OGC ISG Sprint Kickoff Presentation:

Ecere corporation

Jerome St-Louis, CTO

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Overview of planned contributions

- Building on *3D Container & Tiles* pilot participation, providing:

    - Visualization client (3D globe), supporting:

        - 3D Tiles tileset; Tiles API (VT + E3D | glTF, gridded elevation)

    - Dynamic service supporting 3D Tiles tileset & Tiles API

        - Initial experiment with Camp Pendleton sample CDB

        - Working on bringing functionality back up for San Diego CDB, with textures

    - Static GeoVolumes API service for NYC buildings (3D Tiles)

        - https://maps.ecere.com/3DAPI

- Possibility to add to service:

    - bbox query parameter on /collections

    - bbox query parameter on dynamic service

    - Terrain as quantized mesh or glTF / b3dm

Google Maps Imagery (c) CNES / Airbus, Maxar Technology, TerraMetrics, NASA, U.S. Geological Survey, Landsat / Copernicus
Camp Pendleton Sample CDB from Presagis Starter Kit
ESA Gaia's Sky in colour (Gaia Data Processing and Analysis Consortium (DPAC); A. Moitinho / A. F. Silva / M. Barros / C. Barata,
University of Lisbon, Portugal; H. Savietto, Fork Research, Portugal.) CC BY SA 3.0
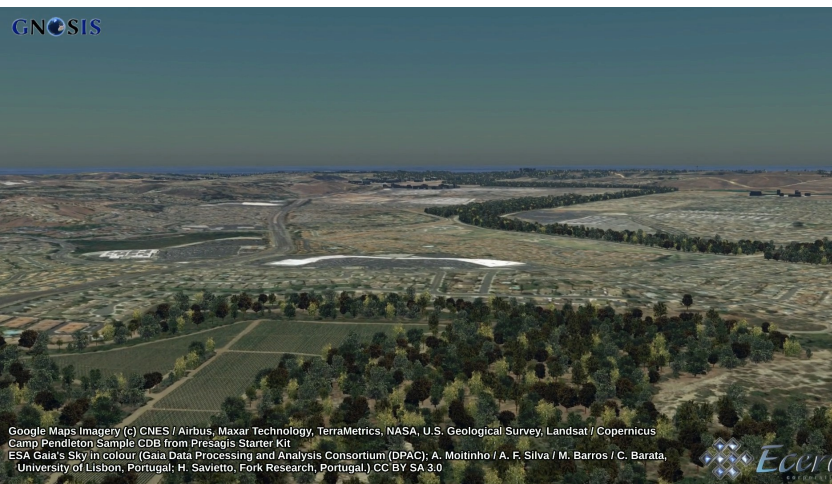
Scenarios: Focus on models / terrain

- Participation to focus on Scenario #1:

  - 3D models and terrain originating from CDB
  - addressing updates questions a complex topic requiring exchange with other participant(s) tackling scenario #1
    - a) terrain changes
    - b) new models / elevation
    - c) handling existing models
  - proposed approach: working from CDB gridded coverage to facilitate updates and clamping models to terrain, and generating terrain mesh for delivery as 3D Tiles

- Scenario #2 (alternative distribution) & #3 (3D data organization) input
  - Why would multiple distributions be an issue? Clients use access mode / representation they best support (e.g. i3s or 3D Tiles or Tiles API)
  - Consider OGC API Common hierarchies (organization by types of features & geo-political regions not specific to 3D data, and entirely separate from BVH's optimization purposes)
  - For storing global datasets, consider types of features primary, as proven by CDB, with regular tiling facilitating updates / transfer / combination
  - Possibility to combine multiple layers in generated 3D Tiles tilesets

Discussions

- Other participants focusing on scenario #1 (terrain & models updates)?

- CDB 1.x or CDB X used for Scenario #1?

- CFP Scenario discussion mentioned
  "CDB data store and delivered as glTF", however CDB 1.x elevation is provided as gridded coverage GeoTIFF, and models as OpenFlight

- Tiling considerations in updates scenario? Fixed tiling scheme?

- Sample terrain & models updates for scenario?

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Global 3" Elevation data from View Finder Panoramas by Jonathan de Ferranti,
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Marseille data from Cesium/Bentley as 3D Tiles served by Skymantics

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Thank you

- See https://github.com/opengeospatial/OGC-ISG-Sprint-Sep2020/issues/5 and https://github.com/opengeospatial/oapi_common/issues/11

  for discussions on hierarchical collections / 3D data container / GeoVolumes

- For further information about Ecere, please visit:

  - https://ecere.ca

  - e-mail: jerome@ecere.com

  - Dynamic OGC API / 3D service: https://maps.ecere.com/ogcapi

  - Videos for 3D Container & Tiles Pilot:

    - https://www.youtube.com/watch?v=mzGy2nRLgzY

    - https://www.youtube.com/watch?v=16aU5Wpz8PY

The end.

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