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GeoCollector for ArcPad

A High Accuracy Field Mapping Solution

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Overview

- **Why accuracy matters**
- **What is GeoCollector**
- **GeoCollector workflows**
- **Steps in a typical project**
- **Field data collection – best practices**
- **Real-time and post-processed differential correction**
- **Demo using ArcGIS and GPS Analyst**
- **Returning data to the enterprise - best practices**

Why high accuracy matters

- Pipeline integrity management
- Water network modeling
- Weed management
- Delineation mapping
- Transmission line optimization
- Corridor mapping
- Land valuation

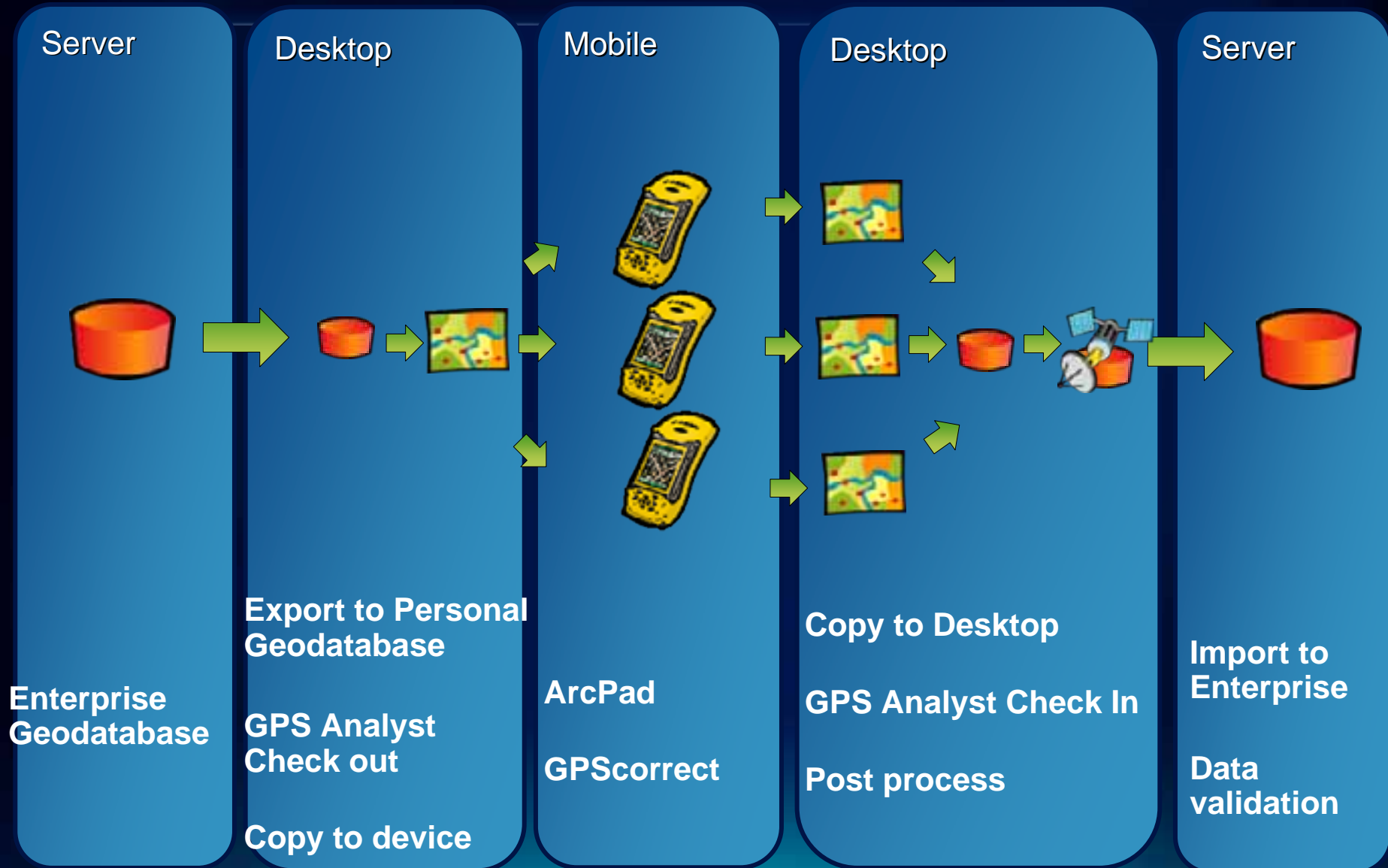


GeoCollector – High Accuracy GPS solution

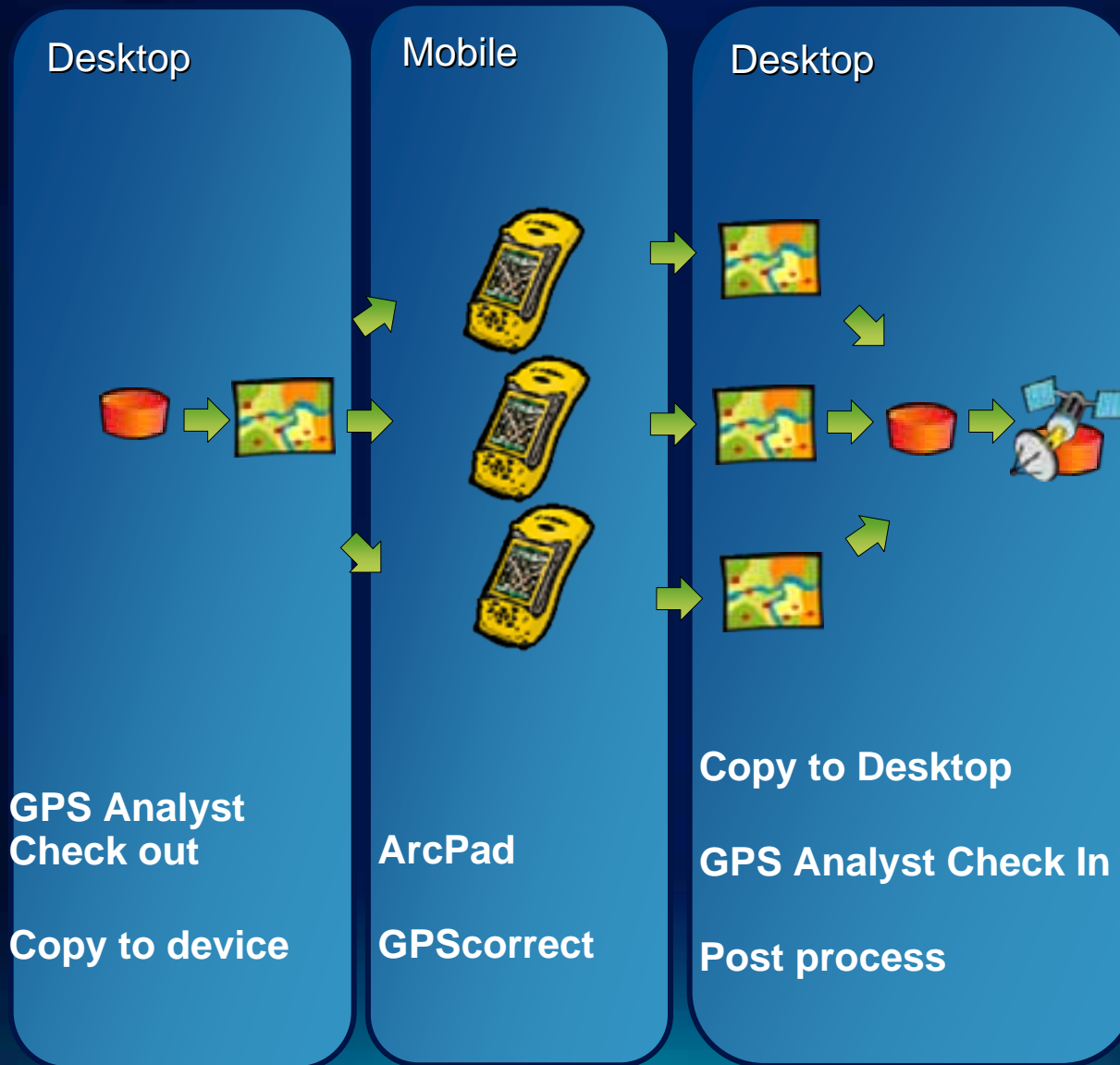


- **Trimble GeoExplorer 6000 series device**
 - High productivity hardware platform
 - High accuracy GPS data: 10 cm (XH) or 50 cm (XT)
- **Esri ArcPad data collection software**
 - Seamless integration with other Esri products
- **Trimble GPSCorrect for ArcPad software**
 - GNSS receiver control; data collection for postprocessing
- **Trimble GPS Analyst extension (option)**
 - Differential correction directly in ArcGIS for Desktop
- **Support through Esri, hardware+software warranty**

GeoCollector Workflow (Full)



GeoCollector Workflow (local data only)



GeoCollector Workflow (no prepared data)



Seven steps of a successful project

1. **Define project goals**
2. **Prepare your data**
3. **Send data to the device**
4. **Configure field settings**
5. **Collect or update data**
6. **Receive the data**
7. **Process the data**



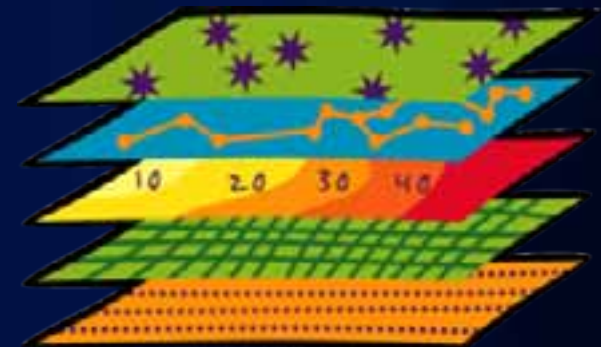
Real-time differential correction

- Accuracy in the field
 - Good for navigation/
in-field verification
 - **Up to 10cm** in
real-time with GeoXH
 - Saves time in the office
- Correction broadcast
 - WAAS
 - DGPS Beacon
 - Virtual reference station (VRS)
- Correction receiver
 - Integrated WAAS in GeoCollector

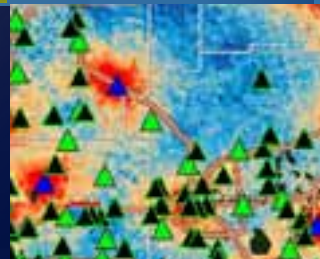
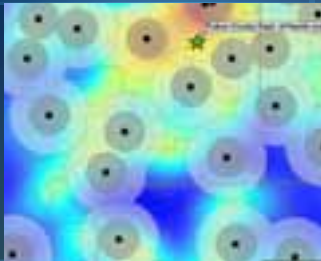


Post-processed differential correction

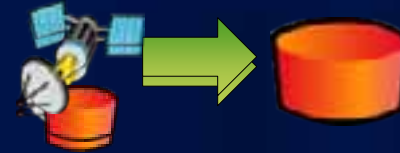
- Accuracy in the GIS
 - Up to 10cm with GeoXH and H-Star technology
 - Overcomes broadcast outage in the field
 - Can alter processing settings to improve data
- Base station logging data
 - Internet access
 - List maintained in GPS Analyst
- GPS Analyst
 - Post processing engine



Check in and GPS Differential Correction Demo



Returning data to Enterprise



- You return your **processed** data to the enterprise
- If you have topology rules in enterprise, run data validation on returned data
- Only the features with their corrected GPS coordinates are returned. NOT all the raw GPS data.

Summary



- ArcPad is interface for collecting features
- GPSCorrect sets up real-time GPS and quality settings and stores the GPS measurement information used to collect the feature geometry
- GPS Analyst provides differential correction and GDB integration provided by tools in GPS Analyst
 - Differential correction enables the accuracy specification for the GeoExplorer!

Resources

- GeoCollector

<http://www.esri.com/software/arcgis/geocollector/index.html>

- ArcPad

<http://resources.arcgis.com/content/arcpad/10.0/about>

- **GPSCorrect**

<http://www.trimble.com/gpscorrect.shtml>

- **GPS Analyst**

<http://www.trimble.com/gpsanalyst.shtml>

Online evaluation!

- www.esri.com/sessionevals

Questions?

Complementary Sessions on conference DVD

Technical Workshops

- ArcPad—An Introduction
- ArcPad—Introduction to Customizing ArcPad Solutions
- ArcPad—Advanced Customization of ArcPad Solutions

Moderated Paper Sessions

- Trimble—GNSS 101 for GIS
- GPS Technology