ArcGIS 10.1 Road Ahead: An Overview of the System

ArcGIS 10.1 Road Ahead: An Overview

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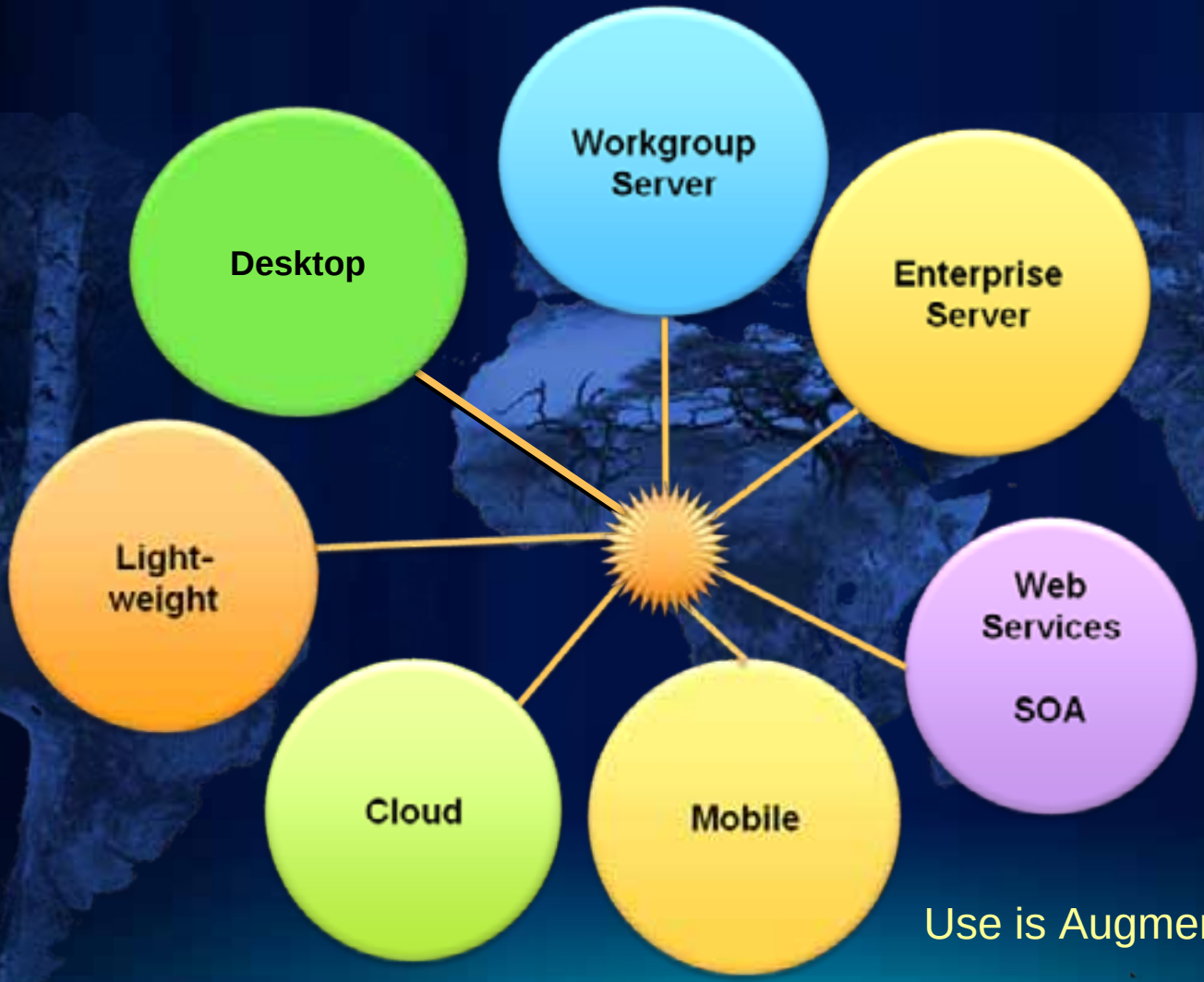
Logistics

- Cell phones/Mobiles/Communicators/…..

- Review this (and all) sessions: www.esri.com/sessionevals

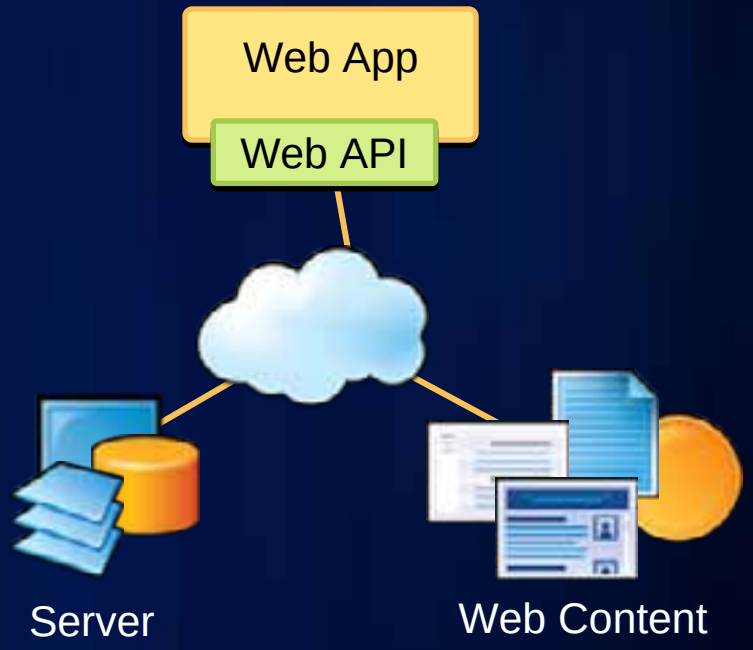
Trends in GIS

GIS Has Evolved



Use is Augmented, not replaced

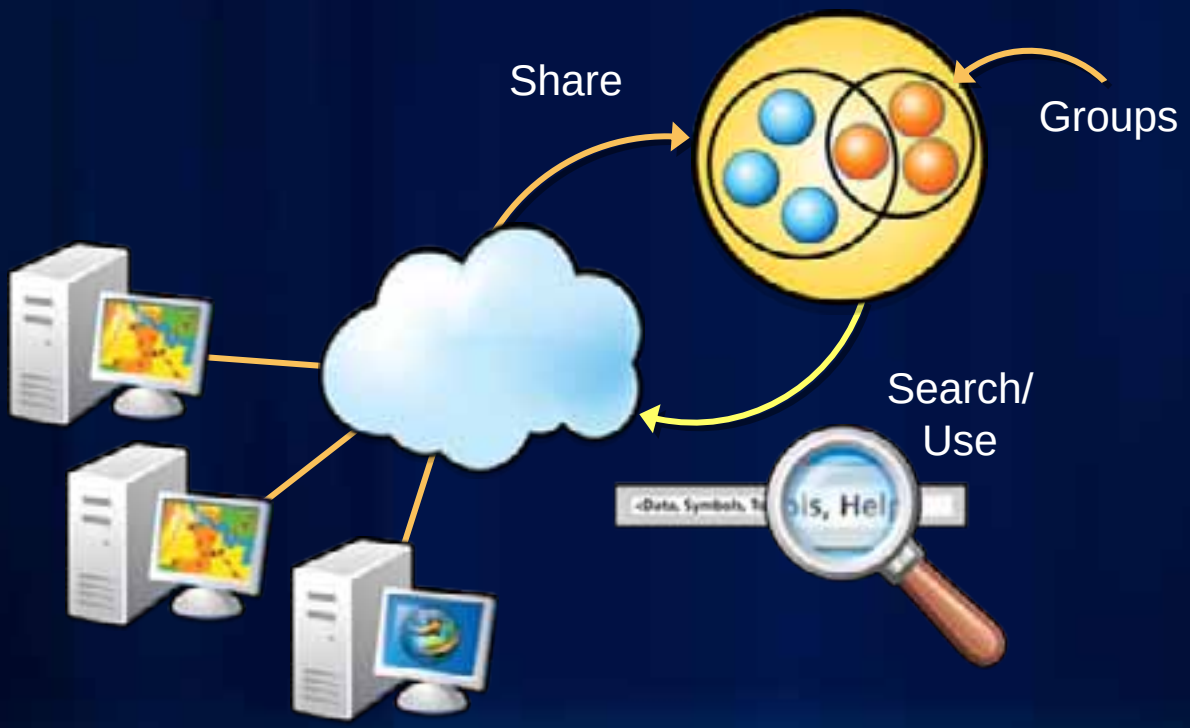
Rich Web Applications



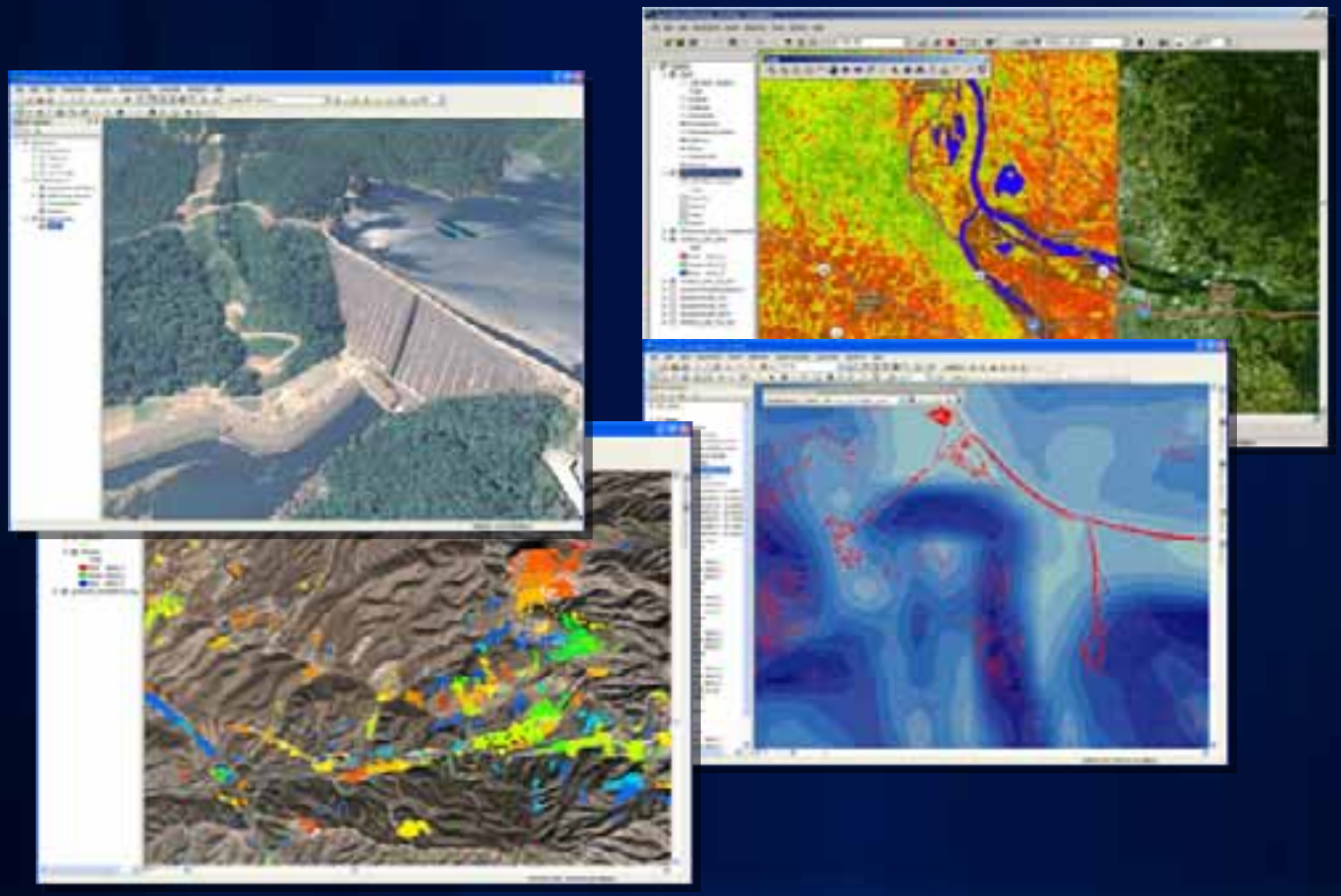
Straightforward, Easy, Focused…

Content is Key

Information Sharing is Critical

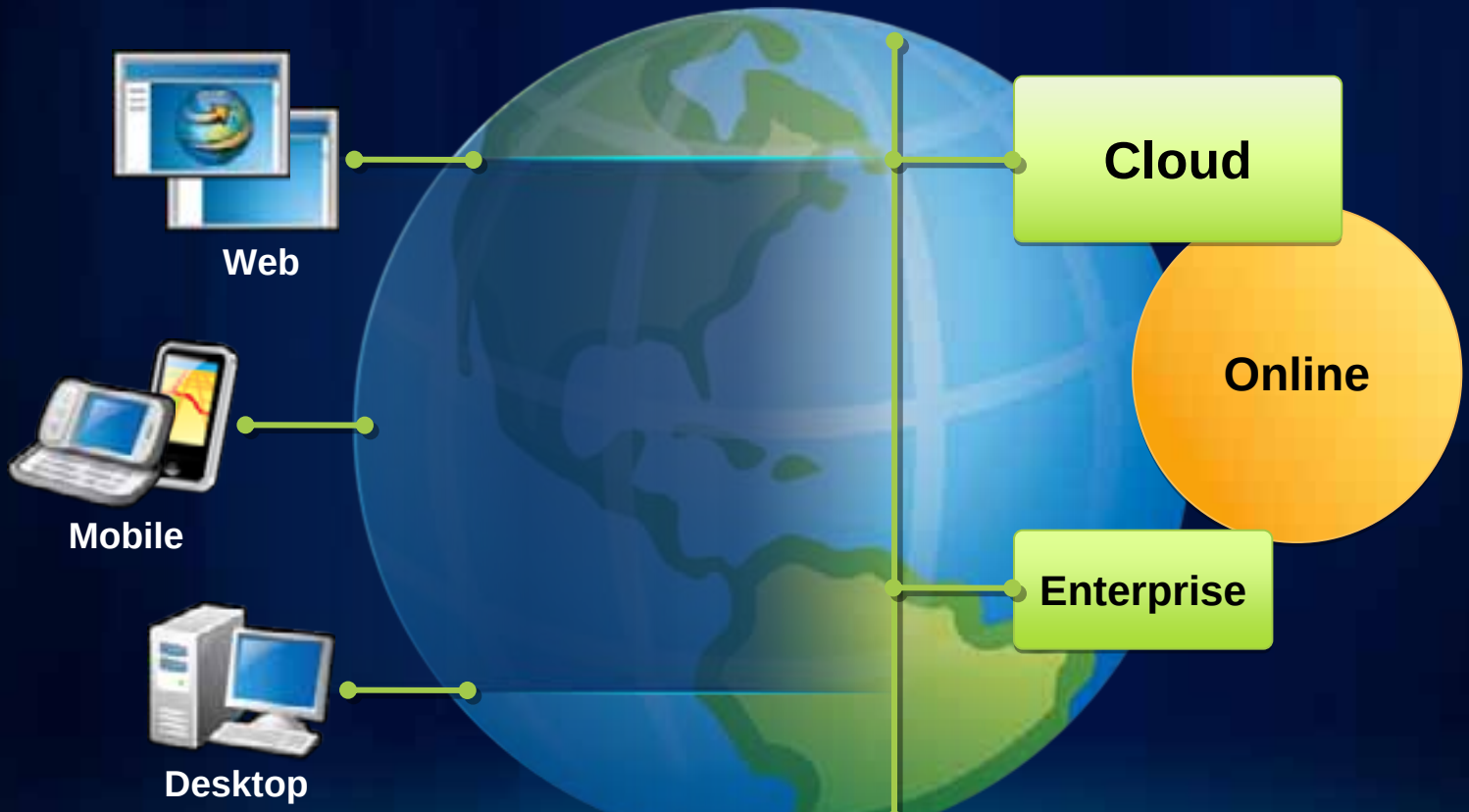


Imagery Integration



Imagery is Core to GIS, GIS is core to Imagery

ArcGIS 10.1



ArcGIS 10.1

Introducing Many New Capabilities

Crowdsourcing
Open Data
Place Based
Science
The Web
Workflow
Geospatial Platform
Sharing
Cloud
3D
User Experience
Portals
GIS Solutions
Geoservices
Social Networks
Standards
Very Large Spatial Databases
Facility Management
Location Based Services
VGI
Data Quality
Visualization
Discovery
Common Infrastructure
Networks
Temporal
Templates
Hosting
Data Management
Integration of Imagery and Remote Sensing
Web Based
Content
Mapping
Applications
Transparency
Access
Security
Generalization
Citizen Engagement
Education
Mobility

Builds on Success of ArcGIS 10

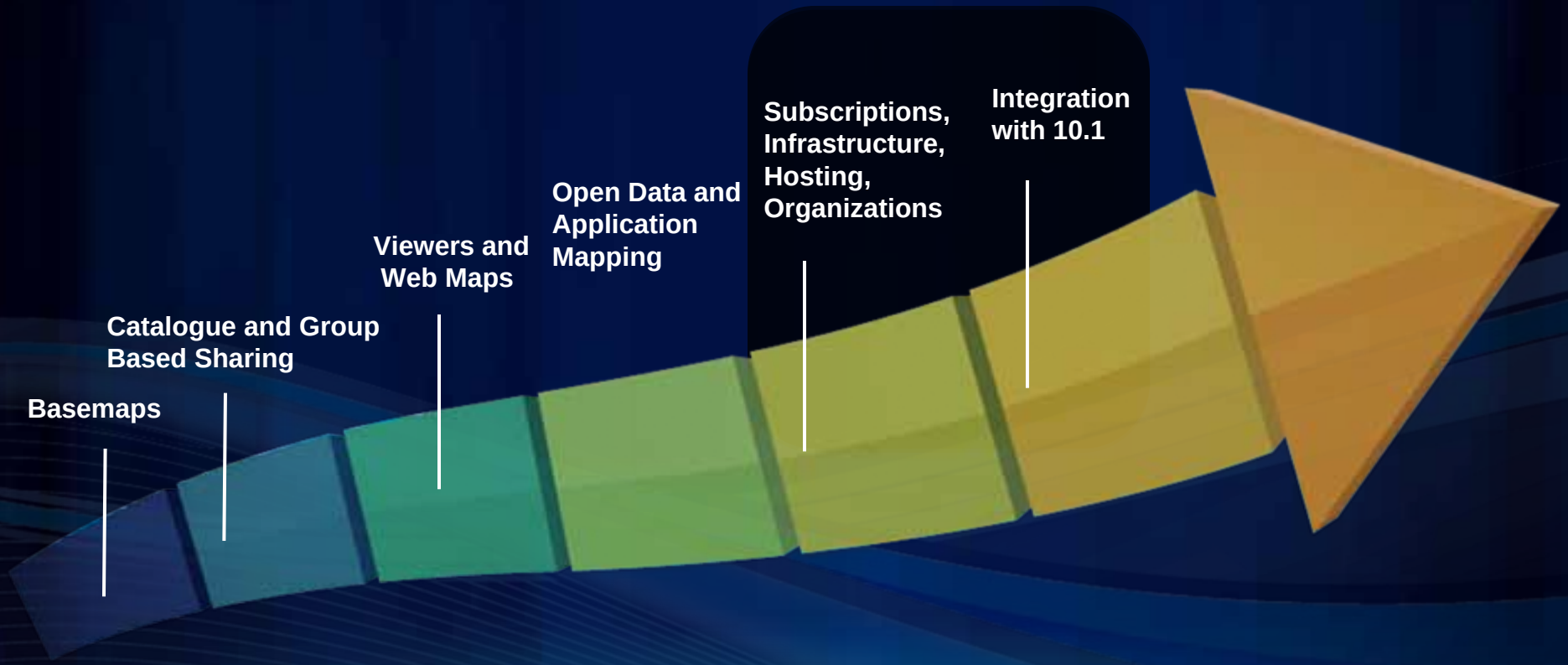
ArcGIS 10.1 Themes

- Provide a New Online GIS Platform
- Make Sharing easy
- Reinforce Traditional GIS
- Strengthen Server GIS
- Expand Mobile GIS
- Empower Developers

ArcGIS Online

ArcGIS Online is Evolving Rapidly

ArcGIS Online is Evolving Rapidly

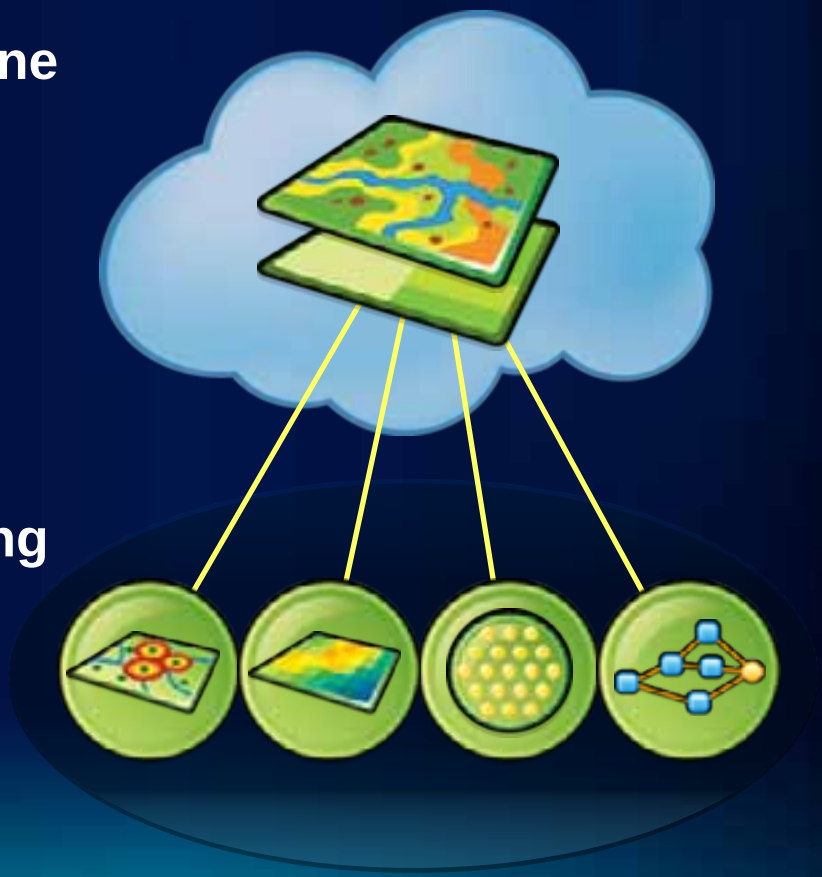


What can I do with ArcGIS Online?

- Leverage existing maps and data
- Upload and Connect to Your Data
- Style and Create intelligent webmaps
- Store, Manage, and Share
- Interact with the map on any device
- Embed in web sites or applications
- Compliment Current Infrastructure
- Organize your organizations data

Intelligent Maps

- Interactive
- Easily Created by Anyone
- Incorporates multiple services & datasets
- Visualize
  - Story
  - Situational Awareness
- Editing & crowd sourcing
- Analysis



Services and Data

Geospatial Infrastructure

- Create hosted map services
  - Tiled maps and feature services
  - No servers, infrastructure, or technical expertise
- Managed, secure, scalable
- Catalog of the organizations geospatial content including your existing ArcGIS Server services
- Personalized look and feel

Hosted Map Services

- Publish from ArcMap 10.1
  - Create feature and/or tile services from within the software
  - Define the tiling scheme and other parameters
  - Tiles are generated in the cloud as part of the service
- Publish feature services from web clients
  - ArcGIS.com
  - ArcGIS Explorer Online
  - Feature services from
    - CSV’s, GPX’s
    - Shapefiles

Organizational Online Site

- Create
  - Secure groups
  - Control Data Sharing Policies
- Administer
  - Web Services
  - Users / Access

Sharing Maps and Analysis

Sharing as a Package

Professional to Professional

Sharing as Services

Professional to Everyone

- **Make it easier to share GIS resources**
  - **Unified sharing experience**
  - **Comprehensive Analysis**
  - **Sharing to servers in the cloud and to ArcGIS Online**

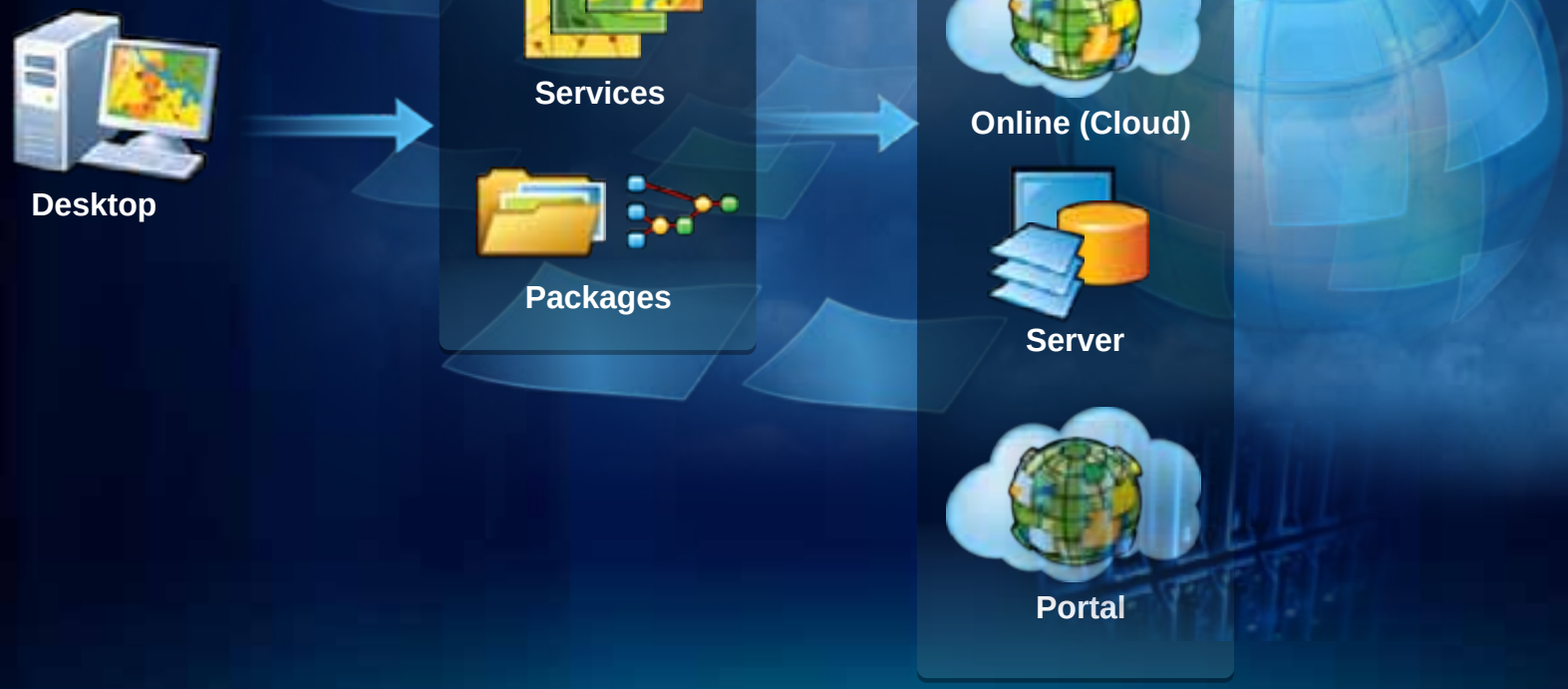
Sharing Analysis

Sharing Locators

- **Packaging locators**
- **Share as a geocode service**

Sharing as Services

Professional to Everyone



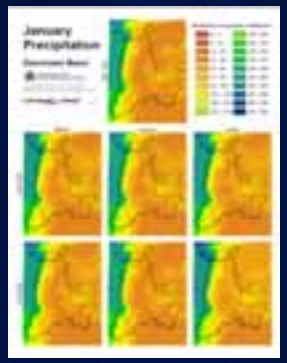
Improving GIS Tools

Mapping and Visualization

Enhancing the functionality from 10

Dynamic Legends

More Python scripting



Time live mode

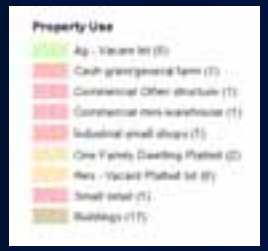
Rule-Based Generalization

Before

After

Mapping Improvements

Layout

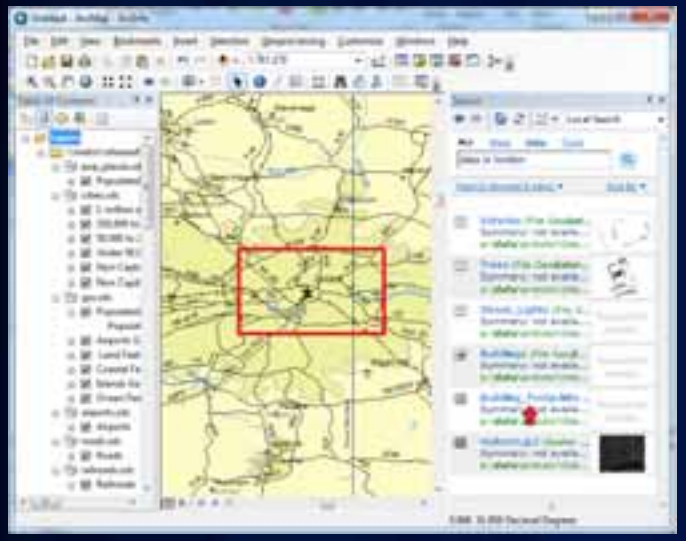


Coordinate Systems

Symbology

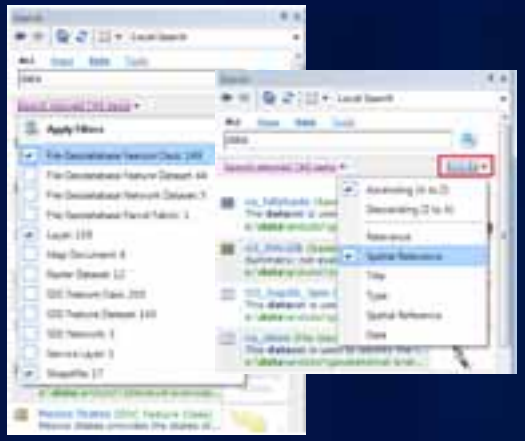
Labeling

Improved Desktop Search



Spatial Search

(extent or name)



Improved Sort & Filter

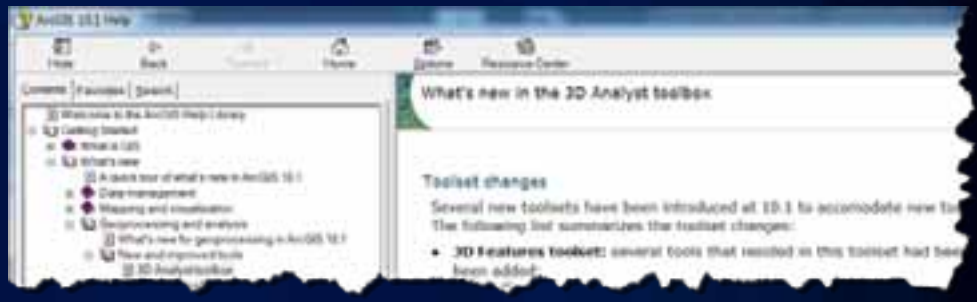
(Type, Projection, Spatial relevance,..)

Python Improvements

- Network Analyst Module
  - Automate NA workflows through Python
- Data Access Module
  - Fast cursor performance
  - Edit operations
  - Geometry operators
- Python Toolboxes
  - Easier for python developers to create tools
  - Create tools outside of desktop
- Python Add-ins
  - Extend desktop functionality with Python

New Geoprocessing Tools

- 85 New Tools
- 117 New Parameters

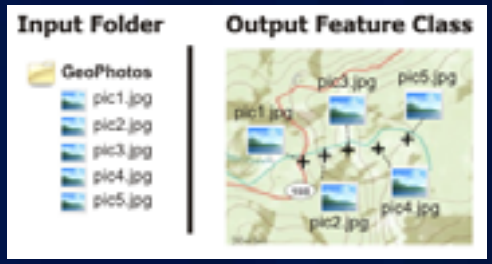


- Data Management Tools.tbx
  - Attachments
  - Data Comparison
  - Distributed Geodatabase
  - Domains
  - Feature Class
  - Features
  - Fields
  - File Geodatabase
  - General
  - Generalization
  - Geodatabase administration
  - Geometric Network
    - Add Edge-Edge Connectivity Rule To Geometric Network
    - Add Edge-Junction Connectivity Rule To Geometric Network
    - Create Geometric Network
    - Remove Connectivity Rule From Geometric Network
    - Remove Empty Feature Class From Geometric Network
    - Set Flow Direction
    - Trace Geometric Network

- 3D Analyst Tools.tbx
  - 3D Features
  - Conversion
  - Data Management
    - LAS Dataset
      - Add Files to LAS Dataset
      - Change LAS Class Codes
      - Create LAS Dataset
      - LAS Dataset Statistics
      - Remove Files from LAS Dataset
      - Set LAS Class Codes Using Features

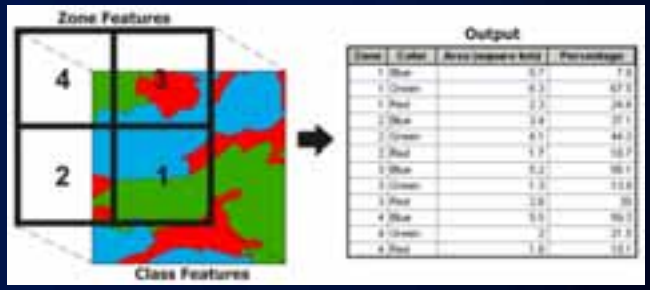
More Formats and Better Support

- GOS (GPX) to Layer
- GeoTagged Photos To Points



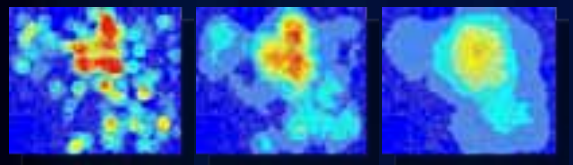
Geotagged Photos To Point

- Better KML experience
- Easier to do complex workflows
  - Tabulate Intersection
  - Polygon Neighbors



Tabulate Intersection

Improved Analysis Tools



Spatial Scale

Geodetic Buffers

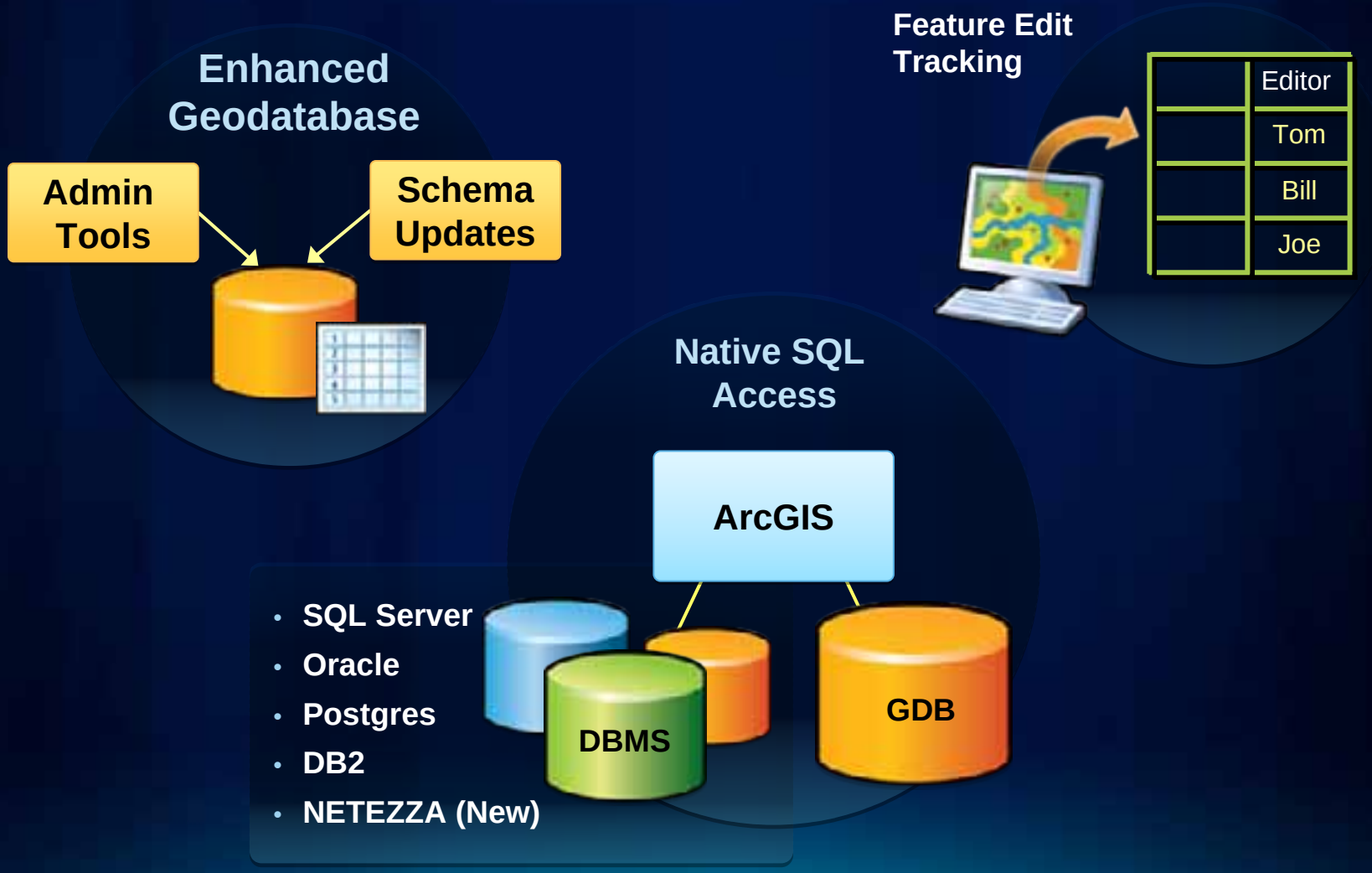
Space /Time Clusters

Areal Interpolation

Empirical Bayesian Kriging

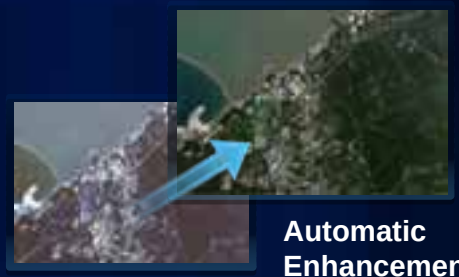
3D Shadow & Visibility Volumes

Geodatabase Improvements



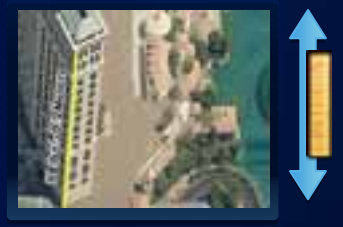
Imagery

- Automatic Image Enhancement / More Tools
- Mensuration (Height measurement)
- Easier Georeferencing
- Raster Products
- Additional Format/Models (CSM)
- Mosaic Dataset Analyzer
- REST Based Management (New, Update, Delete, Mensuration , Metadata…)



Automatic Enhancement

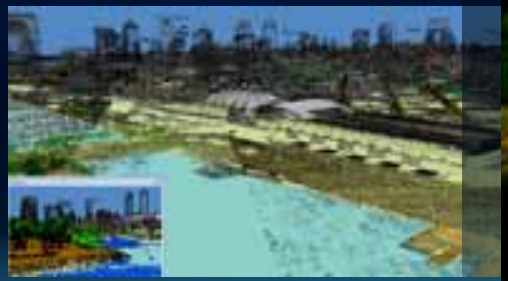
Highly Accurate Measurement



Integrates Video (FMV)

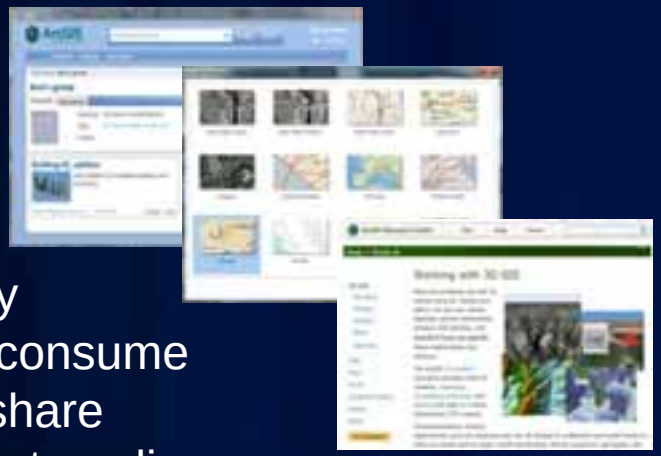
Lidar

- Support Lidar LAS files
- Dynamic Mosaic
- Use directly as
  - TIN
  - Raster
  - Point Cloud
- Visualization & Analysis



Tools for 3D Virtual Cities

City planners, emergency response, public safety



Easily
find, consume
and share
city data online

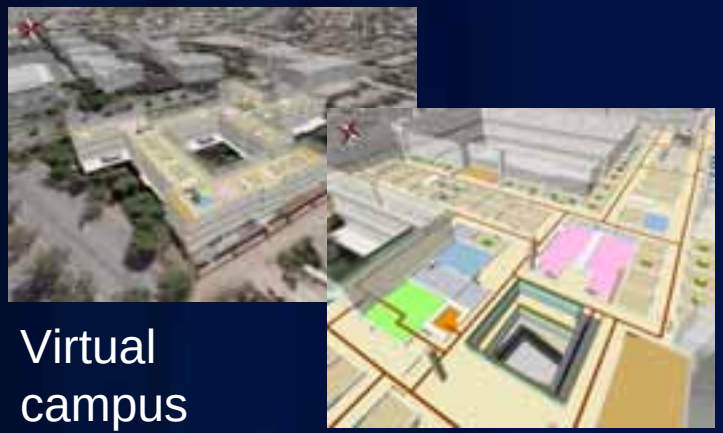
Intuitive
editing of city
level data

Targeted city analysis
tools

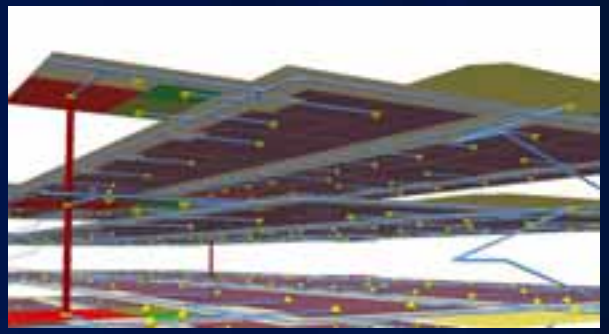
Performance /
Usability

Tools for 3D Virtual campuses

Universities, military bases, hospitals



Virtual campus template



Intuitive editing of campus level data

BISDM 3.0

Easily find, consume and share campus data online

New Tools to Build 3D Content

Not part of 10.1, will be integrated in the future

ArcGIS 10.1 Server

Vision

Powerful GIS capabilities

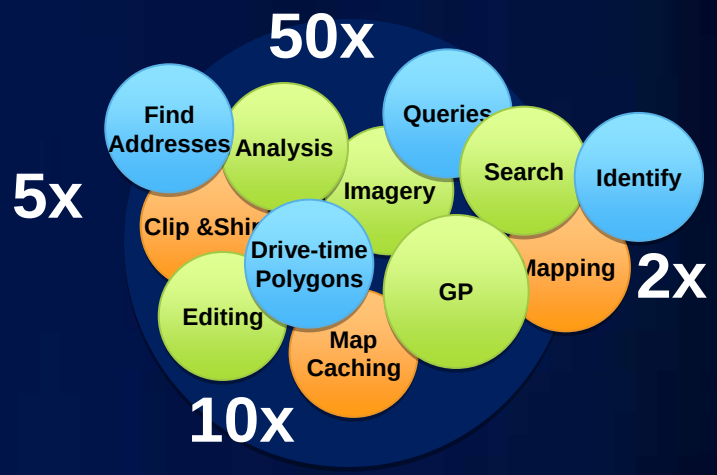
Delivered as Web services

To help solve real problems by real people

ArcGIS Server

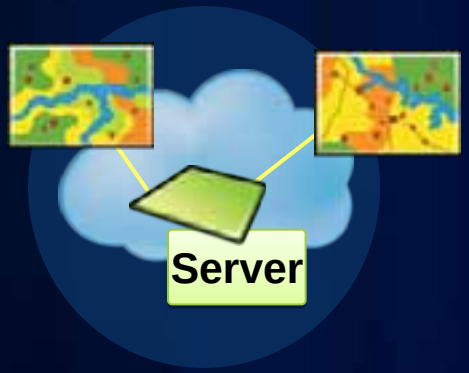
Enhancing the Architecture and Adding Capabilities

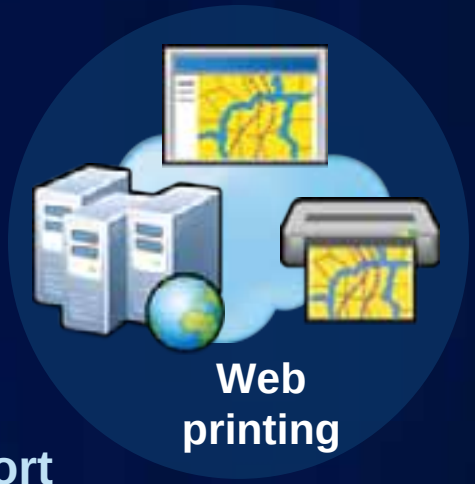
- Improved Performance
- Easy Install/Admin
- Simple Service Creation
- Native 64 Bit
- Strong Linux
- Highly Scalable



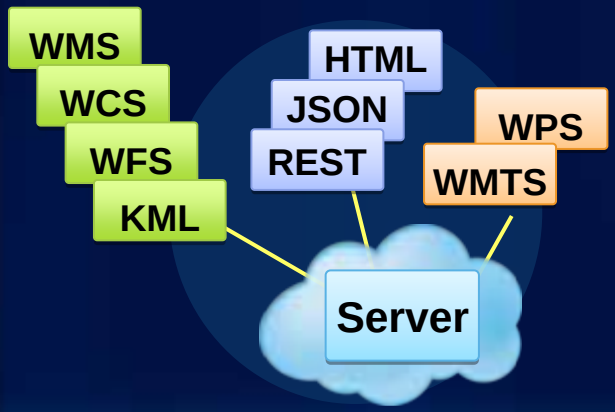
More

On-the-Fly Symbology





Standards Support



Listening to your specific functional requests

Cloud

Enhanced and Expanded

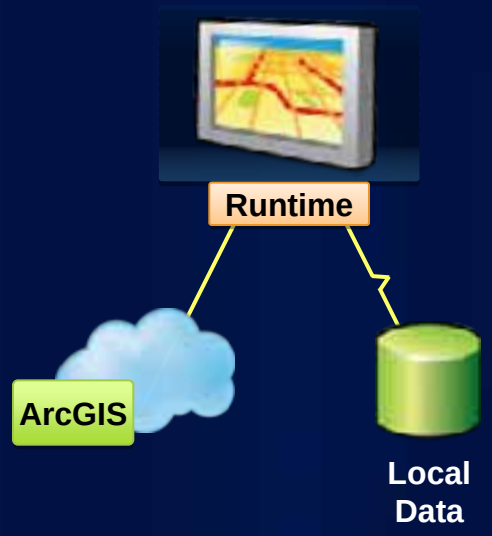
- More cloud friendly architecture
  - Better clustering support: publishing, async-gp and caching
  - Easier to administer: launch, auto-scaling etc
  - Publishing from ArcGIS Desktop
- Enhanced Amazon support
- Support for Azure
  - GIS Server and Spatial Data Server
  - Support for SQL Azure
- Private Clouds
  - Cloud burst
  - VM Ware

ArcGIS Runtime

ArcGIS Runtime

A New Lightweight Platform for Developers

- Easy to Deploy
- Fast & Powerful
- Small Footprint
- Windows/Linux
- 64-Bit Native (& 32)
- WPF/Java/Qt



. . . Supports in Connected and Disconnected Environments

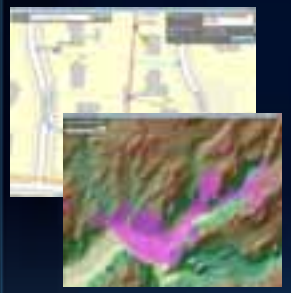
ArcGIS Runtime for Windows and Linux

Addresses Limitations With Current Technology

- New Architecture (64 bit)
- Easy to Deploy Solutions
  - Software, maps and data
  - No install required
  - Deploy only needed components
  - Side-by-Side deployment
  - Independent of other ArcGIS installs
- Modern API (WPF, Java and Qt)
- Supports both Connected and Disconnected Environments
- Mapping, Geoprocessing and Editing

Runtime is a Key Component of Our System

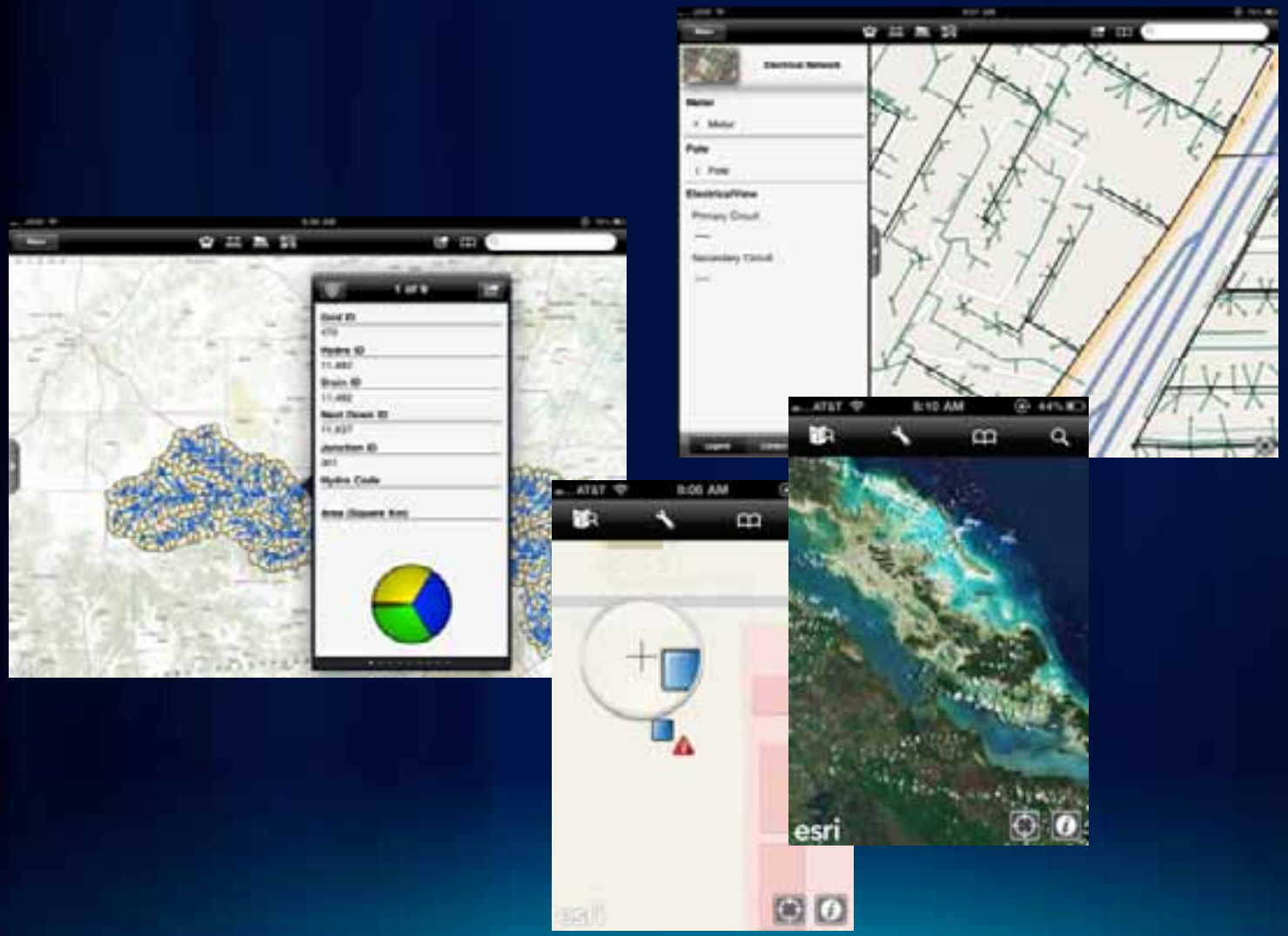
Configurable applications and native ArcGIS Runtime SDKs

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

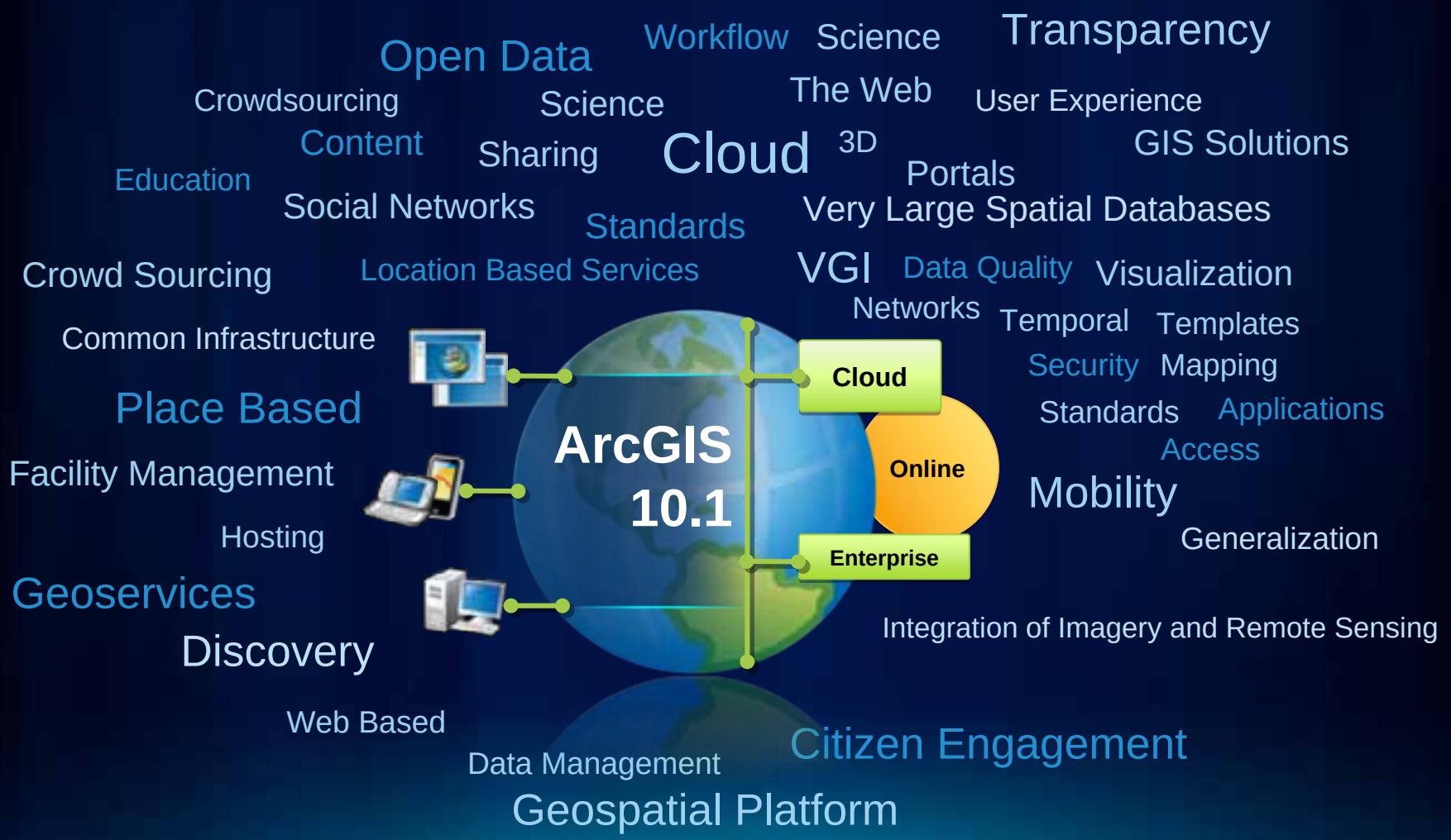
Devices Get Easier

- Waypoint Navigation
- Edit Existing Geometry
- Geodatabase Attachments
- Simplified Data Collection
- Bookmarks
- Map Notes and popups
- Dateline Support
- ArcGIS Portal support

Work with your Mobile GIS Device Offline

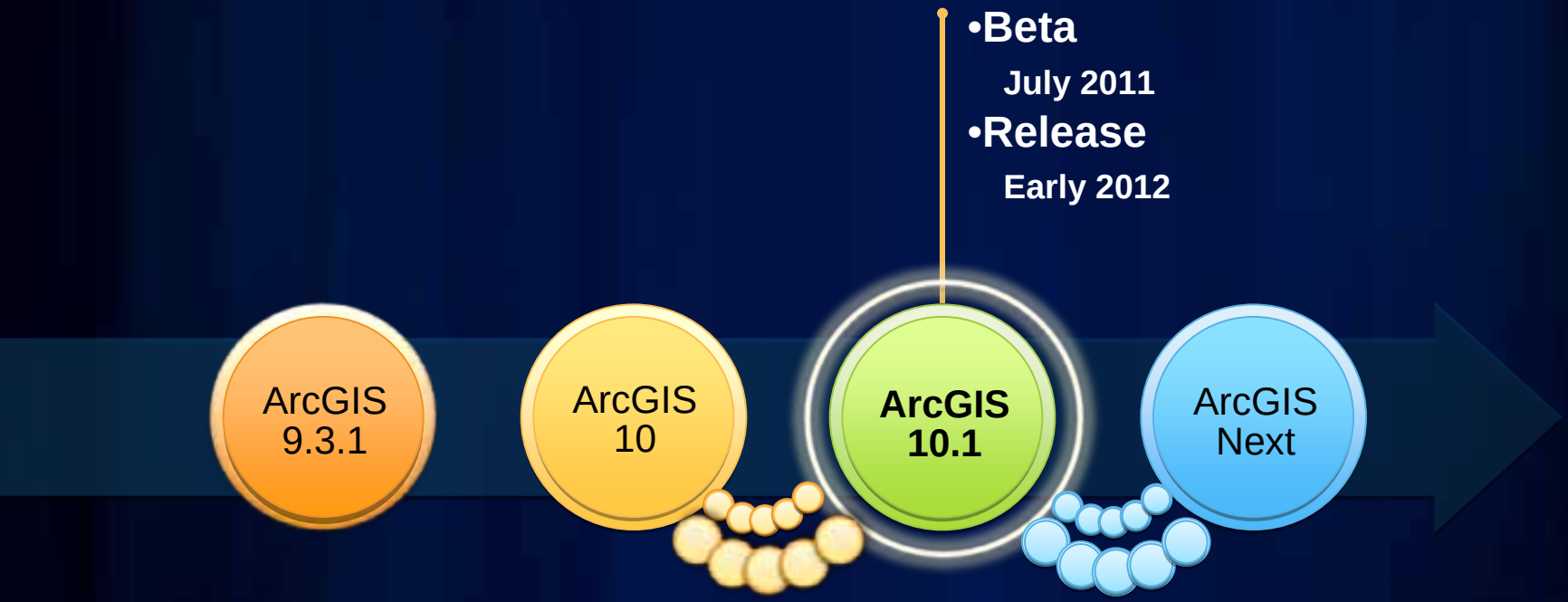


ArcGIS 10.1 Advanced GIS



Get Ready

ArcGIS 10.1 will be here sooner than you think



Sign up for Beta Now! Open to All Users!
Betacommunity.esri.com

IMPORTANT: Some stuff goes away…

The following does NOT ship with 10.1

- **ArcInfo Workstation (10.0 continues to work)**
- **ArcIMS**
- **32-bit version of ArcGIS Server**
- **SQL Server 2005 Support**
- **Visual Studio 2008 support**
- **Windows Server 2003 Support**
- **VBA***

Thank you . . .
. . . Open Q&A

Please submit your review of this session here:
www.esri.com/sessionevals