Utility Network on Web GIS and news on ArcGIS Pro

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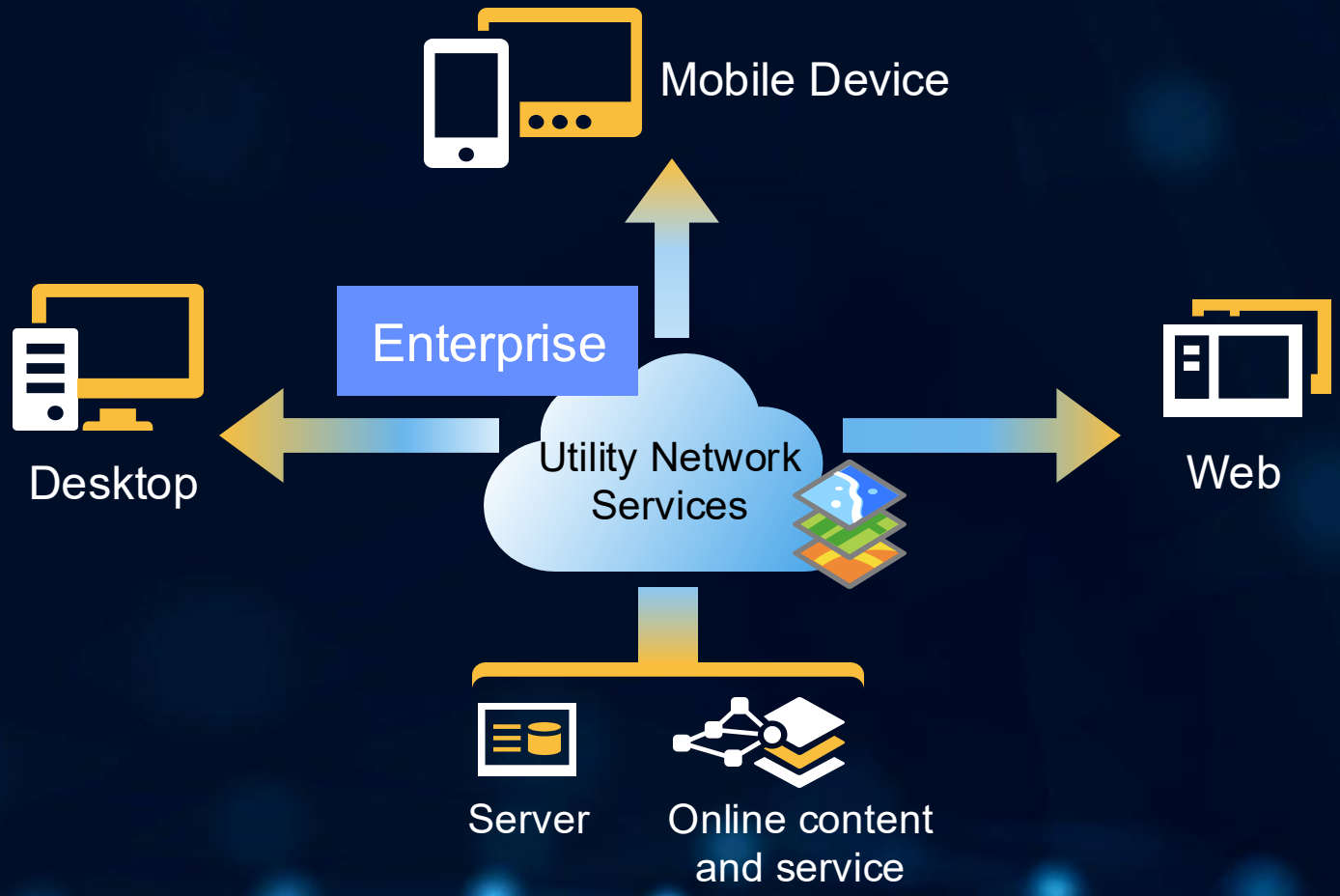
Agenda

- Utility Network service architecture
- Overview of the REST API
- Demo
- ArcGIS Pro 3.5 – What's New?

ArcGIS service architecture

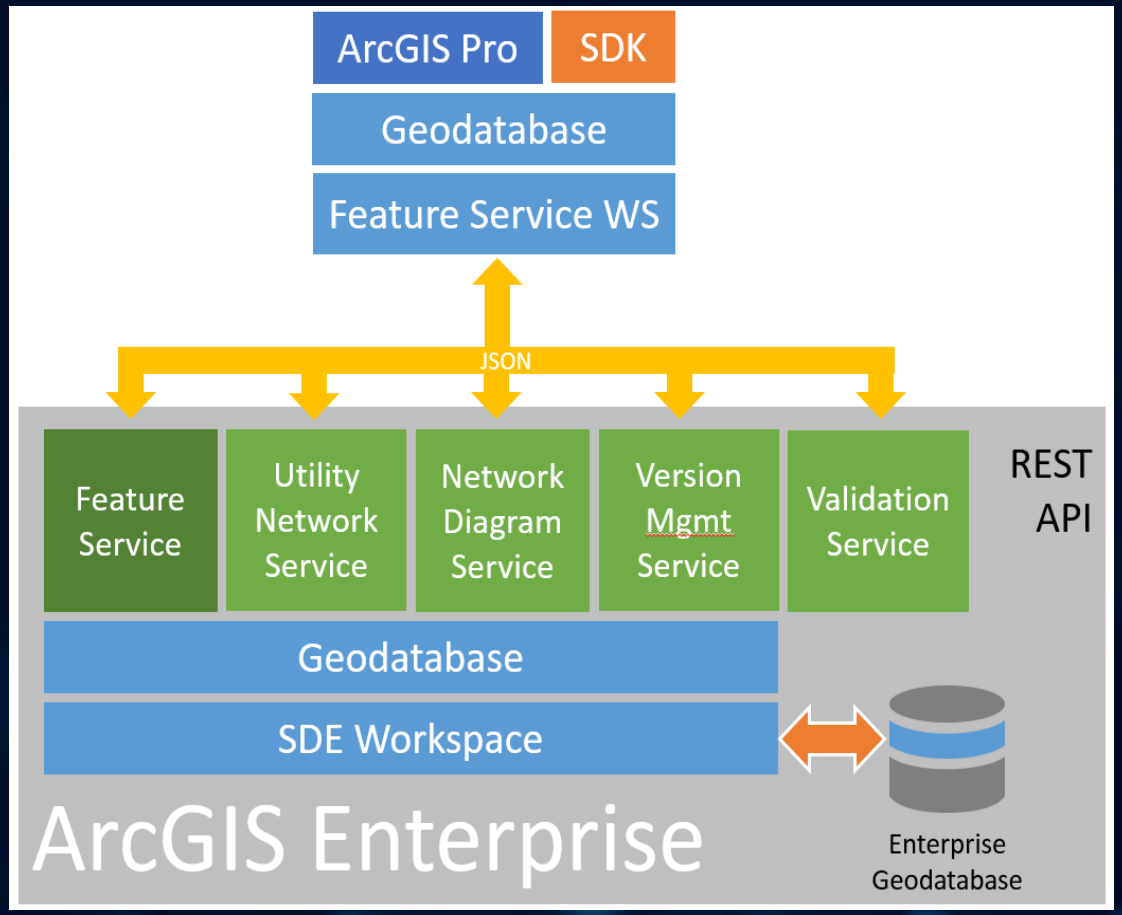
Utility Network - The Basis

- Comprehensive framework
  - Mapping of utlitity systems
- Digital twin
  - Connecting the real and digital worlds
- Service-based architecture
  - Platform-independent
  - Always the same function
- Any device, anywhere, anytime

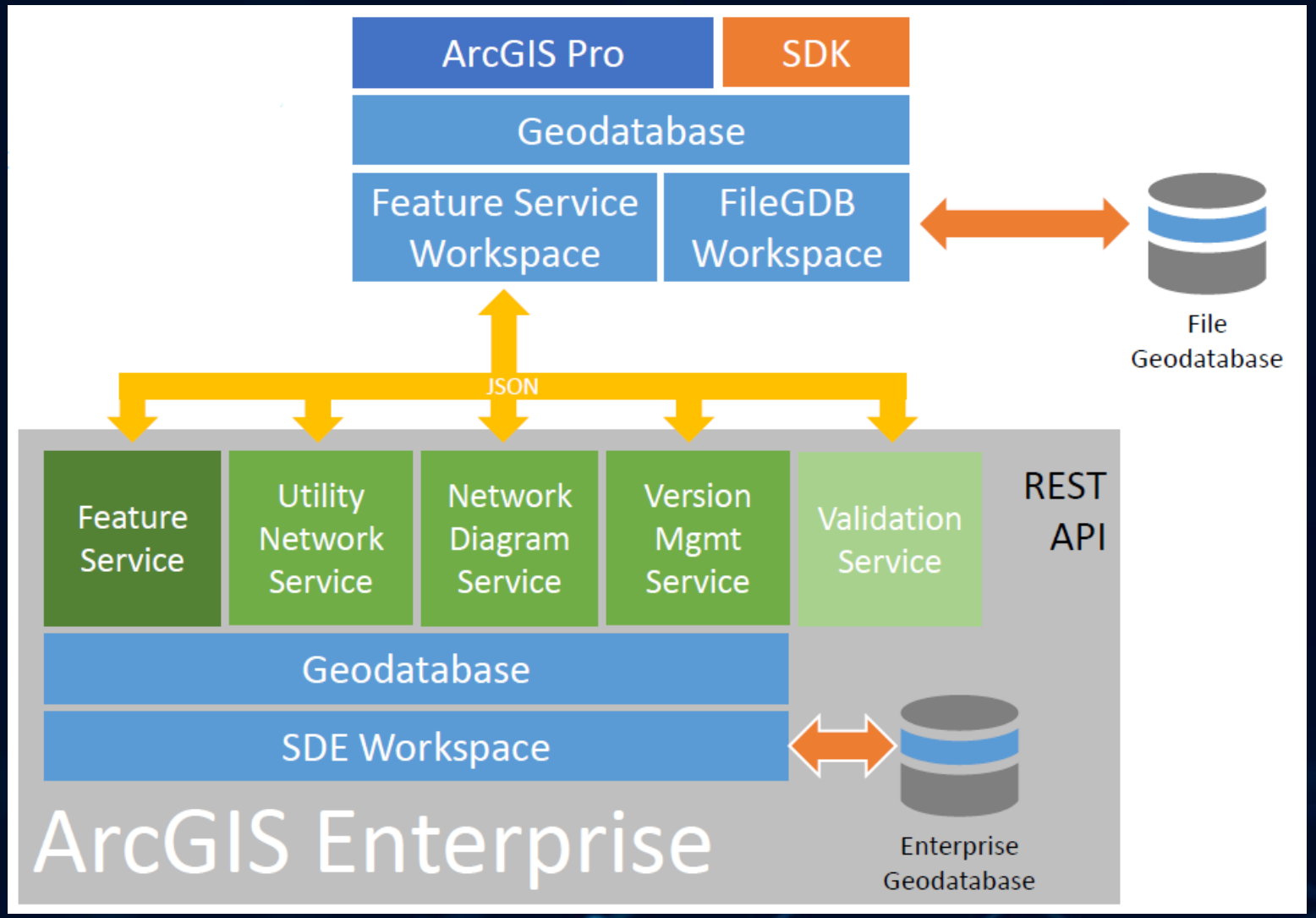


Architecture

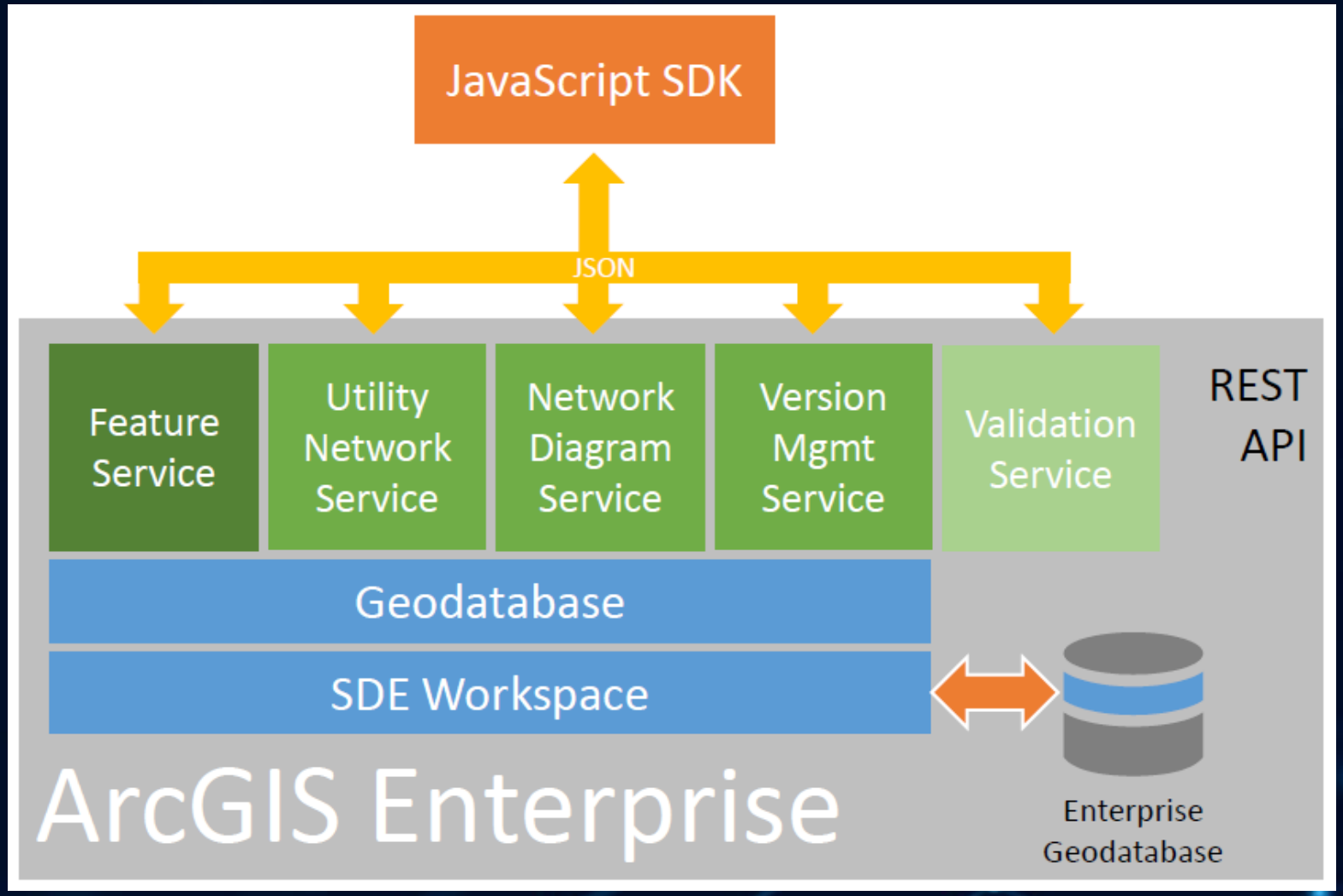
- Extensions to existing services:
  - Feature Service
- Newer services with the UN:
  - Utility Network Service
  - Network Diagram Service
  - Version Management Service
  - Validation Service



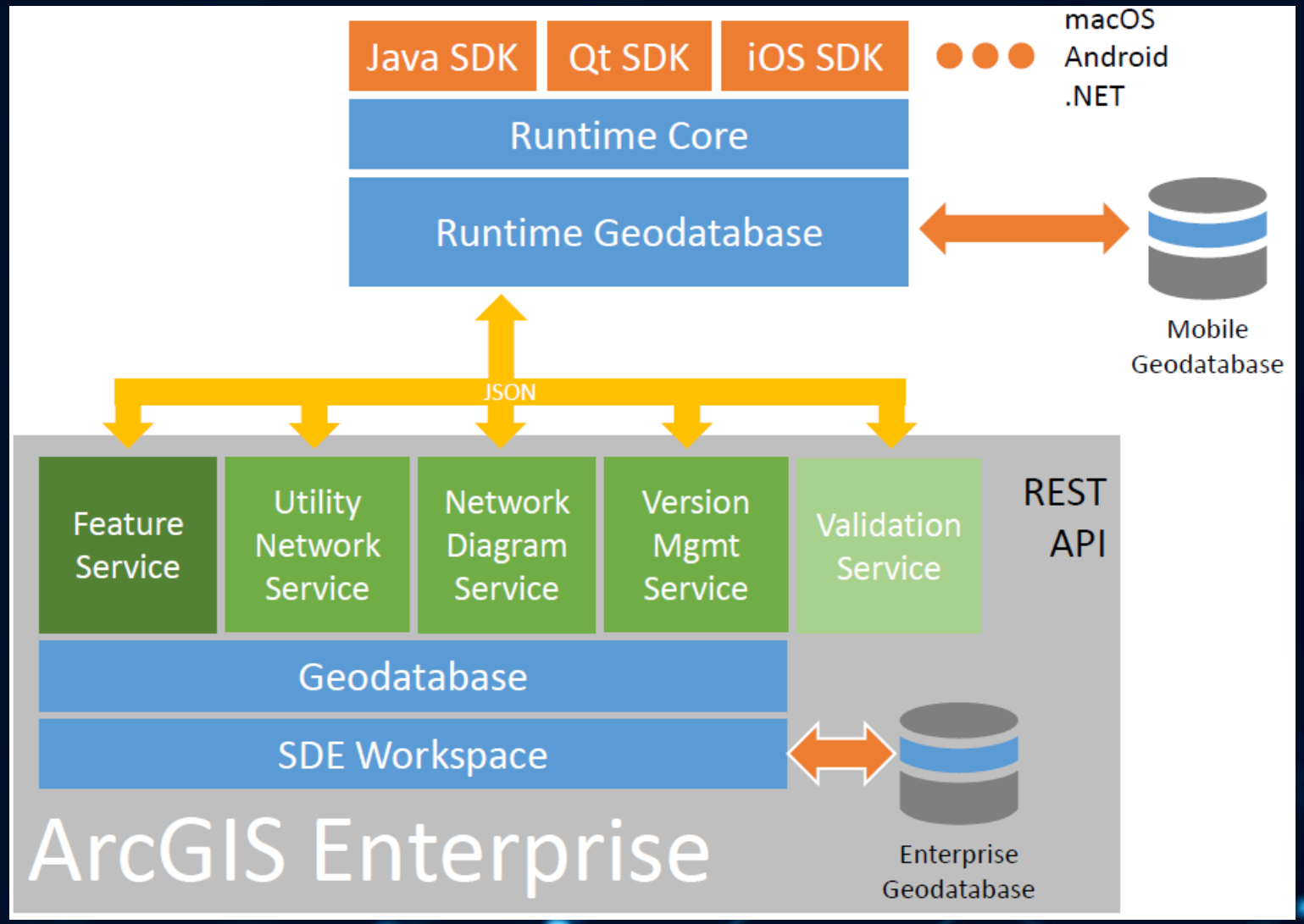
Architecture - Desktop



Architecture – Web Apps

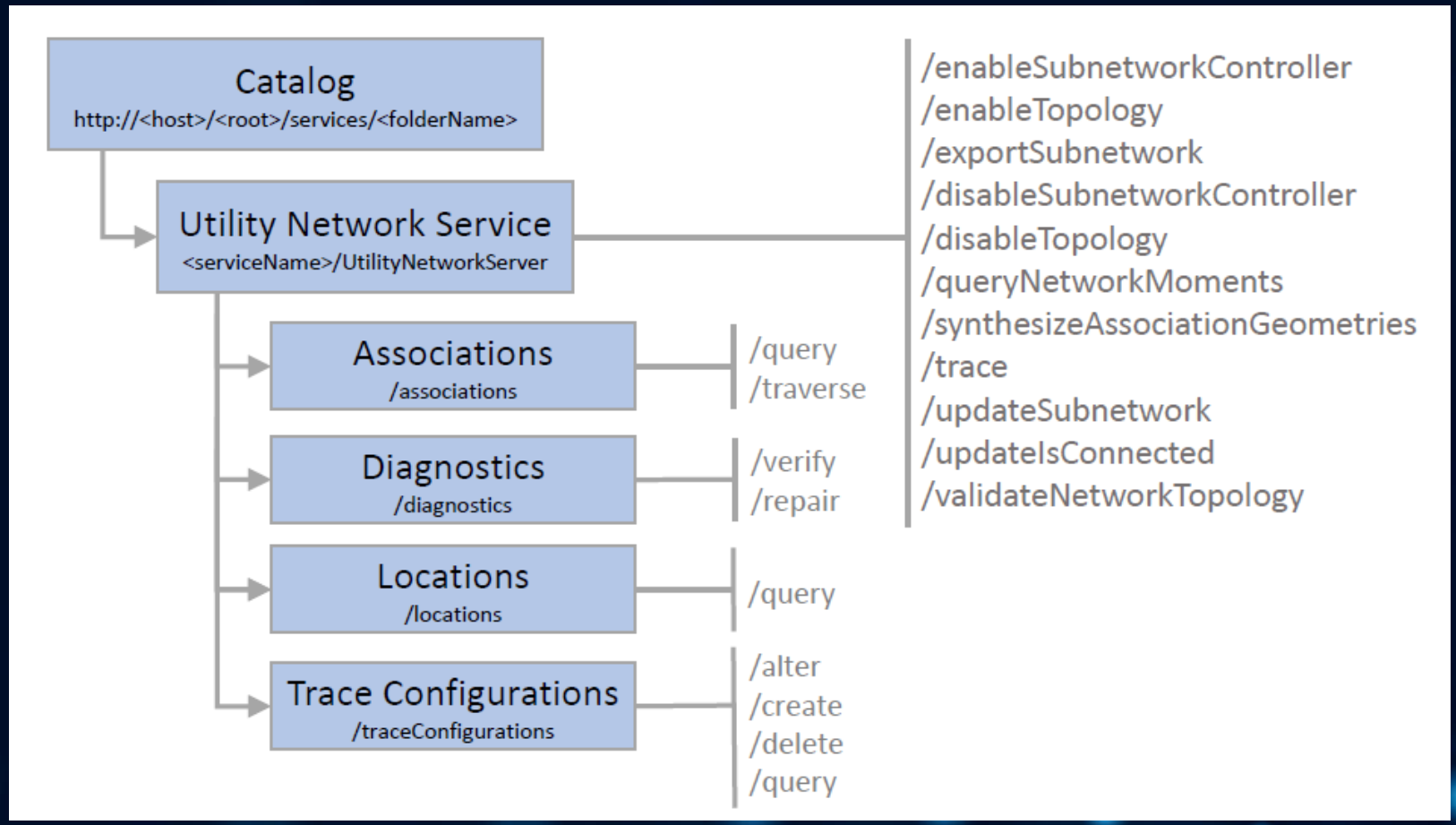


Architecture – Runtime/Native Maps SDKs



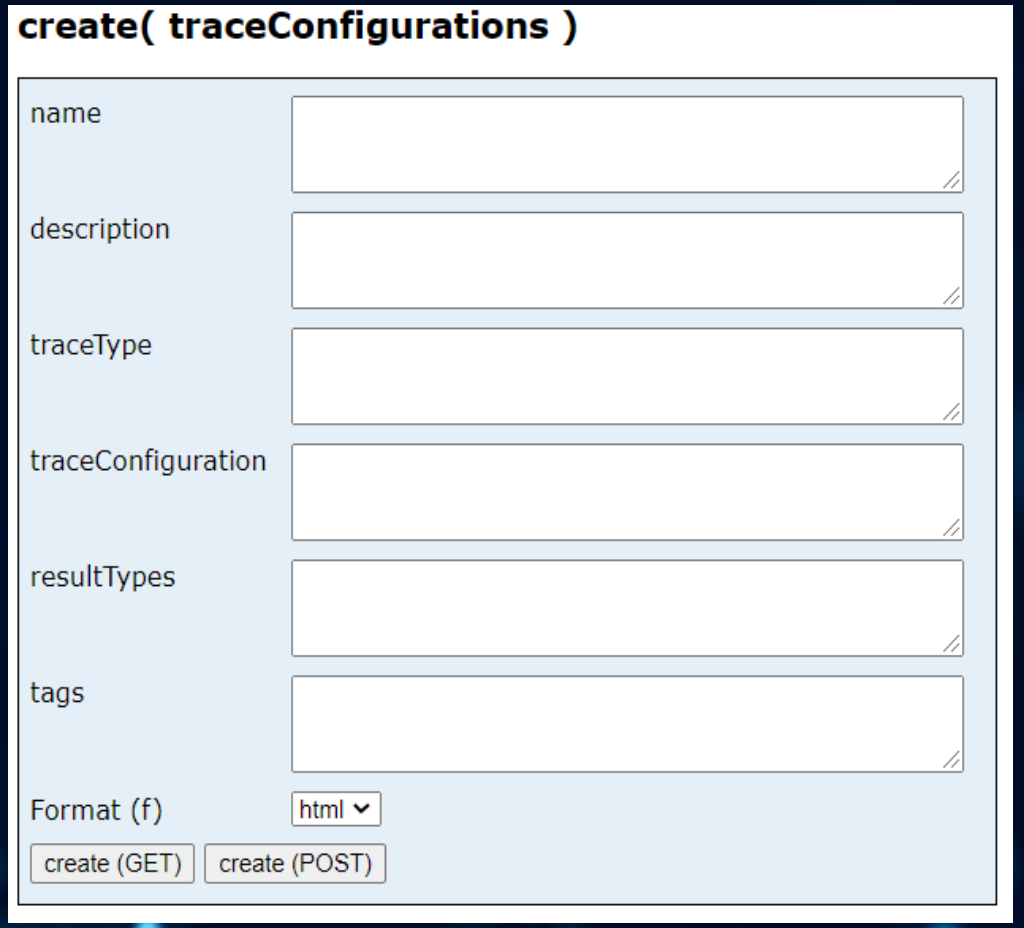
Overview of the REST API

REST API of Utility Network Service

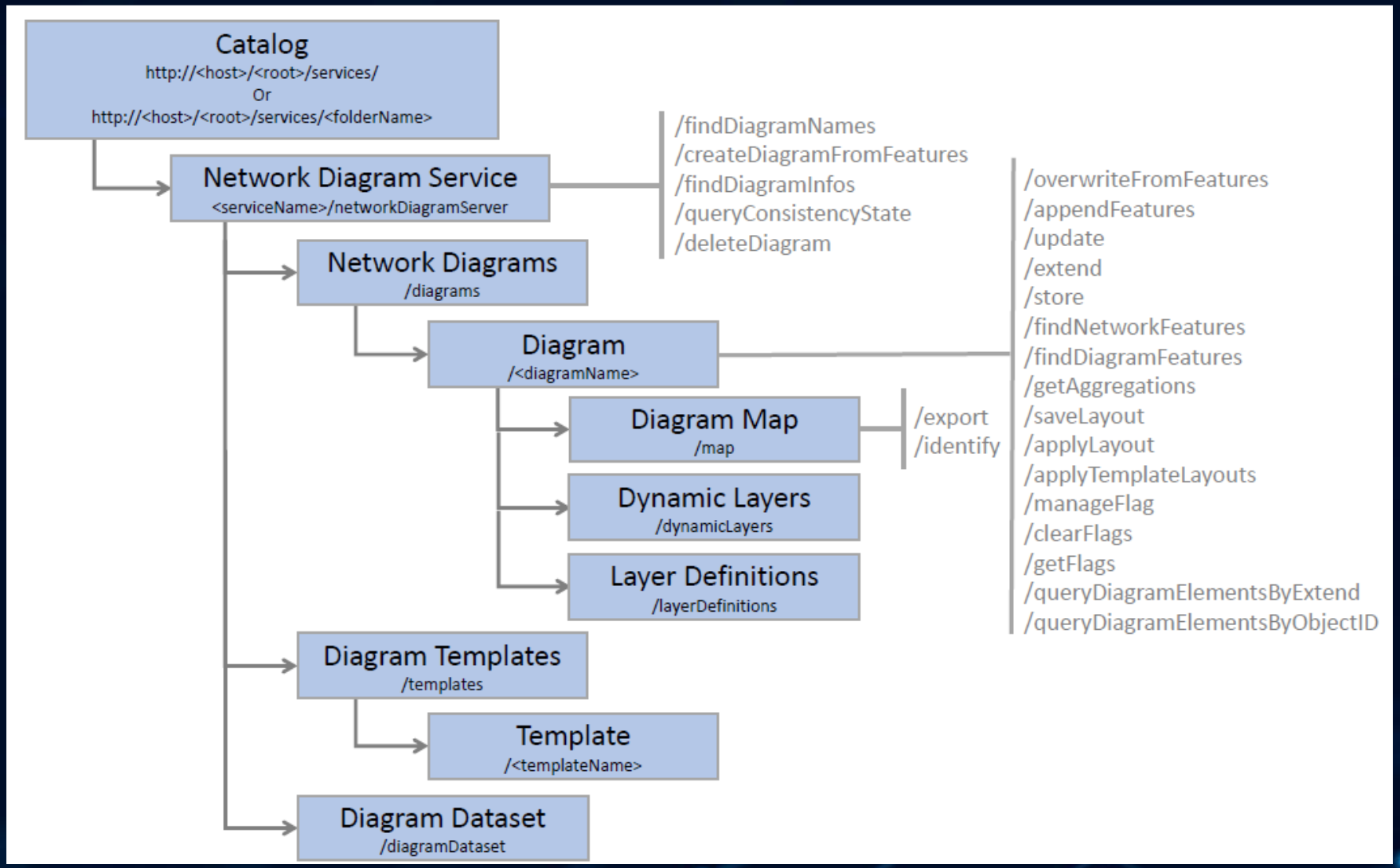


Utility Network Service – Sample: traceConfiguration/create

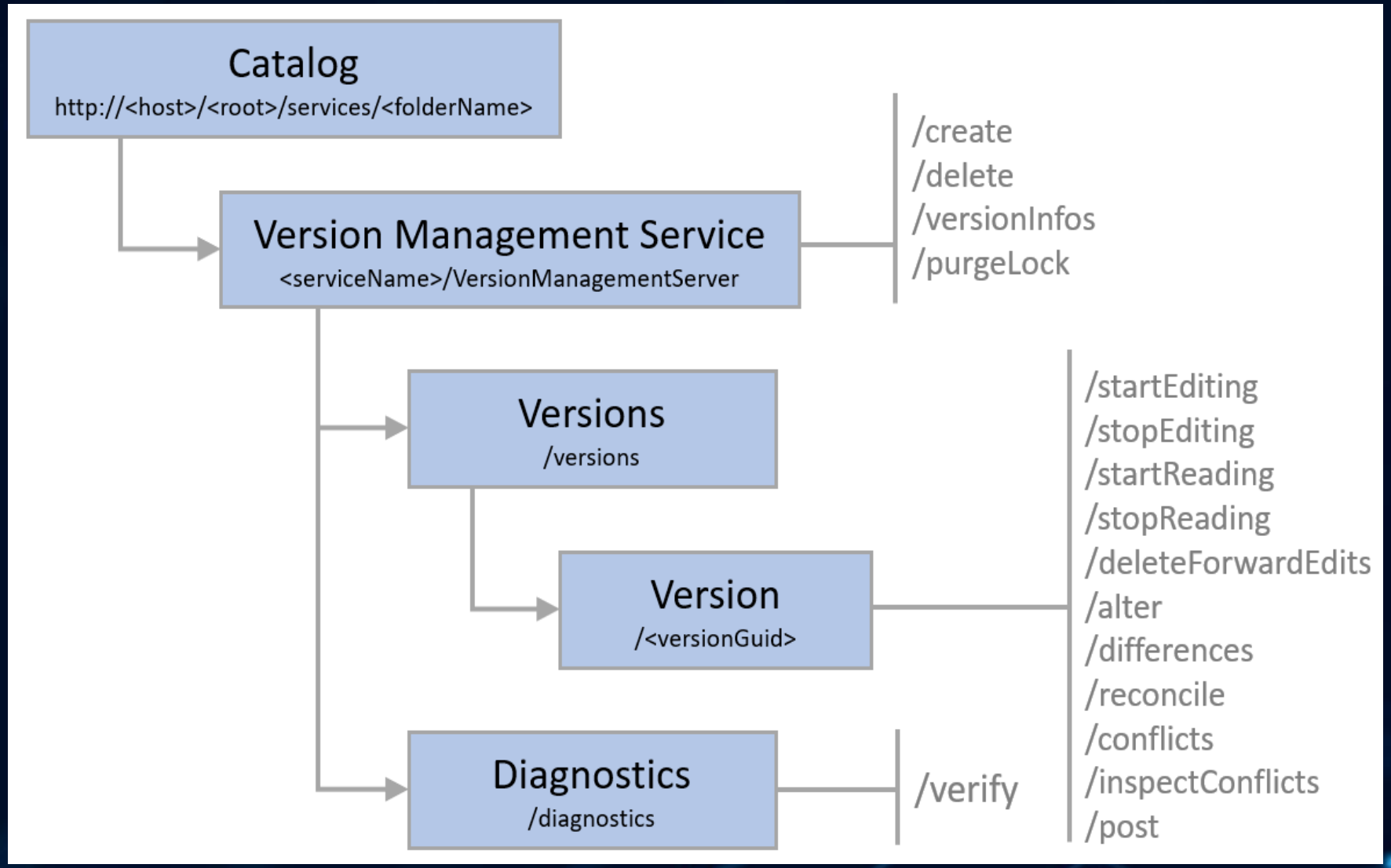
- A named trace configuration stores the following:
  - Name
  - Description (optional)
  - Type of trace
  - Trace configuration
  - Result types
  - Tags (optional)



REST API of Network Diagram Service



REST API of Version Management Service



Version Management Service – root/versions response

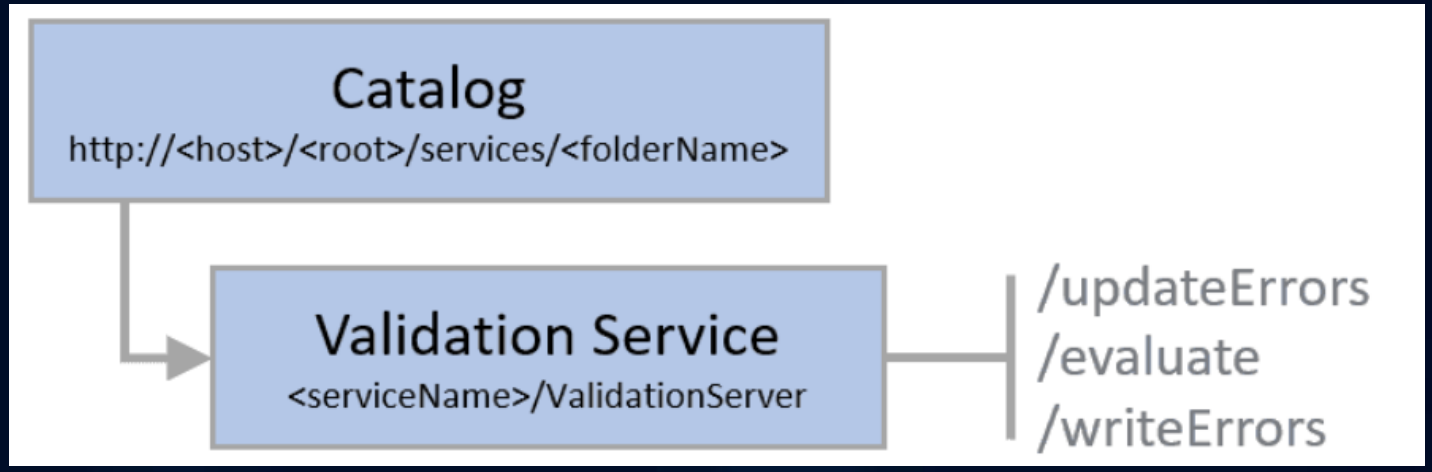
JSON Response Syntax

```
{
  "versions" : [
    {
      "versionName": "<versionName>",
      "versionGuid": <guid>
    }
  ]
}
```

JSON Response Example

```
{
 "versions": [
  {
   "versionName": "SDE.DEFAULT",
   "versionGuid": "{BD3F4817-9A00-41AC-B0CC-58F78DBAE0A1}"
  },
  {
   "versionName": "UNADMIN.ProjectA",
   "versionGuid": "{F93DB9FD-6F39-45D9-A6C7-D43E69EB3076}"
  }
 ],
 "success": true
}
```

REST API of Validation Service



Demo

Conclusions

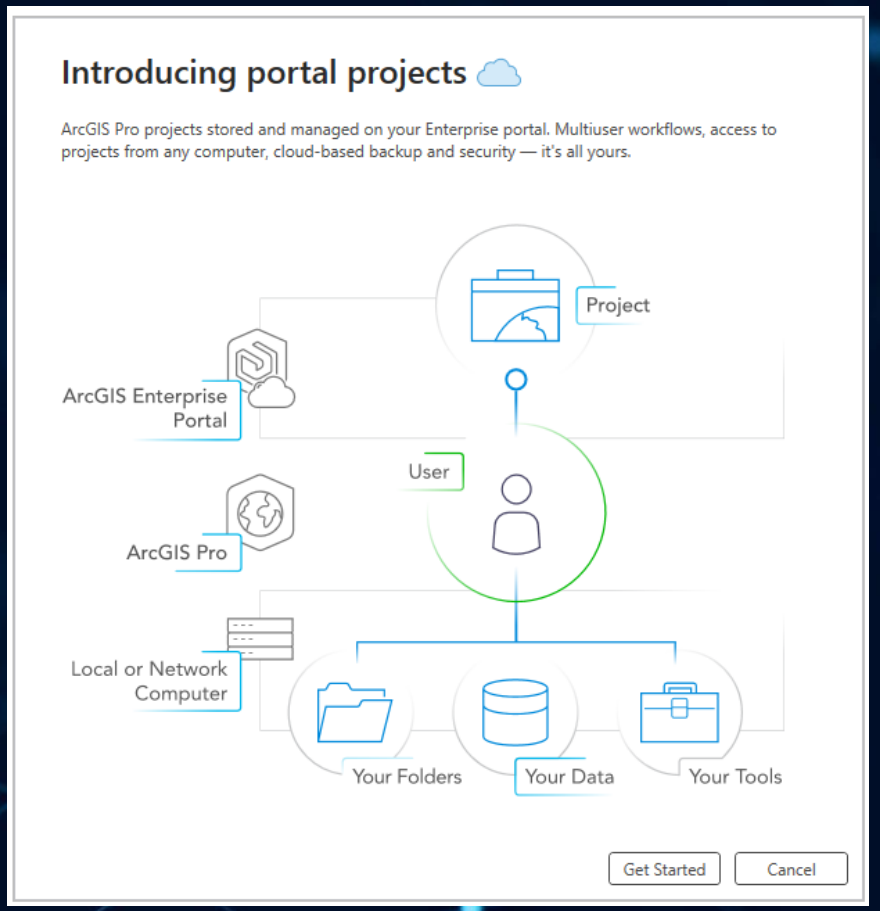
- ArcGIS is a service-based architecture
- The ArcGIS REST API is very rich and allows users to build client applications which follow the same patterns as Esri software (e.g. ArcGIS Pro)
- Complex workflows can be completed using service
  - Feature Service
  - Version Management Service
  - Utility Network Service
  - Network Diagram Service
  - Validation Service

ArcGIS Pro 3.5 – What's New?

Our personal TOP 10

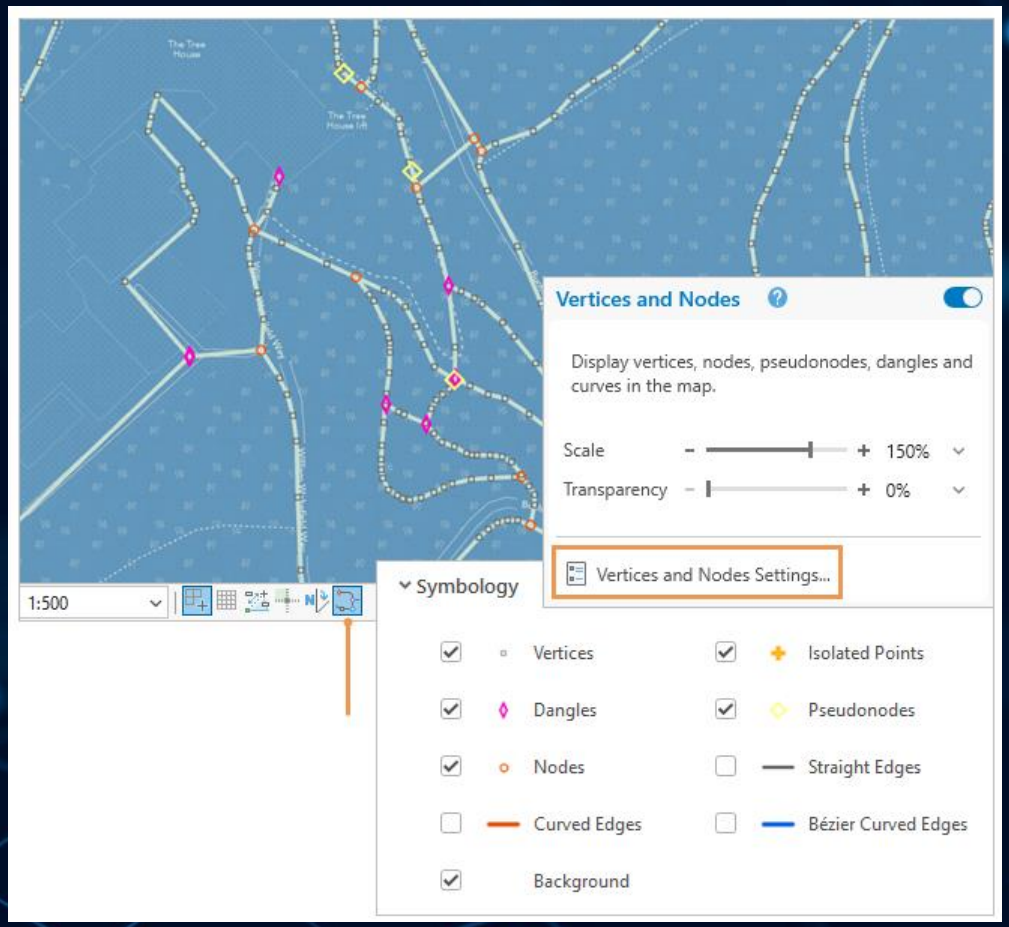
Portal Projects

- A portal project is an ArcGIS Pro project that is created, stored, and managed in an ArcGIS Enterprise portal.
- Requirements: ArcGIS Pro 3.5 and an ArcGIS Enterprise 11.4 or later version portal.
- Not supported: Portal projects cannot be used in ArcGIS Online.
- Usage scenarios:
  - Can be used by one user on multiple computers.
  - Can be used by multiple users working together.
- How it works:
  - When opened from the portal, the project is downloaded as a local copy.
  - Changes saved to the local copy are uploaded back to the portal.
  - Other users' changes are also synchronized.
- Conflict resolution: If two users make changes to the same map, a conflict resolution process handles discrepancies.



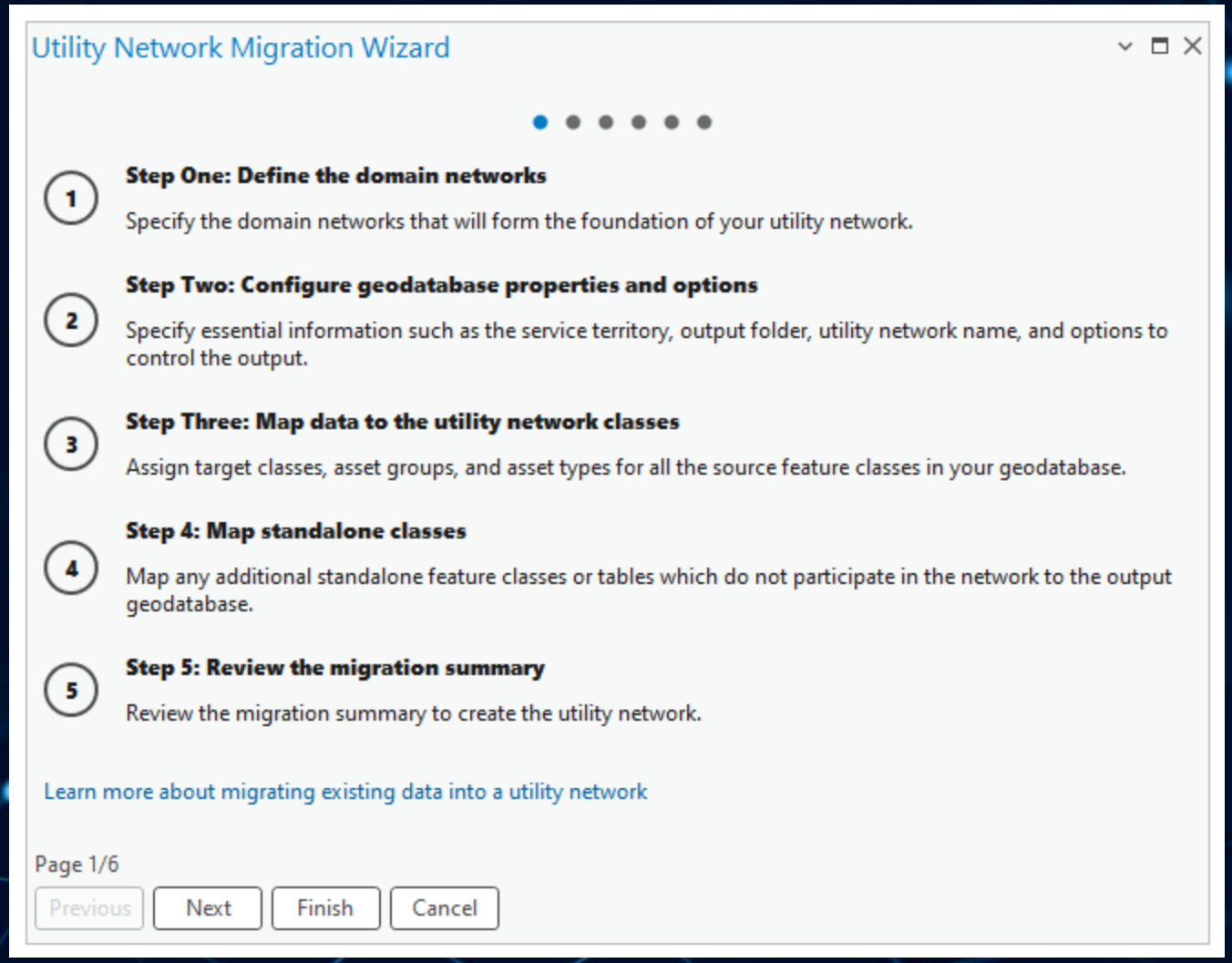
Symbolize Vertices and Nodes

- Customization options: Enhance the editing experience by adjusting the appearance of editing elements.
- Vertices and Nodes button: Located on the status bar of an active map.
  - Displays vertices, nodes, dangles, pseudonodes, and other elements.
- Hover function:
  - Reveals the Vertices and Nodes dialog box.
  - Allows adjustments to size and transparency of editing elements.
- Further customization:
  - Click Vertices and Nodes Settings to open the Editor Settings dialog box.
  - Modify the symbols for each element to suit your preferences.



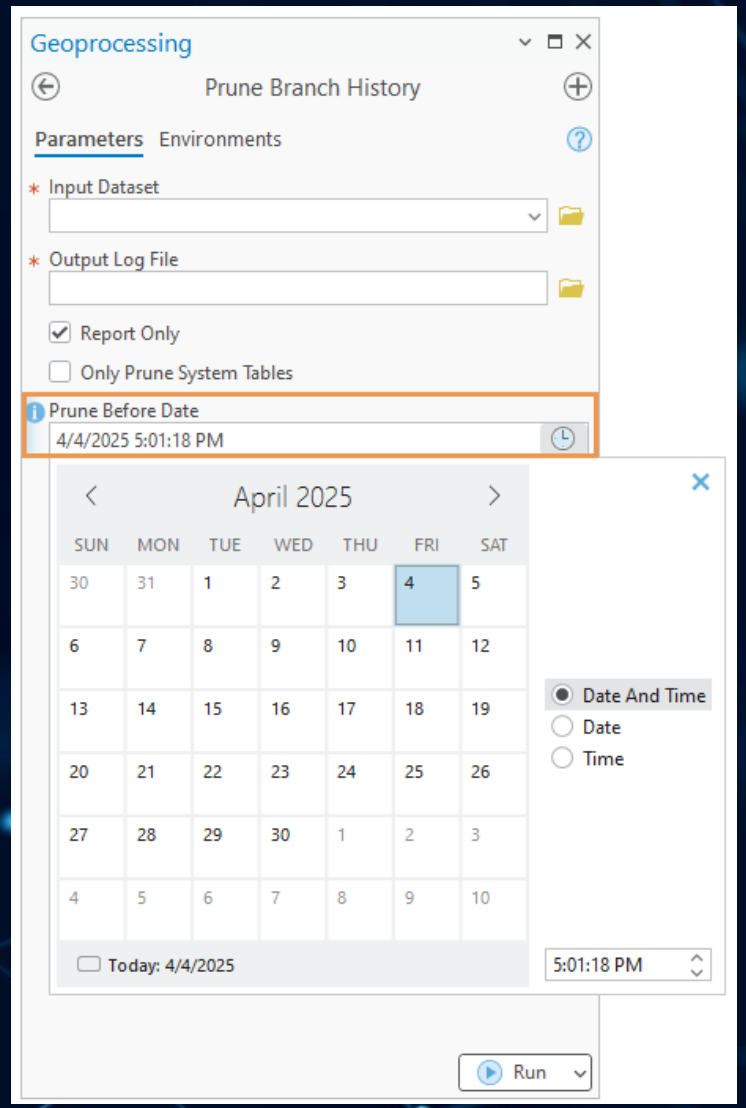
GP Tool “Migrate to Utility Network”

- Helps migrate existing data into a utility network.
- Uses the Migrate to Utility Network geoprocessing tool.
- Supports geometric network users, by giving access to utility network management capabilities.
- Key functions:
  - Create domain networks.
  - Perform schema mapping while preserving fields from each source class.
  - Assign domains for asset type creation.
  - Specify which asset types can serve as subnetwork controllers to define the source or sink of a network.



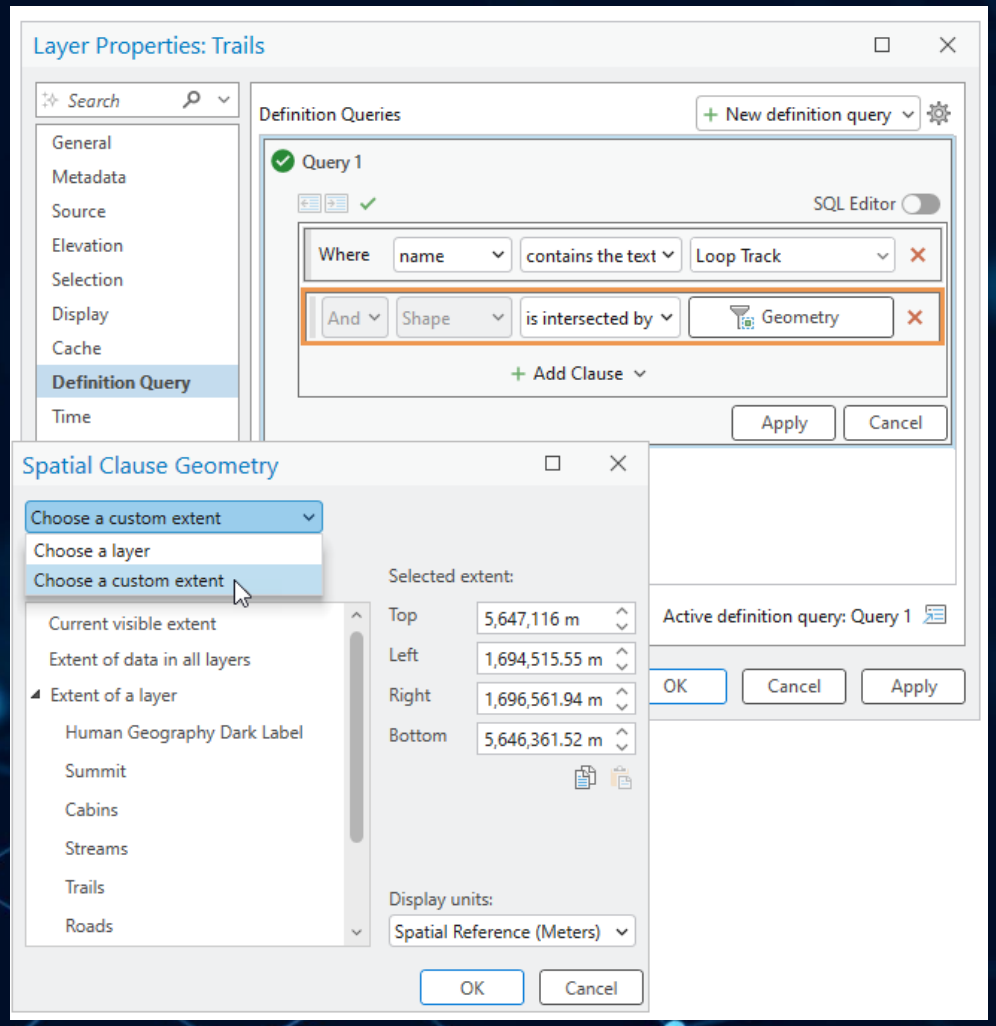
Branch Version Housekeeping

- Branch Versioning History:
  - Comprehensive record of all changes made to the business table for the default version.
  - Begins when a dataset is registered as branch versioned.
- Branch versioning model:
  - Tracks all changes by inserting new records for each edit.
  - Causes data growth in the business table over time.
- Optimization:
  - Use the „Prune Branch History“ geoprocessing tool.
  - Removes historical records that are no longer needed.



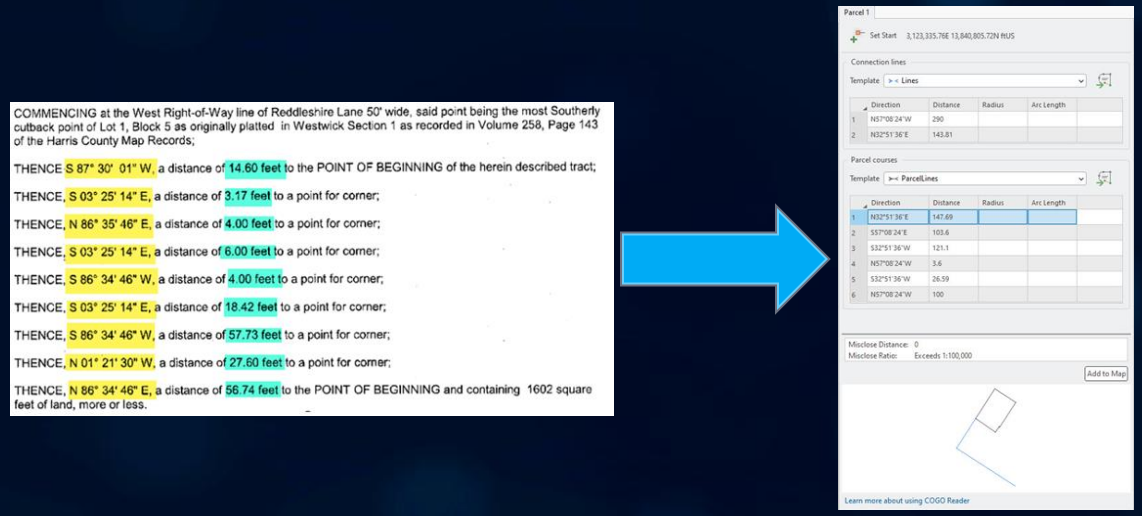
Spatial Clauses in Definition Queries

- Definition queries can now include a spatial clause.
- Difference from attribute-based clauses:
  - Spatial clauses use the geometry of a layer or a specified spatial extent.
  - Attribute-based clauses filter features using attribute values or table fields.
- Limitation: Only one spatial clause can be added to a definition query



Other

- Support for Apache Parquet files
- COGO Reader from Deeds file



- ArcGIS Metadata Editor
- Pane Sets
  - e.g. Editing: Opens the Contents, Catalog, Create Features, Attributes, and Modify Features panes
  - e.g. Geoprocessing: Opens the Contents, Catalog, and Geoprocessing panes.

Questions