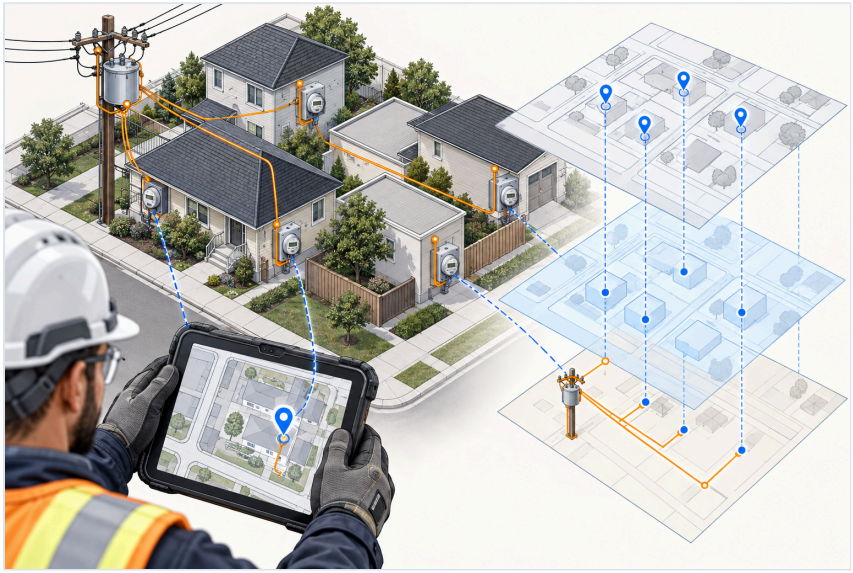
AETHERONE / AETHERGIS

AetherGIS

Catalogue

Spatial and location system of record

A smart meter is a device. The service point it serves is a record in the customer system, and the spot where the meter is installed is a place on the ground. To read, bill or maintain the meter, a utility has to keep these three apart and still connect them: which address the service point has, where the meter physically stands, which transformer and feeder supply it, and which version of the network records all that. AetherGIS is the AetherONE component responsible for those answers. Under the approved design it owns address normalization and geocode candidates, coordinates and location observations, service areas, versioned spatial network models, map layers and styles, source and license metadata, and the evidence of spatial data quality.



CONCEPT ILLUSTRATION; NOT A CUSTOMER INSTALLATION OR RUNTIME EVIDENCE.

An illustrative AMI spatial scenario: electricity smart meters on neighboring homes, a pole-mounted distribution transformer, three stacked map layers and a surveyor comparing a meter's position with its map marker. The orange lines show the conceptual relation between transformer and meters, not a wiring drawing. It is a concept illustration, not a customer site or a record of an operation.

Who works with it

Four kinds of reader follow the same location through AetherGIS. Location-data stewards reconcile addresses and competing observations. Network and communication planners review meter, transformer and feeder context and compare versions of the network. Source and license stewards govern the layers and basemaps on which everyone relies. Enterprise architects decide where spatial truth belongs among the AetherONE products. The sections below take them in that order.

Start with the address

Each service point arrives with an address that someone typed, sometimes years ago. A location-data steward begins by breaking that address into its parts, then looks at the candidates a geocoder would offer and the evidence behind each one. The evaluation interface lays this work out: an address search, an inspector that shows normalized fields, provenance and the components that could not be resolved, and a comparison that puts two candidates side by side as a preferred and an alternate. The candidates are deterministic synthetic records with their coordinates withheld, so what you see is the shape of the review, not a ranking.

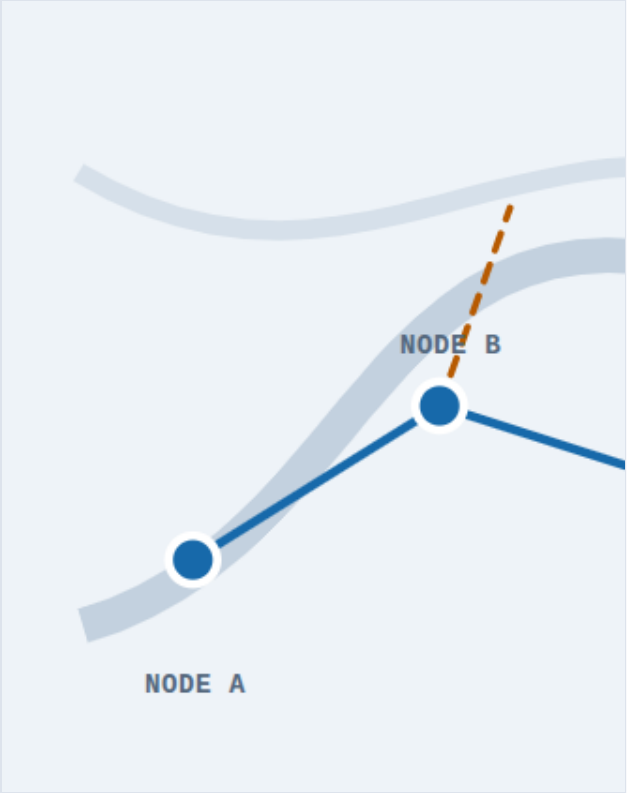
When sources disagree

A field survey, a billing address and a GNSS fix can put the same meter in three places. AetherGIS is designed to keep each one as a separate location observation with its source and lineage. In the evaluation interface the resolution queue lists the open items and how fresh their evidence is, and the conflict view sets the competing observations side by side with that evidence and prepares an approval decision, so the choice and its basis can be read together. An observation explorer follows observations by version and source, and a GNSS quality view shows signal quality and conflicts. The telemetry behind that view belongs to HES, and GIS works from a typed projection of it.

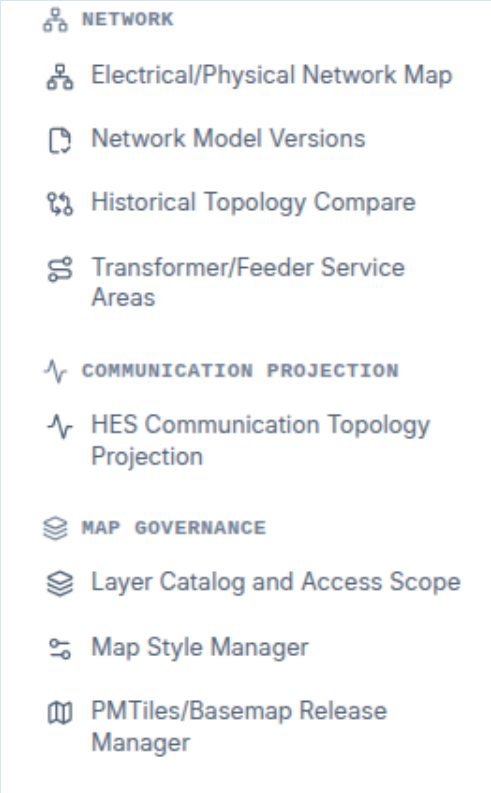
The network as it was

What did the network look like when a decision was made? A planner reviewing the area behind a transformer needs that answer, not only today's view. AetherGIS is designed to keep electrical and physical network models as versions. The evaluation interface shows the network map, lists model versions with their publication state, compares the topology of two selected versions, and presents the service area of a transformer or feeder, meaning the part of the network that equipment serves. These views are about spatial relationships and how they change. AetherGIS makes no electrical calculation and holds no grid-control authority: it neither switches nor dispatches.

1 Spatial canvas drawn locally from synthetic layers, without map tiles



2 Network, communication-projection and map-governance workspaces



3 Register of the synthetic nodes on the canvas: service point, transformer and feeder

IDENTIFIER	TYPE	DESCRIPTION
SYN-NODE-KR-01	MAP_NODE	Synthetic service-point node
SYN-NODE-KR-02	MAP_NODE	Synthetic transformer node
SYN-NODE-KR-03	MAP_NODE	Synthetic feeder node

PRODUCT SCREEN · DEMONSTRATION DATA Utility Map Workspace, evaluation interface, synthetic demonstration data. (1) A canvas drawn locally, with two labeled nodes joined by a line and a dashed branch leaving node B. (2) The workspace menu, which groups the network, communication-projection and map-governance views. (3) A register of the synthetic nodes on the canvas: a service point, a transformer and a feeder. No map tiles are loaded, and the positions are not real coordinates.

Communication in its place

A communication analyst wants to read the communication topology against the geography around it. AetherGIS can render a versioned projection of the HES communication topology next to that spatial context. HES continues to own sessions and telemetry, and GIS never reads the HES private database. That projection is the form in which HES topology reaches GIS.

Where the map comes from

Every layer on a map comes from some source, under some license. A source and license steward would use AetherGIS to see, for each layer, who owns it and who may see it; to review the named styles applied to it; to check the release metadata of a basemap or PMTiles package; and to trace sources, licenses and provenance in a single registry. A data-quality view lists spatial exceptions with their freshness. H3 aggregation and heatmaps, and country packs that hold address and spatial conventions, complete the analytics side of the design. The evaluation interface presents these as governance records on synthetic data.

One location, many products

AetherGIS is one of the six business products of AetherONE, and each product keeps its own private store and a single writer. GIS owns spatial truth and versioned topology. AetherCIS owns the identity of customers and service points, and GIS keeps a stable reference and the spatial projection of each. AetherHES owns sessions and communication telemetry. AetherMDMS owns metering and measurement, and may keep a frozen version reference of the topology a calculation used. AetherRevenue owns financial truth, and AetherDispatch owns field-work execution. The products exchange explicit versioned contracts and projections, never a shared database.

Edition and evaluation conditions

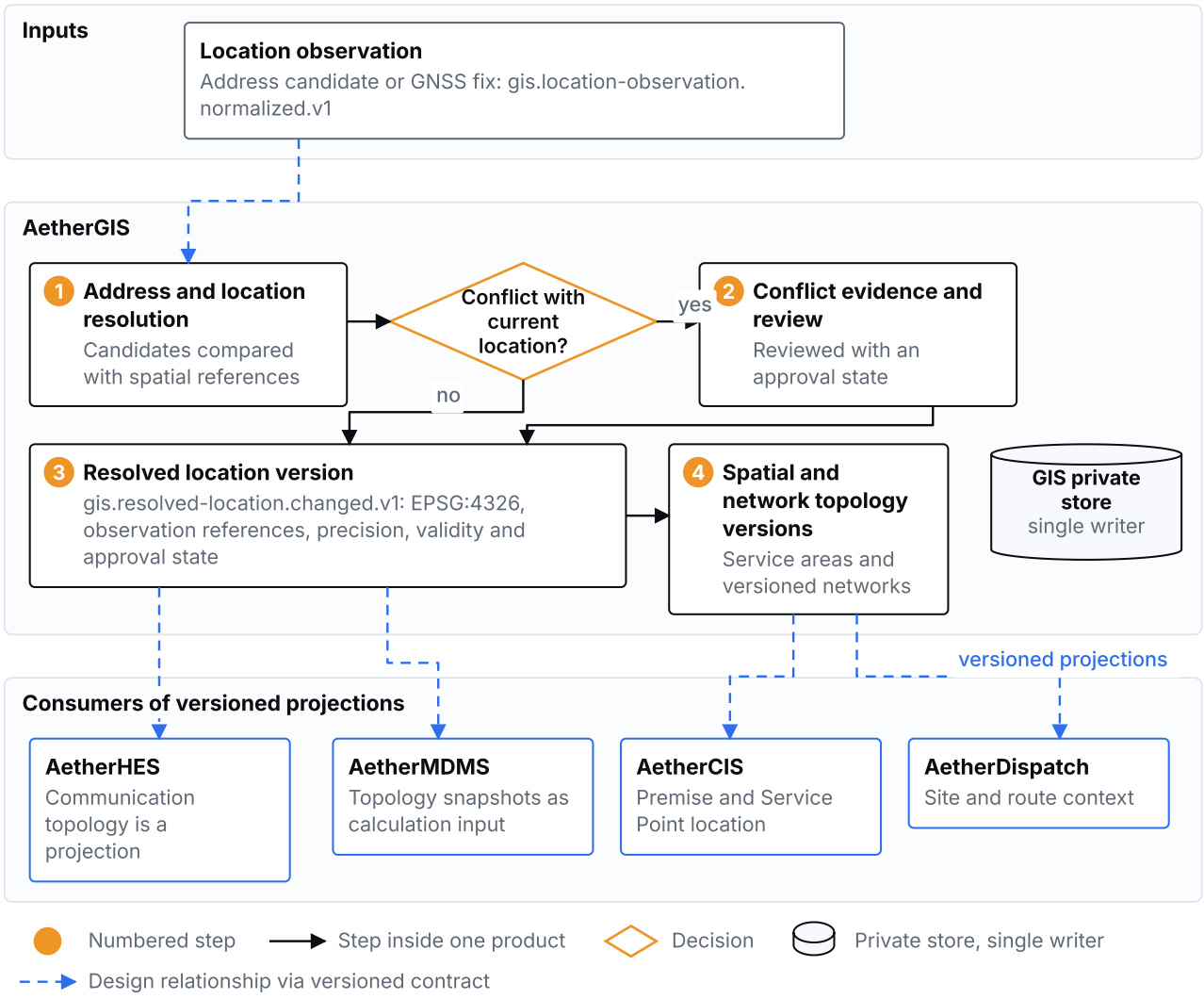
The responsibilities in this catalogue are the approved design of AetherGIS. What is available today is an evaluation interface that runs on synthetic demonstration data. By default it shows a not-connected state and no records, and synthetic data appears only when demonstration mode is chosen, which the interface labels. An action that would change spatial data explains the integration it needs and writes nothing.

An operating deployment would also need a GIS service and spatial store, geocoding, tile and map services, authentication and authorization, source data with its licenses, and approved integration contracts. No accuracy, capacity or availability figure is published, and no OGC conformance, certification or regulatory acceptance is claimed. Document edition 2026.10 is not a product release.

AetherGIS: one location, from observation to versioned projection

DESIGN WORKFLOW

Design workflow; local maps are synthetic and carry no coordinate truth.



DESIGN WORKFLOW Design workflow: a location observation, either an address candidate or a GNSS fix, passes address and location resolution and a conflict review with an approval state, and becomes a resolved location version. Spatial and network topology versions are published as versioned projections for HES, MDMS, CIS and Dispatch. This is the design workflow; the evaluation interface in this edition does not carry it out.

Talk to the team

To see the evaluation interface, or to discuss where spatial truth should live in your AMI platform, contact the ARCHAI team.