FIG WORKING WEEK 2025
AND Locate25 THE NATIONAL GEOSPATIAL CONFERENCE
Collaboration, Innovation and Resilience: Championing a Digital Generation
FIG Geospatial Council of Australia
Brisbane, Australia 6–10 April

Technologial Trends Driving the Modernization Of Cadastral Systems

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Modern Expectations

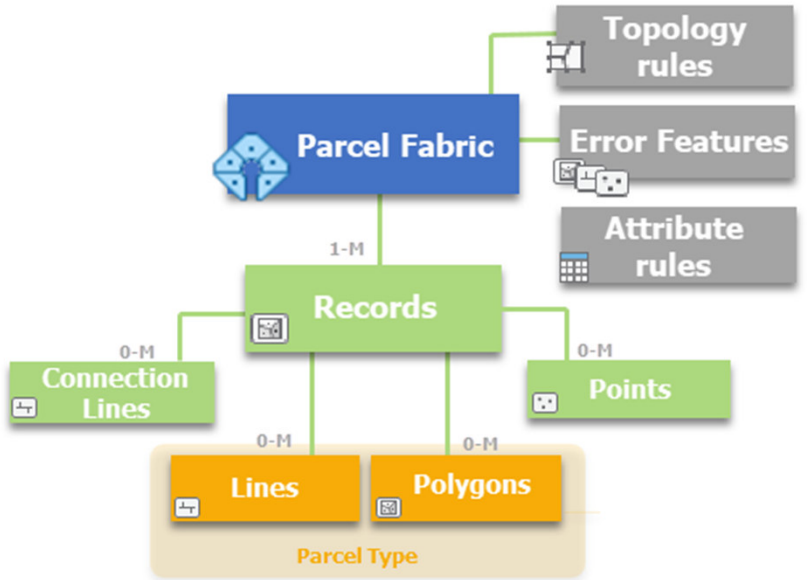
- Cloud-based deployments and offline editing
- Mult-user, concurrent editing
- Easy adoption and data migration
- Configurable data quality management
- Focused tools for parcel editing

Data expectations

- Data should be accessible from any client – web services
- Data should be trustworthy – current and accurate and can be used in decision making processes
- Data should be secure – only named users can edit it
- Data should perform well, scale and be efficiently edited

The parcel fabric in ArcGIS Pro

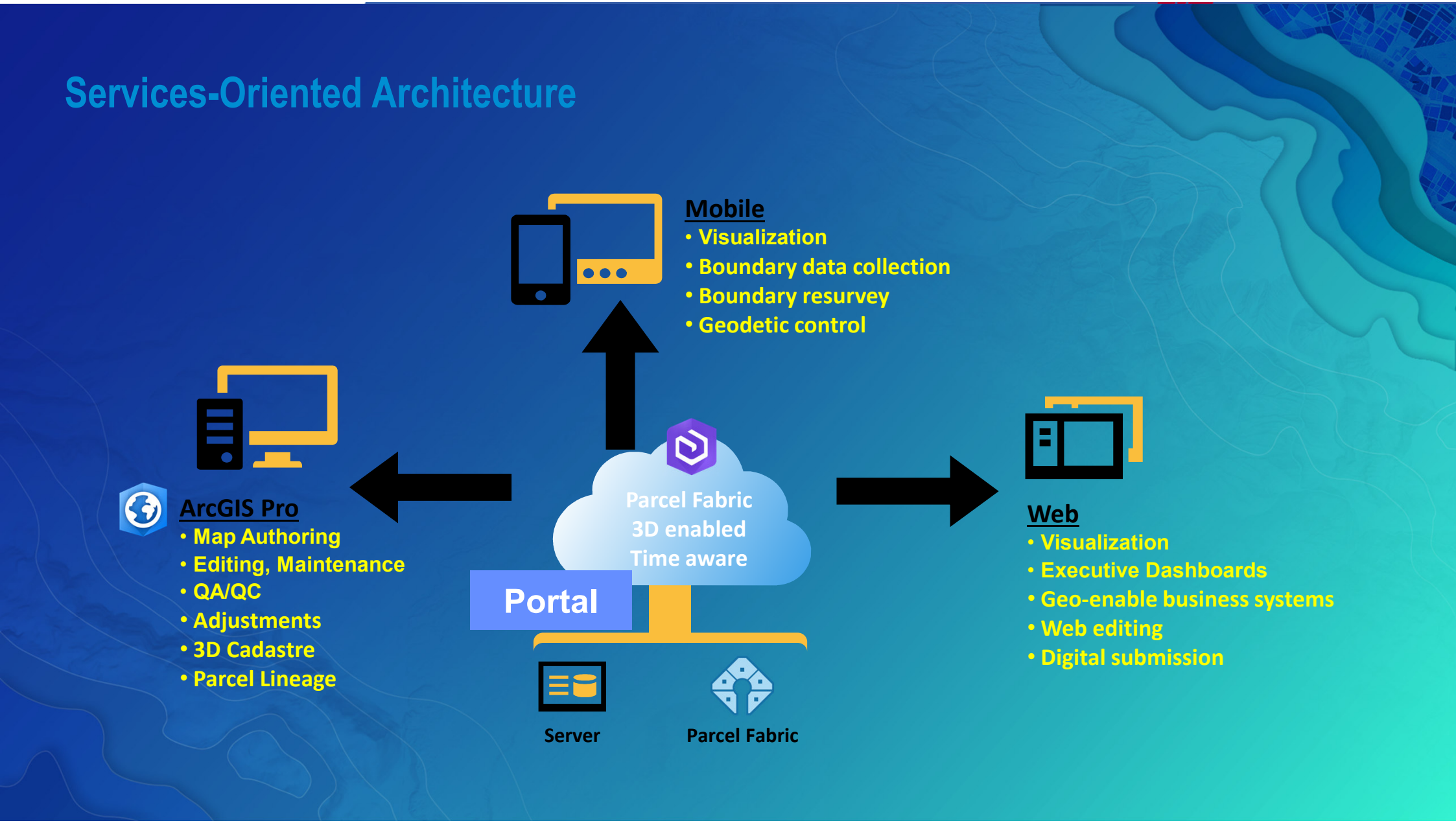
- A comprehensive framework for parcel management
- A physical implementation of LADM (19152)
- 4D-enabled. 3D Cadastre and moments in time
- Used in production in hundreds of systems
- Uses Artificial Intelligence and machine learning



Services-Oriented Architecture

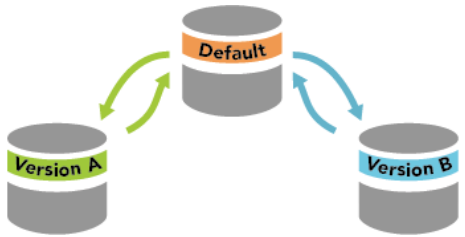
- Leverages web services and RESTful APIs
- Need for traditional ETL (Extract, Transform, Load) processes in minimized.
- Enhanced performance

Services-Oriented Architecture



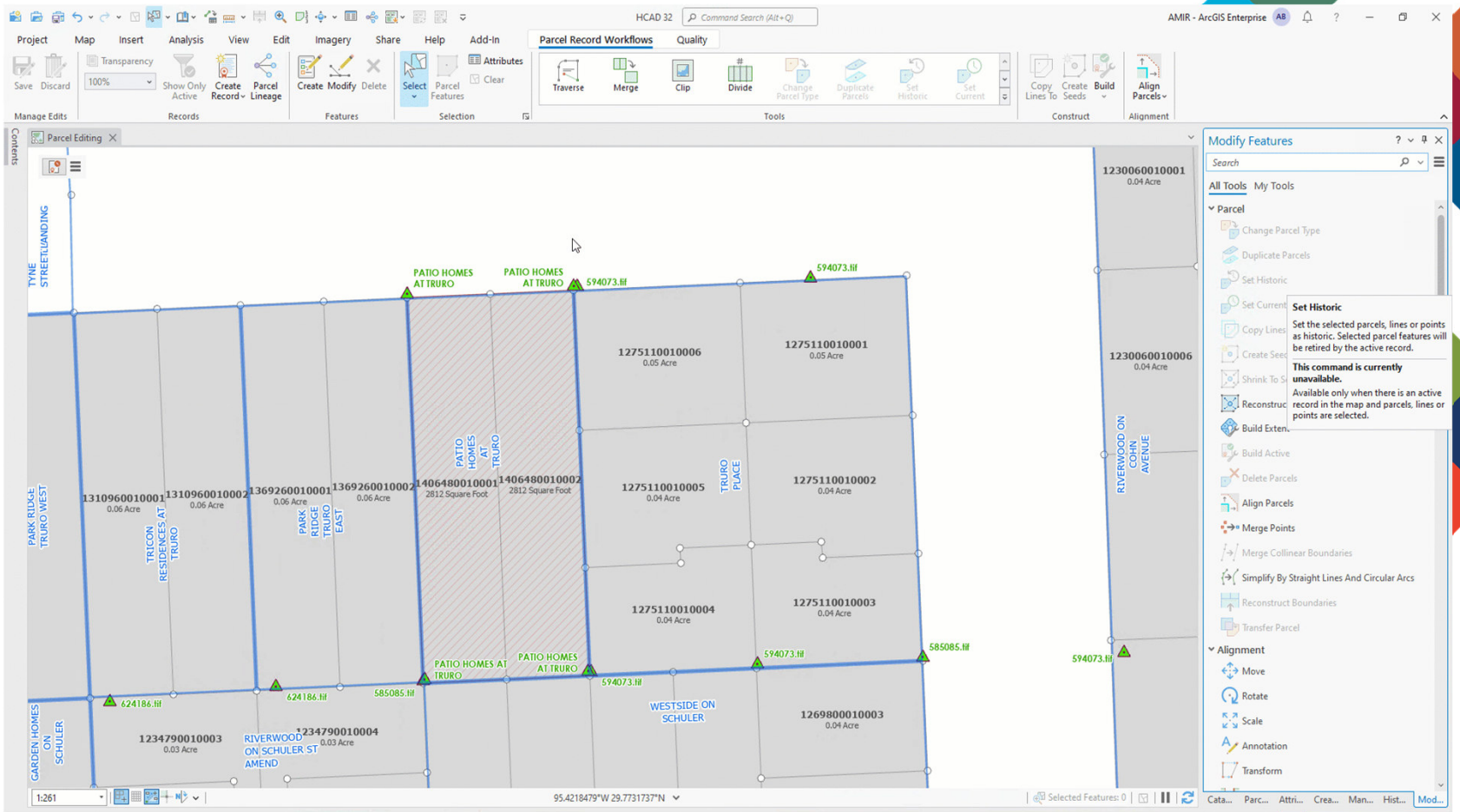
Multi-user editing

- Branch versioning – multiple users edit simultaneously without creating copies
- Edits on a version undergo QA before reconciled with main, default version
- Editor tracking - every edit is tracked by date, time and user.
- Can view historical states of the data at any moment in time.
- Supports offline editing on a version

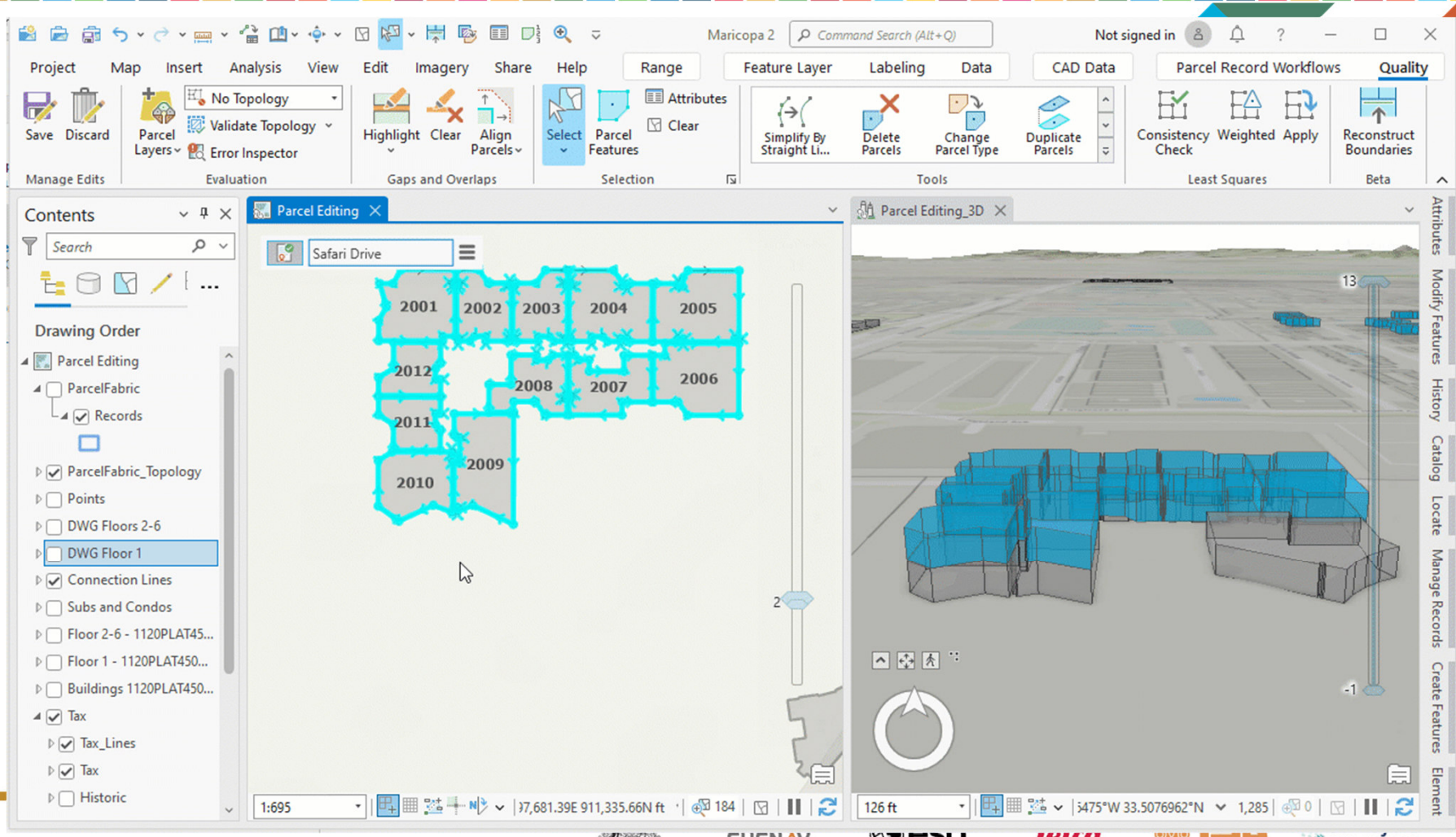


Versioned enterprise data

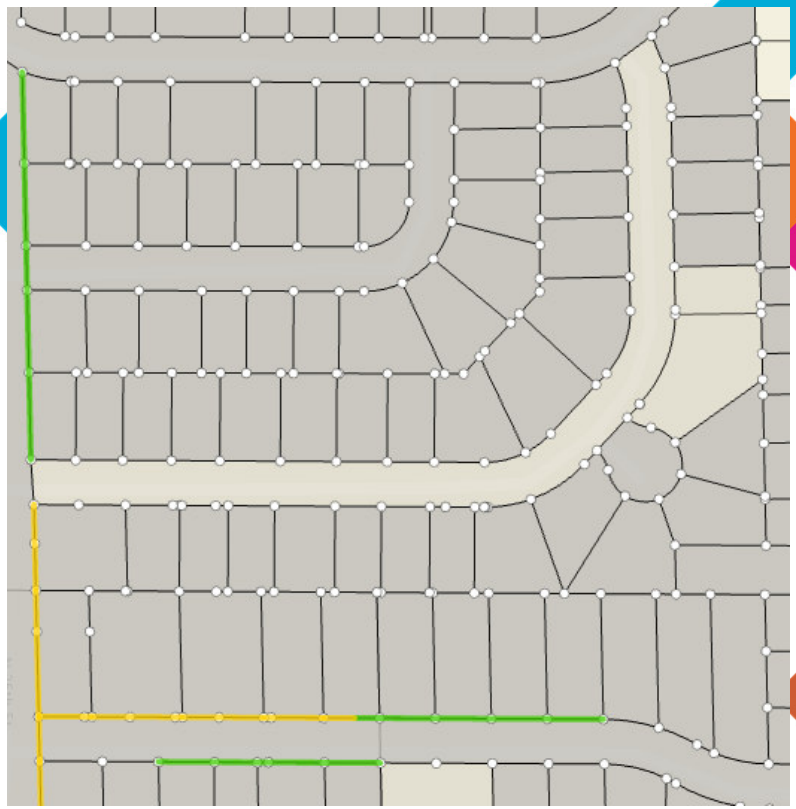
Focused workflows and parcel editing tools



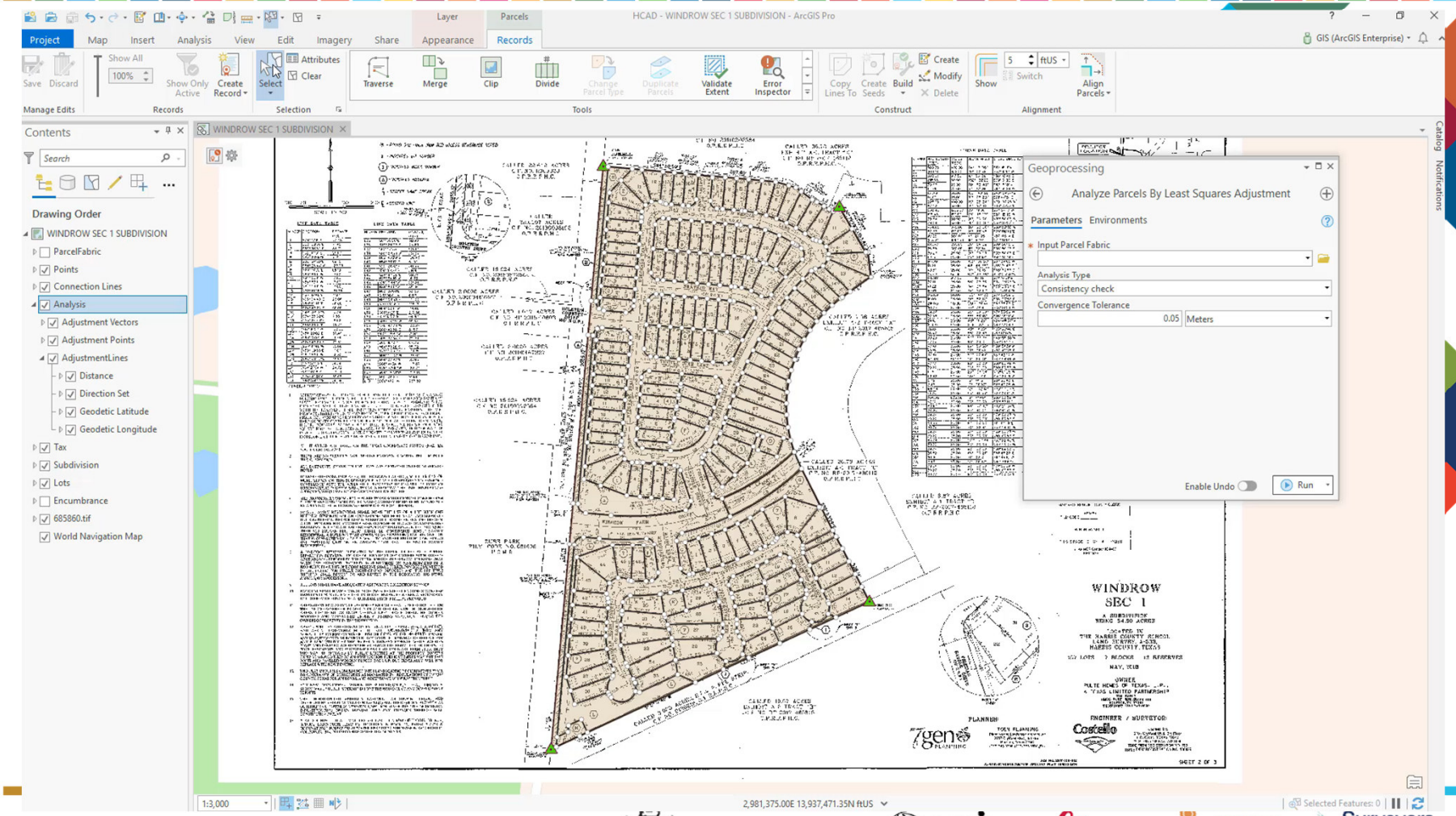
3D Cadastre and strata parcels



Focused quality tools: Highlight gaps and overlaps

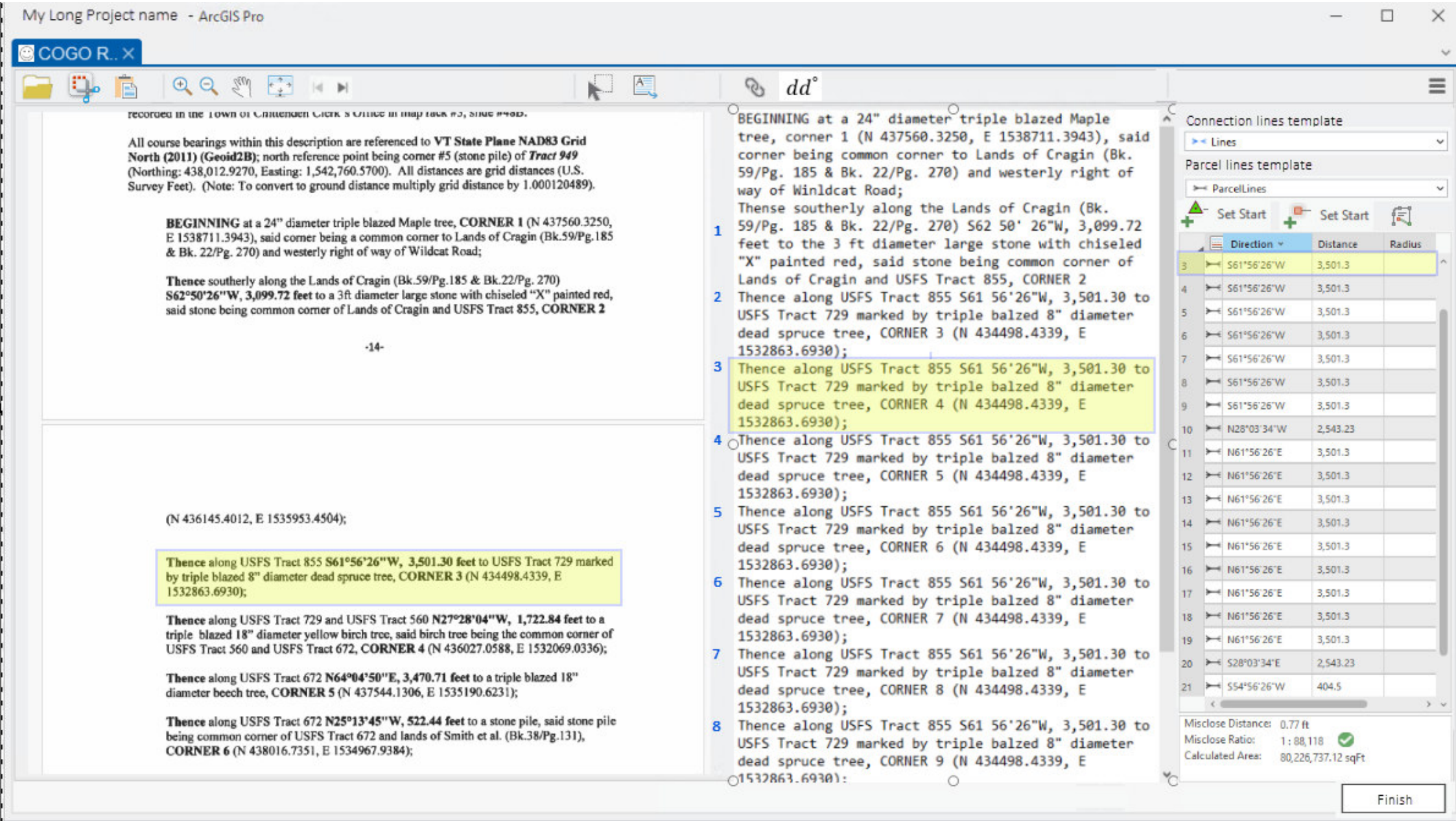


Quality: Least Squares Adjustment (DynAdjust)



Leveraging OCR and machine learning

- Automated measurement extraction from deeds


My Long Project name - ArcGIS Pro
COGO R..
recorded in the Town of Chittenden Clerk's Office in map rack #3, slide #48B.
All course bearings within this description are referenced to VT State Plane NAD83 Grid North (2011) (Geoid2B); north reference point being corner #5 (stone pile) of Tract 949 (Northing: 438,012.9270, Easting: 1,542,760.5700). All distances are grid distances (U.S. Survey Feet). (Note: To convert to ground distance multiply grid distance by 1.000120489).
BEGINNING at a 24" diameter triple blazed Maple tree, CORNER 1 (N 437560.3250, E 1538711.3943), said corner being a common corner to Lands of Cragin (Bk.59/Pg.185 & Bk. 22/Pg. 270) and westerly right of way of Wildcat Road;
Thence southerly along the Lands of Cragin (Bk.59/Pg.185 & Bk.22/Pg. 270) S62°50'26"W, 3,099.72 feet to a 3ft diameter large stone with chiseled "X" painted red, said stone being common corner of Lands of Cragin and USFS Tract 855, CORNER 2
-14-
(N 436145.4012, E 1535953.4504);
Thence along USFS Tract 855 S61°56'26"W, 3,501.30 feet to USFS Tract 729 marked by triple blazed 8" diameter dead spruce tree, CORNER 3 (N 434498.4339, E 1532863.6930);
Thence along USFS Tract 729 and USFS Tract 560 N27°28'04"W, 1,722.84 feet to a triple blazed 18" diameter yellow birch tree, said birch tree being the common corner of USFS Tract 560 and USFS Tract 672, CORNER 4 (N 436027.0588, E 1532069.0336);
Thence along USFS Tract 672 N64°04'50"E, 3,470.71 feet to a triple blazed 18" diameter beech tree, CORNER 5 (N 437544.1306, E 1535190.6231);
Thence along USFS Tract 672 N25°13'45"W, 522.44 feet to a stone pile, said stone pile being common corner of USFS Tract 672 and lands of Smith et al. (Bk.38/Pg.131), CORNER 6 (N 438016.7351, E 1534967.9384);
dd°
BEGINNING at a 24" diameter triple blazed Maple tree, corner 1 (N 437560.3250, E 1538711.3943), said corner being common corner to Lands of Cragin (Bk. 59/Pg. 185 & Bk. 22/Pg. 270) and westerly right of way of Winldcat Road;
1 Thense southerly along the Lands of Cragin (Bk. 59/Pg. 185 & Bk. 22/Pg. 270) S62 50' 26"W, 3,099.72 feet to the 3 ft diameter large stone with chiseled "X" painted red, said stone being common corner of Lands of Cragin and USFS Tract 855, CORNER 2
2 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 3 (N 434498.4339, E 1532863.6930);
3 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 4 (N 434498.4339, E 1532863.6930);
4 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 5 (N 434498.4339, E 1532863.6930);
5 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 6 (N 434498.4339, E 1532863.6930);
6 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 7 (N 434498.4339, E 1532863.6930);
7 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 8 (N 434498.4339, E 1532863.6930);
8 Thence along USFS Tract 855 S61 56'26"W, 3,501.30 to USFS Tract 729 marked by triple balzed 8" diameter dead spruce tree, CORNER 9 (N 434498.4339, E 1532863.6930);
Connection lines template
Lines
Parcel lines template
ParcelLines
Set Start
Set Start
Direction
Distance
Radius
3 S61°56'26"W 3,501.3
4 S61°56'26"W 3,501.3
5 S61°56'26"W 3,501.3
6 S61°56'26"W 3,501.3
7 S61°56'26"W 3,501.3
8 S61°56'26"W 3,501.3
9 S61°56'26"W 3,501.3
10 N28°03'34"W 2,543.23
11 N61°56'26"E 3,501.3
12 N61°56'26"E 3,501.3
13 N61°56'26"E 3,501.3
14 N61°56'26"E 3,501.3
15 N61°56'26"E 3,501.3
16 N61°56'26"E 3,501.3
17 N61°56'26"E 3,501.3
18 N61°56'26"E 3,501.3
19 N61°56'26"E 3,501.3
20 S28°03'34"E 2,543.23
21 S54°56'26"W 404.5
Misclose Distance: 0.77 ft
Misclose Ratio: 1 : 88,118
Calculated Area: 80,226,737.12 sqFt
Finish

Conclusion

- Technology has transformed the business requirements of modern cadastral systems
- The parcel fabric has responded by providing
  - Scalable platform for multi-user editing on desktop, web and mobile clients
  - An easy to adop system that is configurable
  - Flexible to accomodate the business needs of different clients
  - Minimal need for customisation
  - Innovative solutions to age old challenges (using AI and OCR to extract COGO from deeds)

STEP 1: SELECT HERE THE THREE MOST RELEVANT SDGs
STEP 2: COPY THE SDG INTO PREVIOUS SLIDE