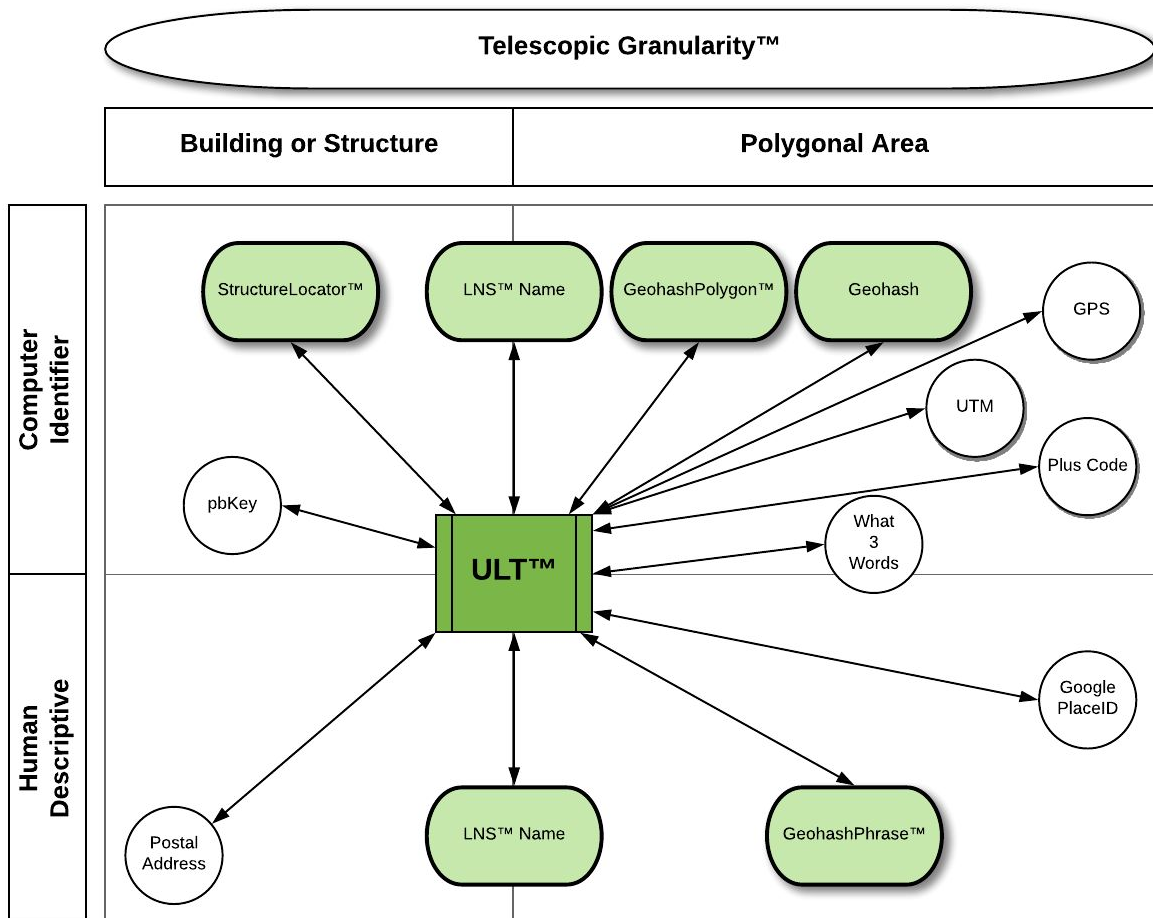# Universal Location Translator (ULT™) Overview

The Critical Distinctions:

1. **Lossless Translation To Standard** - Leveraging Telescopic Granularity, enables the ability to losslessly transform from all representations into the QA Locate Platform's standard three meta-types; structures, regions, and points. For example, a Plus Code (a 3m/11f square region) can be transformed to a GeohashPolygon (which represents the full area), a Geohash (which represents the center point), or a StructureLocator (which represents the associated building and sub-unit).

2. **Simplified Translation Between Non-Standard Representations** - Because of the natural impedance mismatch that occurs between non-standard representations, when the platform does a transform (ex: pbKey to Plus Code), there is a likely loss of precision which can lead to false-positives and false-negative results.

3. **ULT™ via LNS™** - As new representations are created, the LNS platform can easily incorporate them into the various transform functions.
4. **Augment Instead of Replace** - The QA Locate Platform's LNS is uniquely leveraged by the ULT such that a non-standard representation need not be removed in order to leverage augmenting the data set with any of the LNS's standardized representation.

Glossary of Terms:

- **StructureLocator™** - A mechanism for pointing to a structure (ex: building or parking lot) and its related subunit
- **Geohash** - An excellent high-speed exact character encoding of a longitude+latitude value. It is the preferred method of storing a database value, but is terrible for human consumption and recall. Here is a 5m Youtube video which visually describes it using Google Maps.
- **GeohashPhrase™** - A method for encoding a Geohash value using natural human language in both individual words as well as facilitating an actual valid complete sentence.
- **GeohashPolygon™** - A method of using a Geohash as a "pixel" to then define irregular regions with a list of Geohash values of the same length (granularity). Enables a "spatial lookup" without requiring the use of a spatial data engine (server) from ESRI, PBSI, etc.
- **LNS™** - Location Naming System. Similar to the DNS (Domain Name System), it enables attaching a custom value (ex: contact@qalocate.com) to either an StructureLocator (building) or to a GeohashPolygon (region). By enabling the dynamic resolution of a location by a name at the instant it is needed, it facilitates preventing computer systems and databases from going out of sync if/when a person moves from residence to residence, from company to company, etc.
- **LNS™ Name** - A particular typed name entry within the LNS associated mutually exclusively to one of the following representations; StructureLocator, Geohash, GeohashPolygon, or LNS Name (to easily enable group associations).
- **ULT™** - Universal Location Translator. Set of standard spatial conversion functions to transform different standard and non-standard representations of geolocations between one another.