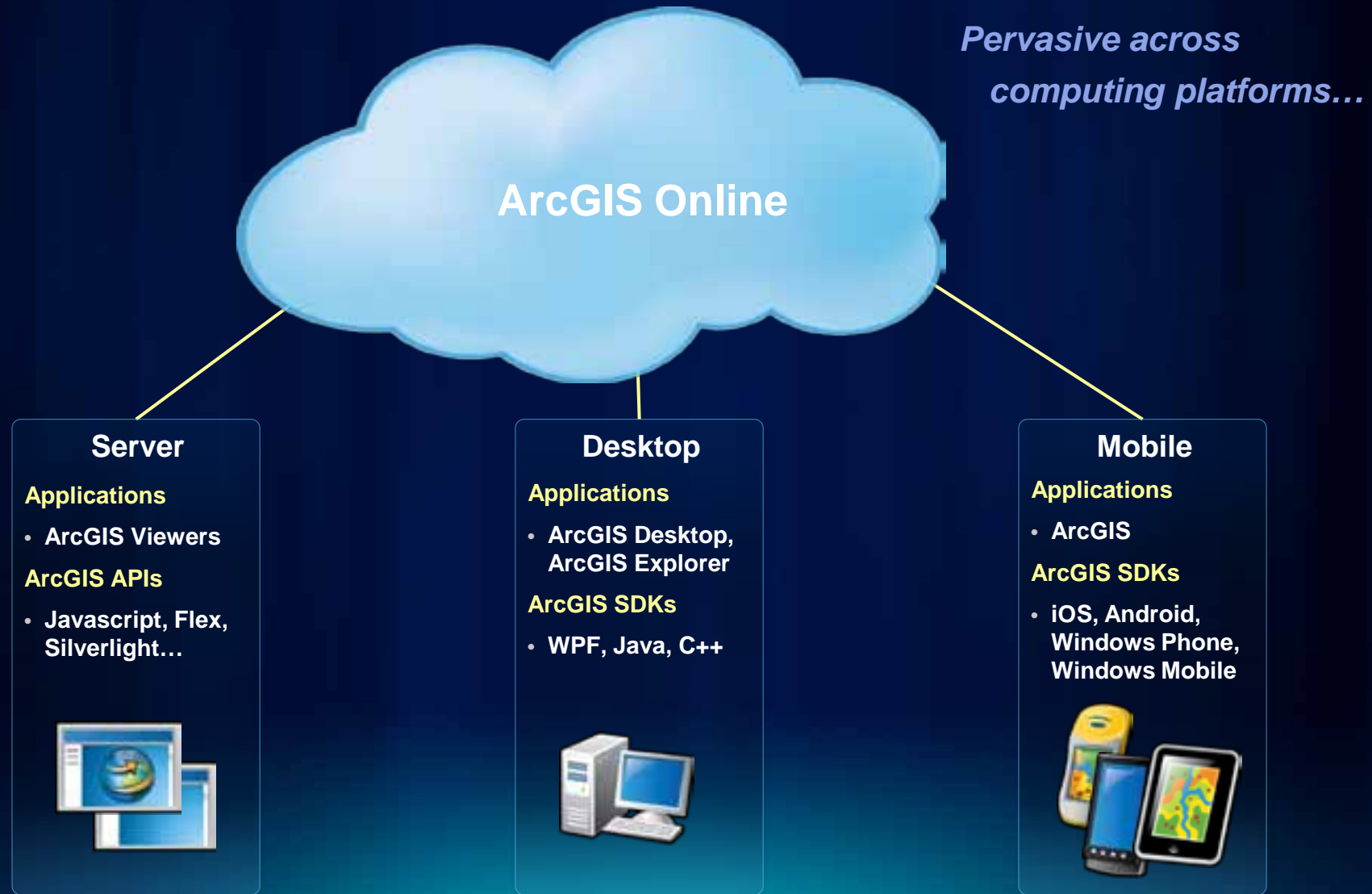 - Track and Geo-collaborate

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**
- **Replaces paper based work flows**
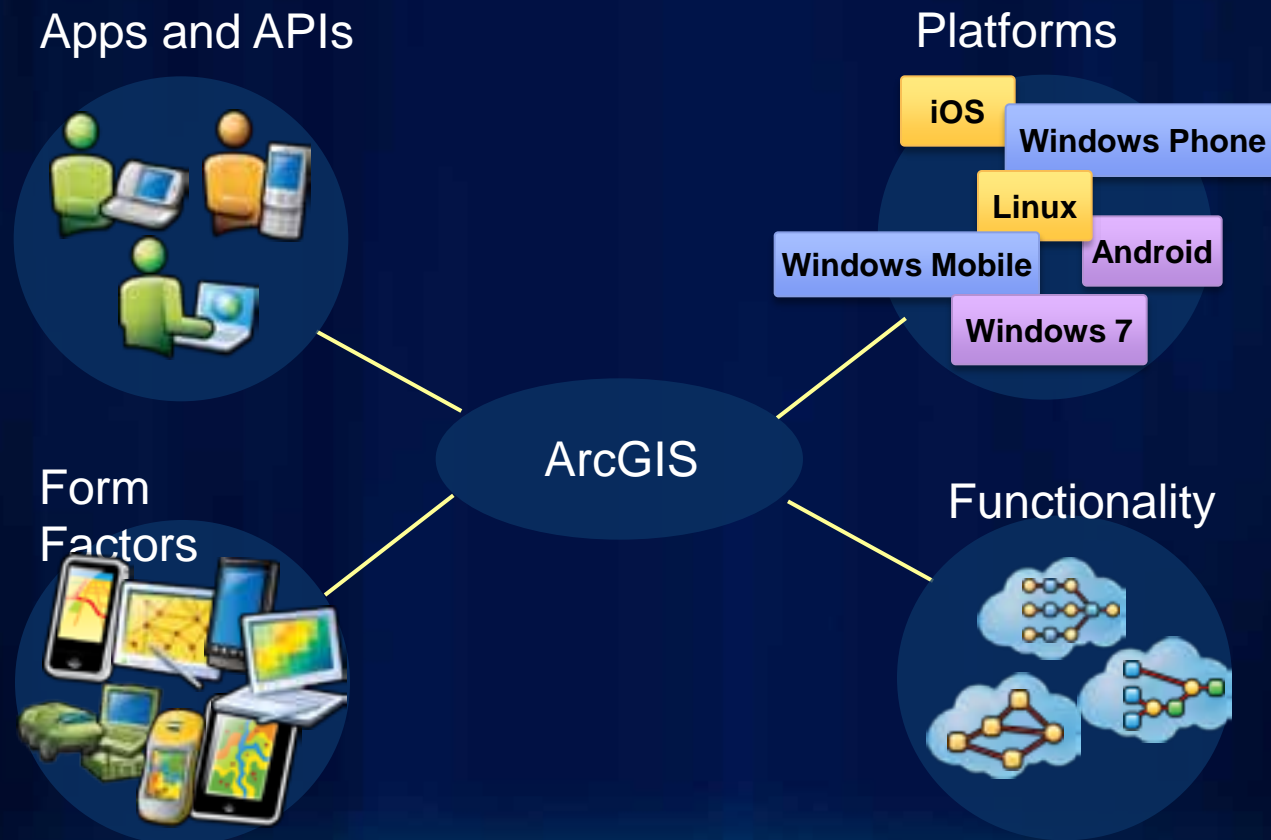- **Helps to Make Informed and Timely Decisions**

The ArcGIS System

Pervasive across computing platforms…

ArcGIS Online

Server

Applications

- **ArcGIS Viewers**

ArcGIS APIs

- **Javascript, Flex, Silverlight…**

Desktop

Applications

- **ArcGIS Desktop, ArcGIS Explorer**

ArcGIS SDKs

- **WPF, Java, C++**

Mobile

Applications

- **ArcGIS**

ArcGIS SDKs

- **iOS, Android, Windows Phone, Windows Mobile**

Lightweight Applications and Runtime SDKs

Configurable COTS applications and Native ArcGIS Runtime SDKs

iOS	Android	Windows Phone	Windows Mobile	Windows	Linux
Applications • ArcGIS	**Applications** • ArcGIS	**Applications** • ArcGIS	**Applications** • ArcGIS	**Applications** • ArcGIS Explorer*	**Applications** • None
Runtime SDK • Objective C	**Runtime SDK** • Java	**Runtime SDK** • Silverlight	**Runtime SDK** • .NET	**Runtime SDK** • WPF, Java	**Runtime SDK** • Qt, Java

Esri Mobile Technologies

Mobile capabilities of the ArcGIS system

Apps and APIs

Platforms

iOS

Windows Phone

Linux

Windows Mobile

Android

Windows 7

ArcGIS

Form Factors

Functionality

Esri Mobile Products

ArcGIS running on …

ArcGIS for Windows Mobile

Android

ArcPad

iOS

Microsoft
Windows Phone

Rugged Devices

Smartphones and Tablets

ArcGIS on Rugged Devices

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

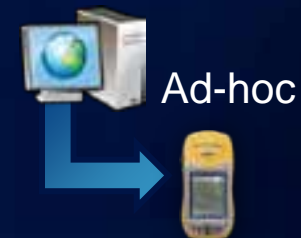# ArcGIS Products for Rugged Devices

Windows and Windows Mobile Devices

ArcGIS for Windows Mobile
- Focused Mobile Applications
- Task-based, defined workflow
- High Accuracy Data Collection
- Users have little GIS training
- Scalable to large field workforce

ArcPad
- Ad-hoc Mobile Application
- High Accuracy GPS Workflow
- Targets small/mid-size org
- Users typically have GIS Training

Pre-Planned

Ad-hoc

ArcGIS on Smartphones and Tablets

iOS, Windows Phone and Android Devices

- **Designed for touch-screen phones**

- **One handed use**

- **Connected Workflows (Wifi, 3G)**

- **Assisted-GPS Integration**

- **Replace Paper Surveys**
  - **Intelligent forms**
  - **Field Validation**
  - **Media Integration**

Emergency Operations

Service Requests

Parcel Valuation

VGI

Campus Maps

Who is ArcGIS for iOS for?

Existing ArcGIS Customers with iOS devices

- Customers of Enterprise GIS
- Consumers of Community Maps
- GIS developers
- ESRI partners

iOS Community

- Consumers of Community Maps
- iOS Developers

ArcGIS on Smartphones and Tablets

iOS, Windows Phone and Android Devices

ArcGIS Application

- Maps shared across devices
- Display, Query, Edit intelligent maps on all devices
- Available Free in stores and marketplaces

SDK

- Embed ArcGIS into existing applications
- Native APIs for building focused applications
- Common conceptual framework across platforms
- Available Free for development via EDN

iOS

Windows Phone

Android*

ArcGIS Application

- **ESRI's first iOS application**
- **Universal Application:**
  - iPad
  - iPhone
  - iPod Touch
- **Works with maps:**
  - ArcGIS Online
  - On Premise Content Server

ArcGIS Application – How is it doing?

- **31,528** downloads after 1 week (Mon July 5th – Sun Jul 11th)
  - #1 Free Productivity App
  - #12 Featured New App
- Over 190,000 downloads
- Supported in 10 languages

Total counts over week 1 downloads

Downloads in over 79 countries!

What can the ArcGIS Applications do?

Powerful application functionality driven by configurable maps

- Display maps

- Find and share maps by email, SMS, facebook, twitter

- Switch between base maps and dynamically display a legend

- Find addresses and places

- Identify locations and features from services, csv, shp, gpx, notes

- Query map layers

- Measure distances and areas

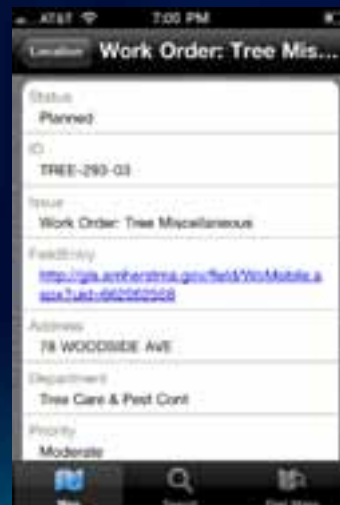- Collect new data and edit GIS features including attachment of media

ArcGIS Application Demo

Who is Using ArcGIS for iOS?

City of Amherst, MA

- **ArcGIS online group devoted to sharing various maps to city employees:**
  - **Open Work Orders**
  - **Water Distribution Network**
- **Public**
  - **Trails and Land Conservation**

How it works…

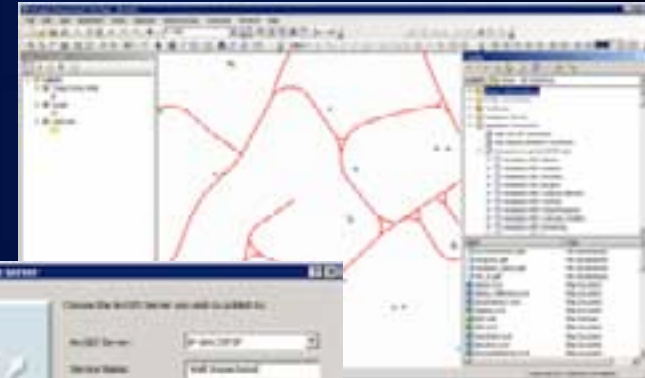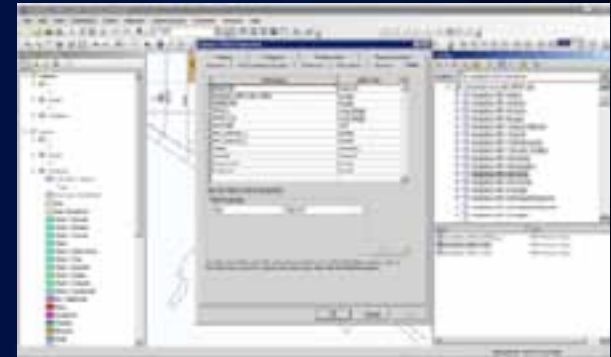# Author Maps

Design your information model for field use

- Coordinate system for spatial data
- Field definition for information to be captured**
- Define transaction model (single/multi-user)

Author Maps and map layers

- Define and build base map content (orthophotos, landbase, etc)
- Author map layers to define "data dictionary" for collection
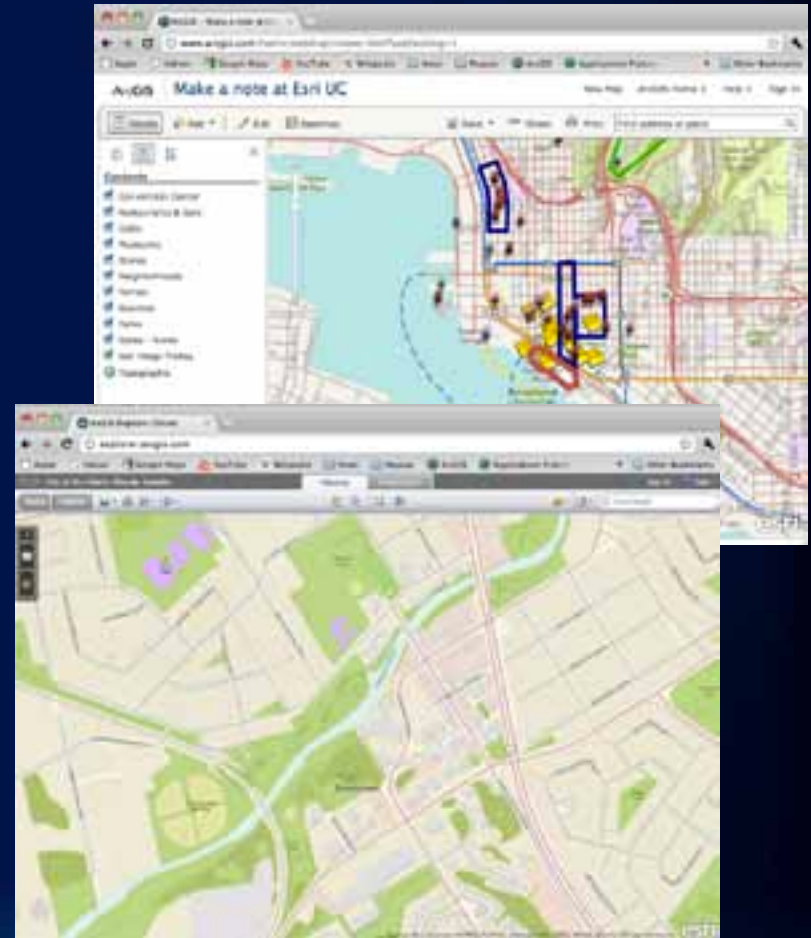
Publish Maps

- Use ArcGIS Server to publish services
- Use Desktop Tools to create mobile caches

Using ArcGIS Online

- **Create maps using**
  - ArcGIS.com Viewer
  - ArcGIS Explorer Online

- **Manage and share maps**
  - Using your account
  - Using groups
  - With everyone

- **Add local content**
  - Shapefiles, csv, gpx files

- **Create pre-defined queries**

ArcGIS Application and ArcGIS System

Services

ArcGIS Online/ArcGIS Server

ArcGIS for iOS

1

ArcGIS Server

ArcGIS Online

2

Compose Web Maps

Share Maps in groups

3

Find, Use and Share Web Maps

1 Services are authored and published using ArcGIS (Desktop/Server)

2 ArcGIS Online/On Premise Server Mashup of Services into web maps

3 Find, Use and Share "Web Maps" using ArcGIS for iOS
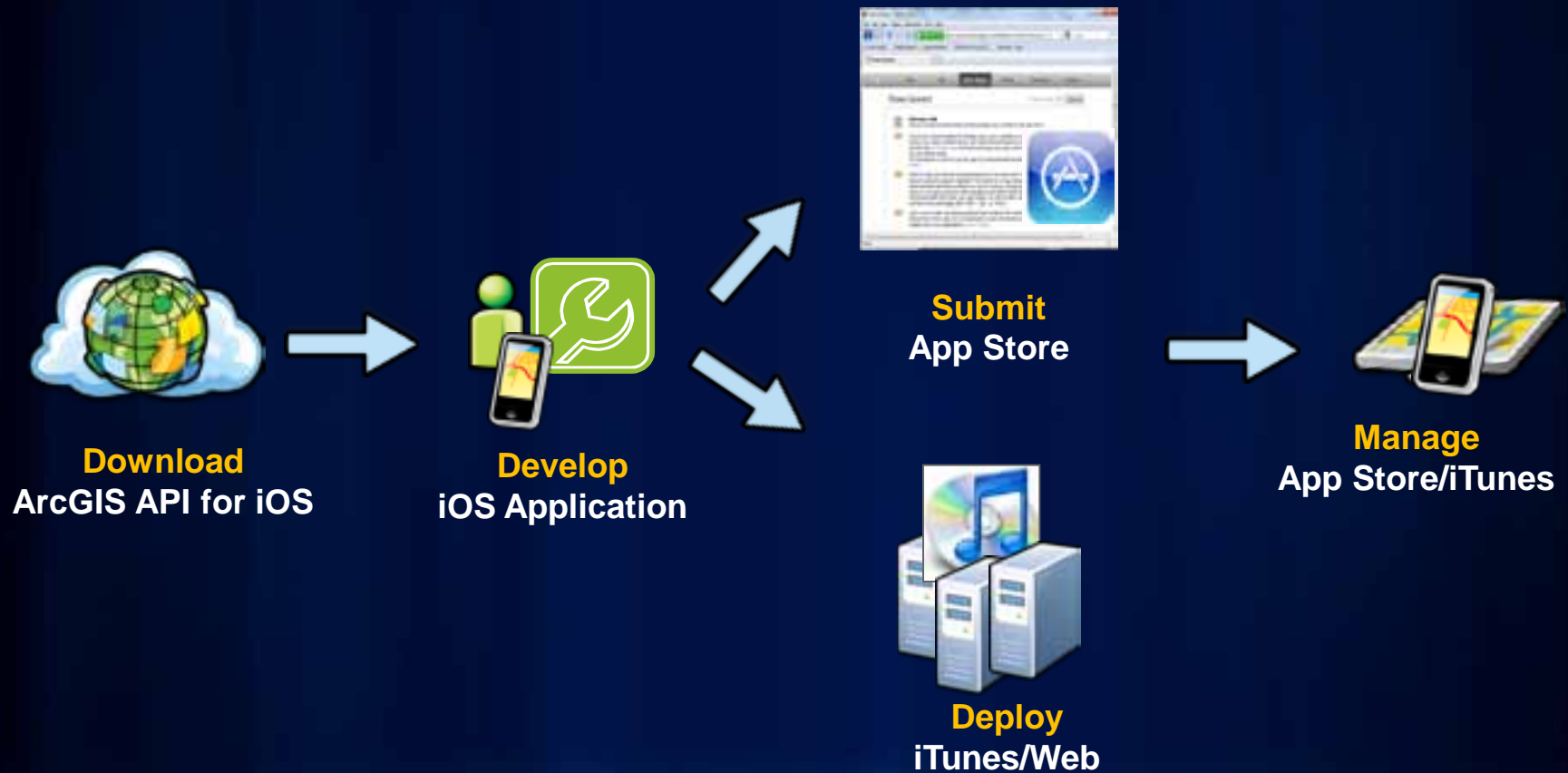
How it works DEMO

ArcGIS API for iOS

- **Native objective C API targeting iPhone developers**
- **Build focused mapping applications**
- **Embed GIS into an existing applications**

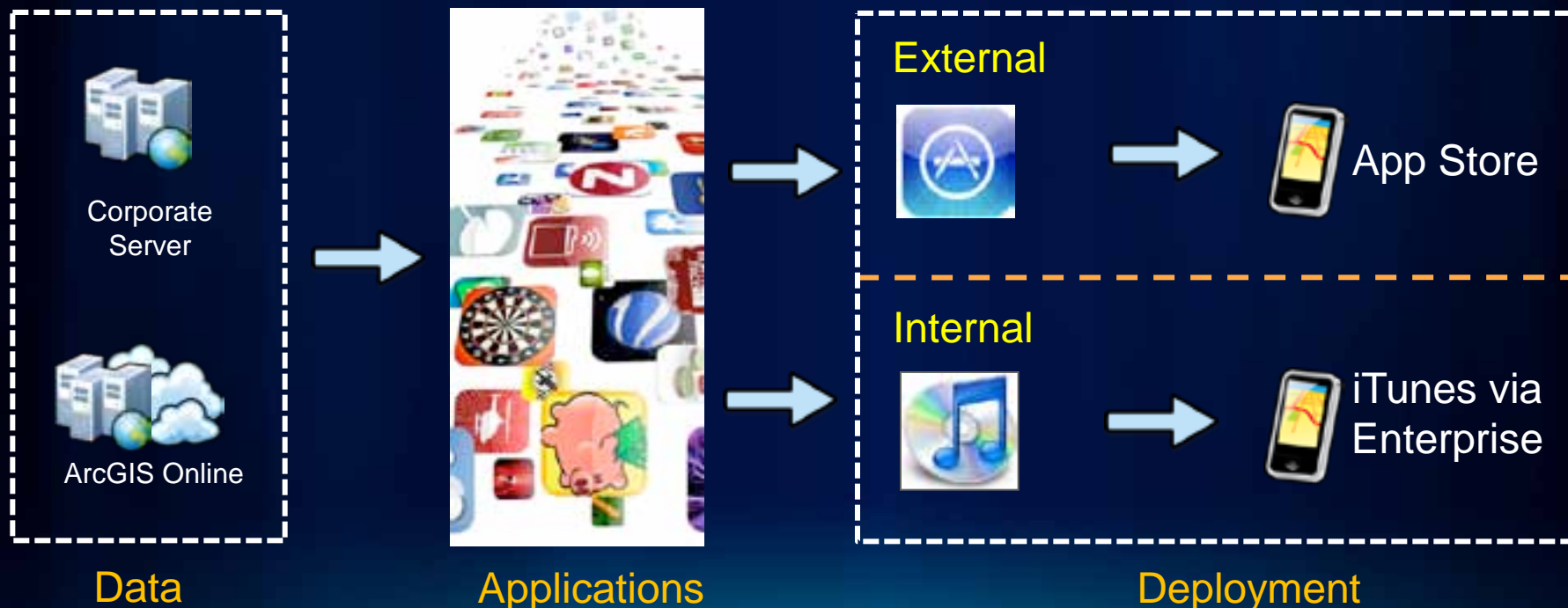*Available from ArcGIS for iOS Resource Center*

ArcGIS API Developer Experience

Download
ArcGIS API for iOS

Develop
iOS Application

Submit
App Store

Deploy
iTunes/Web

Manage
App Store/iTunes

Download, Develop, Submit/Deploy, Manage

iOS Application Deployment

- **App Store deployment or Internal Enterprise Deployment**
- **Application management via Apple Developer Portal or iTunes Connect**

Corporate Server

ArcGIS Online

External

App Store

Internal

iTunes via Enterprise

Data

Applications

Deployment

Mobile Resource Management Solutions

- **Apple Enterprise Solutions**
  - **iPhone Configuration Utility**
  - **iTunes Deployment**
  - **Web deployment**

- **3rd Party Solutions**
- SOTI MobiController (supports iOS, Android and Windows Mobile devices)
- Sybase Afaria
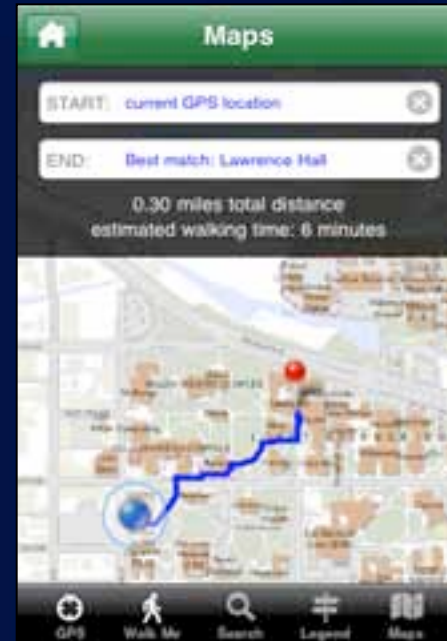- Odyssey "Athena" Software

Custom Applications in the App Store

Quake Map

Where To?

University of Oregon

City Sourced

How are they licensed?

ArcGIS Application

- Free and available via App Store

Runtime SDKs

- Free for Enterprise and Store** Deployments

- Attribution is Required for <u>all Apps!</u>
  - Esri Attribution for ArcGIS Online map layers
  - Bing Attribution for Bing map layers
  - About Box Attribution

- Cost with Esri if:
  - App generates revenue and is in a store
  - Not licensed for server (commercial)

- Cost Basis:
  - Percentage of sales, yearly subscription

Roadmap

ArcGIS for iOS Roadmap

Summer Update

- Quick bug fix release, support for FindPlaces

Fall Release

- Routing and driving directions in ArcGIS app
- GPS improvements (Tracks, GPS display, Compass Navigation)
- Open layer support (KML, WMS, WMTS)
- Offline tile cache support for API

Winter Release

- Complete Offline support (feature caching, tile package)
- Improved Graphics display
- Messaging and GeoCollaboration

Technical Workshops To Attend

Tuesday July 12th

8:30am – 9:45am – ArcGIS for Windows Mobile – An Introduction (31b)

10:15am – 11:30am – Esri Mobile Solutions Overview (31b)

1:30pm – 2:45pm - ArcGIS for Windows Phone (31b)

1:30pm – 2:45pm – ArcPad – Introduction to Customizing ArcPad Solutions (30d)

3:15pm – 4:30pm – ArcPad – An Introduction (31b)

Wednesday July 13th

8:30am – 9:45am - Choosing a Mobile Solution (6f)

8:30am – 9:45am – ArcGIS for iOS (8)

8:30am – 9:45am – Windows Phone – Developing Applications (31b)

1:30pm – 2:45pm – ArcGIS for Android (31b)

1:30pm – 2:45pm – iOS – Developing Applications (15a)

3:15pm – 4:30pm – ArcGIS for iOS (31b)

Technical Workshops To Attend

Thursday July 14th

8:30am – 9:45am - ArcGIS for Android (31b)

8:30am – 9:45am – Deploying Esri's Mobile Technology across… (3)

1:30pm – 2:45pm - Esri Mobile Solutions Overview (15a)

1:30pm – 2:45pm – Android – Deploying Applications (6c)

1:30pm – 2:45pm – ArcPad Advanced Customization (31b)

3:15pm – 4:30pm – ArcGIS for Windows Mobile – Developing Apps (31b)

Friday July 15th

9:00am – 10:15am – Esri Mobile Solutions Overview (4)

9:00am – 10:15am – ArcGIS for iOS (10)

9:00am – 10:15am – ArcGIS for Android (11a)

20 minute Tech Workshops

Wednesday July 13th

8:30am – 8:50am–Using GIS Technology on Smartphones (6a)

Thursday July 14th

8:30am – 8:50am–Using GIS Technology on Smartphones (23b)

8:30am – 8:50am – Road Ahead – ArcGIS for Windows Mobile (24a)

8:55am – 9:15am – Publishing your data for Smartphones and… (23b)

9:20am – 9:40am – Authoring Web Maps for Smartphones and… (23b)

10:15am – 10:35am – Road Ahead – ArcGIS for Android (6b)

10:40am – 11:00am – Road Ahead – ArcGIS for iOS (6b)

11:05am – 11:25am – Road Ahead – ArcGIS for Windows Phone (6b)

12:00pm – 12:30pm – ArcPad – Building great Apps (30a)

3:15pm – 3:35pm – ArcPad/GeoCollector (6b)

Additional Activities to Consider

Mobile Product Island @ Esri Showcase

Meet the development team at the exhibit hall!

Tuesday 9am – 6pm
Wednesday 9am – 6pm
Thursday 9am – 1:30pm

Try ArcGIS Mobile Live!
Tuesday/Wednesday (2:00pm – 4:00pm)
Thursday (10:00am – 12:00pm)

Mobile Special Interest Group Meeting

Tuesday 12:00pm – 1:00pm 23b

Thank You

http://www.esri.com/sessionevals