

artilium

**Microsoft**  
GOLD CERTIFIED  
Partner



# Presence System

Location Technologies

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Artidium's Presence System delivers continuous real time location backed up by a rich set of location-aware features:

- **TILS technology** to convert GSM measurements into latitude/longitude results that's between 3 and 6 times better than cell ID
- **Journeys & Stays** analyze your location updates, working out the locations that are important to you
- **Location States** translate from latitude/longitude to a meaningful description without giving away your exact location
- **Points** define important places of personal or general significance with optional geo-fencing
- **Routes** let your applications define pathways that your location can be corrected to

We invite you to read through the rest of this paper to discover more about the Artidium Presence System location technologies. You may also want to pick up a copy of our Platform Features document to learn more about our user privacy, solution reach, and developer support facilities.

# TILS – Tricell Intelligent Location System

When you don't have GPS available or simply don't want the power consumption issues that GPS can cause, the Artilium Presence System uses TILS (Tricell Intelligent Location System) to turn GSM measurements into latitude/longitude values.

TILS uses a patented system of algorithms and corrective filters that in real world testing is consistently 3 to 6 times better than straight cell ID. No additional network hardware is required.

What's more, everything is done server-side so that the algorithms and filters can be continually improved, without having to consider any kind of client redeployment.



The Presence System supports different types of location input, depending on your needs:

- SIM card client, where a small 5k Java applet takes GSM measurements and sends them to the TILS System
- Smartphone client, using the location services on the most popular smartphones to deliver continuous location as efficiently as possible
- Web service API call, with interfaces that receive either GSM or GPS parameters, enabling clientless solutions



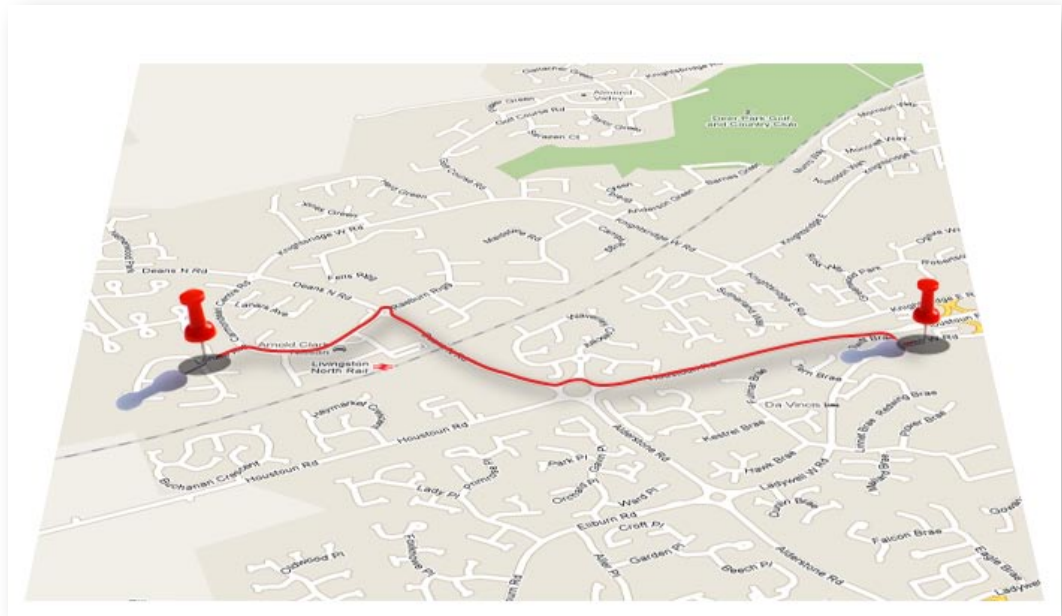
The **SIM card clients** enable an operator or MVNO to provide handset-independent location based services, to enhance their product portfolio. Unlike GPS, there's zero time to the first location fix and negligible battery impact. Customers are always in control through SIM client menus.

Our **smartphone clients** provide a graphically rich experience with single sign-on convenience. They provide a continuous feed of user locations with added intelligence to conserve battery life. They can be re-branded for your customers and supplied with themed applications that can be used directly inside the client.

The **web service interface** can take GSM data from the network or GPS data from any other device or application you need it to. This opens the door to clientless solutions where location aware applications take inputs from multiple sources, increasing the reach, usefulness and the potential of your product.

Client or clientless – it's your choice

Each day the Artilium Presence System processes a day's worth of location reports from the location feeds and converts the raw locations into a meaningful sequence of places you've been (the stays) and the routes you took between them (the journeys). Reviewing this against time-of-day the Artilium Presence System can configure key locations automatically for you such as home, work, and shops.



This kind of "it just works" simplicity means your customers get the most out of the system with the least amount of effort, saving them the trouble of setting up shared points and location states.

Journeys & Stays also record the day of the week and time of day, to enhance the user experience even more. Consider these examples:

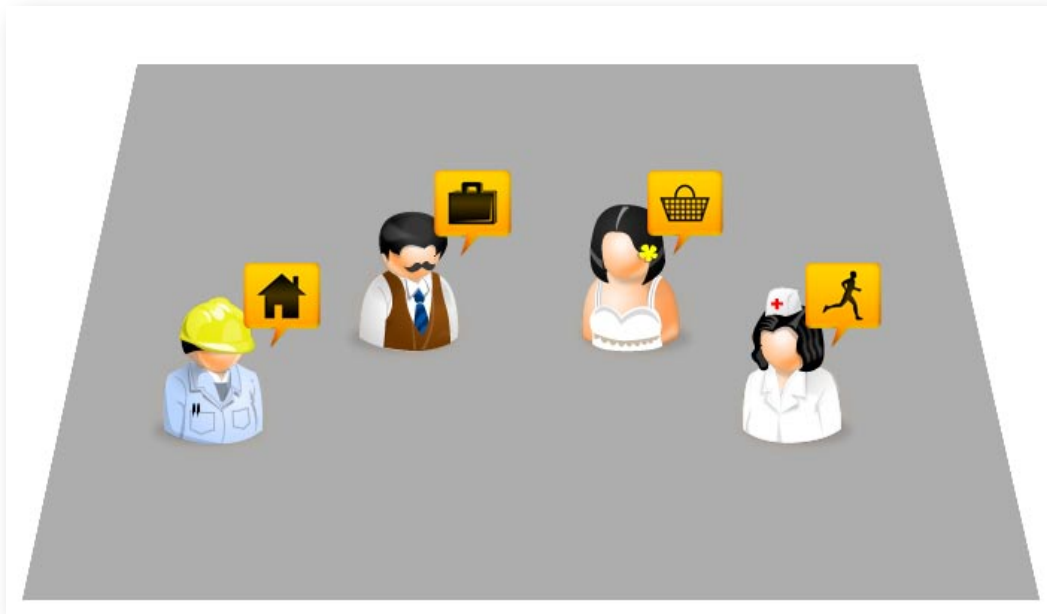
- An application that you run when you're at the supermarket that tells you your shopping list
- An application that knows when you're at the supermarket and reminds you of things you intended to buy

Using date & time information from the Stays feature, there is a third option:

- An application that knows when you usually leave work and reminds you to go to the supermarket in the first place

Journeys & Stays also enables prediction of location. Suppose your friend doesn't have the client switched on. It's Friday afternoon and you want to know where they are. Given a day of the week and a time, the Artilium Presence System can supply you with a list of potential locations, each with a probability.

When you ask someone “Where are you?”, the answer isn’t a lat/long and often isn’t even a town or village. Instead, the answer will be something like “I’m at home”, “I’m at the shops”, “I’m at work”. The Presence System’s Location States feature gives you this functionality.

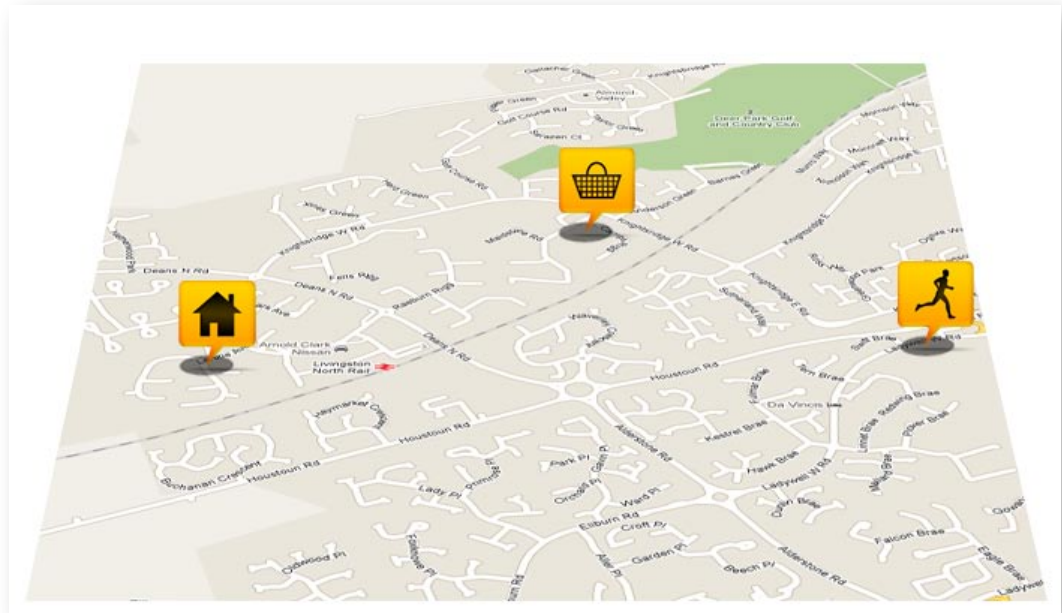


Customers define their location states through the Presence System Selfcare interface, using their Journeys & Stays. Don’t want someone to know when you’re home? No problem – you don’t have to define it.

Do you want an application to report you are “at home” while not knowing where your home is? Applications can be granted access by the user to report their location state without revealing knowledge of the locations involved.

Do you work in several locations but want them all reported as “work”? That’s fine - the system supports that too. Users can share their location with applications and each other as a status (like available/unavailable in a chat client) and it means very little to anyone who doesn’t know that person.

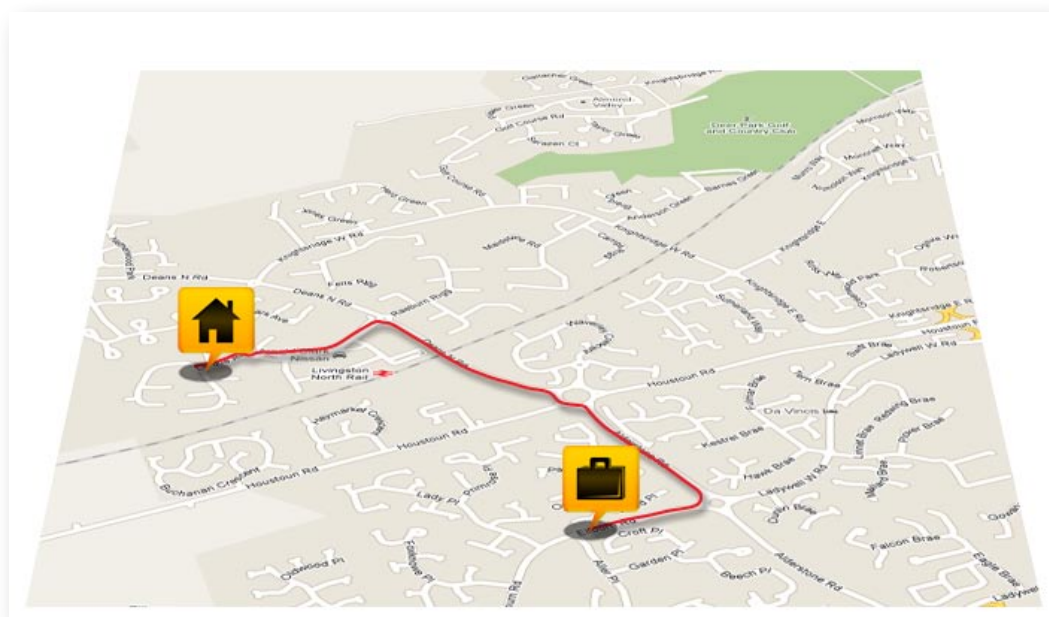
Points or more fully 'Points of Interest' let you define locations on a map. These points can have a radius that defines a geo-fence area that applications can use to receive events from the Presence System when someone enters or leaves that zone.



This functionality is the basis for most location platforms, and the Artilium Presence System builds on this feature in several valuable ways.

Points can have meta-data associated with them. This can be anything from hyperlinks to restaurant reviews or shopping reminders. Points also include the concept of visibility. They can be private or shared for customers and applications. For example, an application might share the location of all bus stops in the area. These are available to all that application's users but to no one else. Alternatively, a user can set up points for key personal locations such as library, garage, and mum's house, which they can keep private but share between applications.

Routes define paths that the Artilium Presence System can correct a location to. Just like Points, they have meta-data and the same visibility options. Routes can be used to correct a location in the traditional sense to a road or a rail network.



In addition, personal routes can be set up for users, such as their normal journey to work. Routes can also be used to create a stylized as-the-crow-flies route between two points, as seen on railway maps. This second example then lets you present a journey as movement along a straight line, giving a better impression of progress without giving away your exact location.

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