

iTrac User Guide

The following is a basic introduction to the iTrac asset tracking software. The software is the user's interface to tracking and monitoring his assets. It seamlessly displays all assets registered to a user in one common interface – regardless of the type of asset, whether it is an aircraft in Kabul being tracked using satellite-to-satellite communications, a collared elephant in the Namib desert also using satellite-to-satellite, a person or a vehicle being tracked using either satellite-to-satellite or the GSM network. The interface stays the same, although the detail being shown depends on what type of asset is being tracked.

iTrac integrates well known Google Earth mapping software, enabling the user to view his assets in both the conventional 2D “flat” map as well as a full 3D rendered map. Using alternative mapping software developed in conjunction with NASA, called WorldWind, iTrac has the additional ability to provide users with mapping data specifically engineered for them.

Installation

Currently there is no installation executable; installation is done by simply copying the itrac folder on the CD to your Local Disk “C:” drive. This will result in an itrac folder created on the disk. Inside this folder there is an Application file called itrac. Right click on this file and select “Send to / Desktop (create shortcut)” to create a shortcut to the Application on your Desktop. Double click this to start the software.

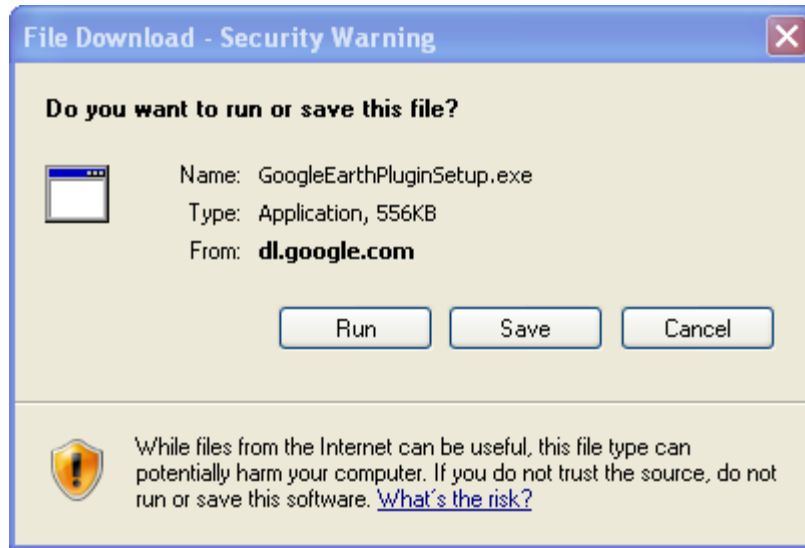
First time use

The iTrac software uses Google Earth to supply you with the best possible mapping data. When starting the software for the first time, you need to allow it to download the Google Earth plugin. The Mapping view will offer you a screen where you can click to automatically handle the download process for you.

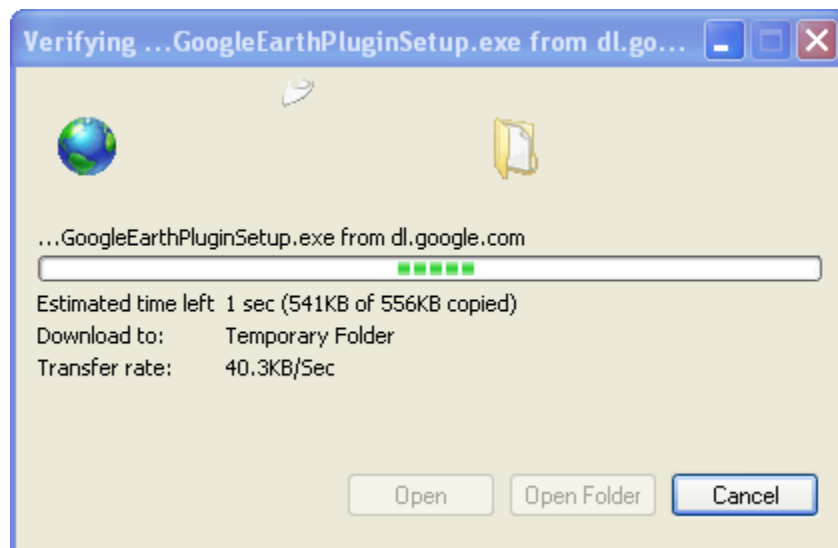


Click the button “**Get the Google Earth Plugin now**”.

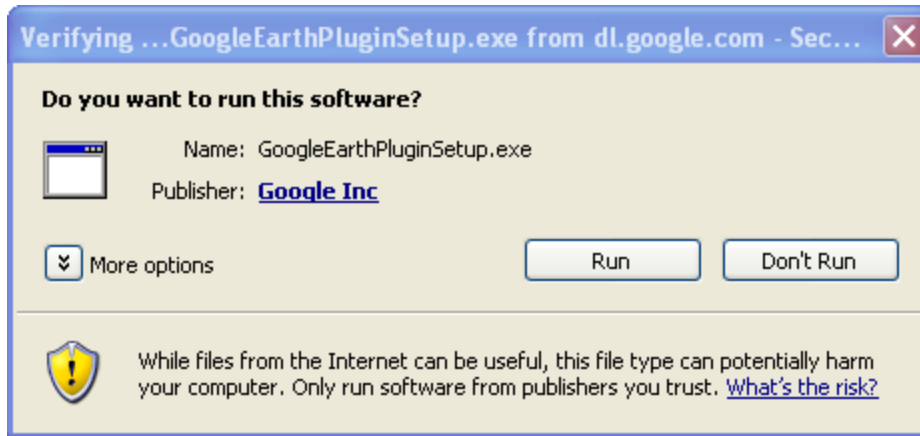
On the next window that opens, when asked “Do you want to run or save this file?”, click “Run”.



The Google Earth plugin setup file will now be downloaded onto your computer.



Once the download has finished you will again be asked if you want to run the software, click "Run".

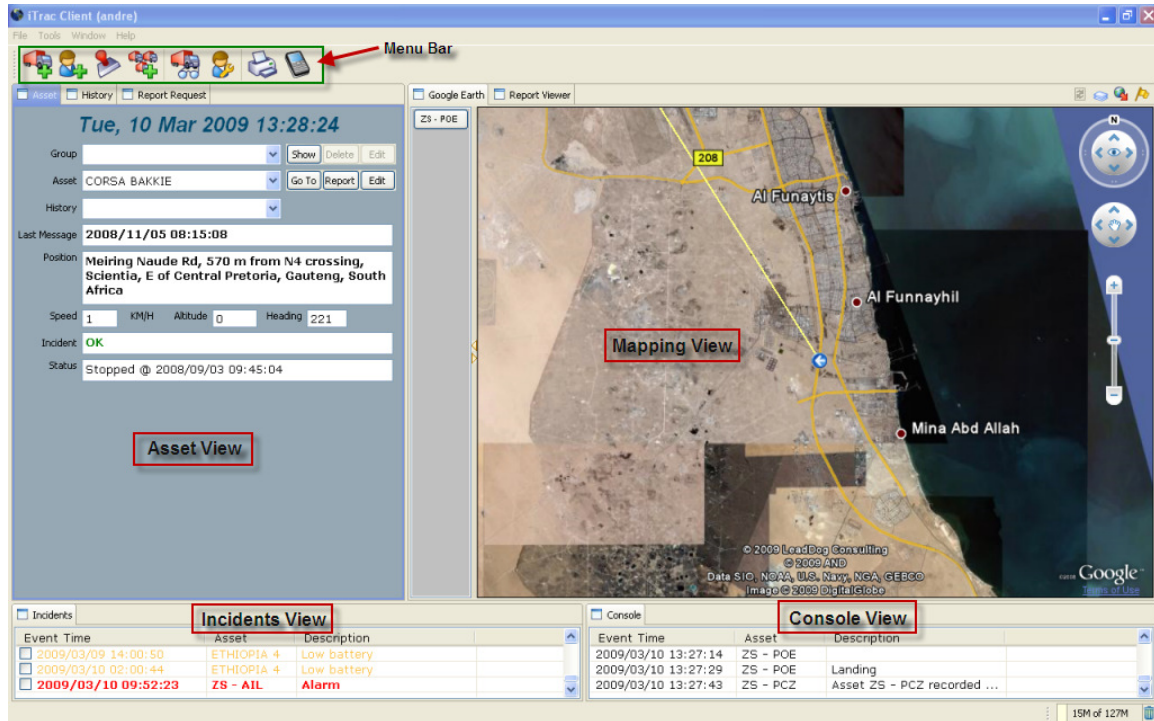


This will start the download of the Google Earth plugin file. Once this portion of the download has finished, the installation will proceed. You will now receive a “Thanks for installing” message, click “Close”.

Restart iTrac.

Overview

The main iTrac view provides a user with an Asset view where the user can select and display detail about a specific asset, a Mapping view where the position of selected assets are displayed, Incidents view where any events needing user intervention will be displayed and the Console view where general events are scrolled as they happen.



By clicking on one of the Menu Bar items authorised users can add new Assets, Clients, Users, Asset Groups and Watchers, edit existing Users, generate Reports regarding any of the assigned Assets and send SMS's to authorised Users.

Asset View

Displays general detail about a selected asset as well as specifics regarding the last known position for the selected asset. The detail is kept up-to-date as new events unfold for the selected asset. From here a user can select assets to be shown on the Mapping View, Go To the last known position for an asset, generate Reports on the selected asset or Edit detail regarding the selected Asset.

The screenshot shows the 'Asset View' interface for a selected asset. The interface includes a header with tabs for 'Asset', 'History', and 'Report Request', and a title 'Selected Asset'. The main content area displays the following information:

- Timestamp:** Tue, 10 Mar 2009 13:35:26
- Group:** A dropdown menu with a 'Show' button.
- Asset:** CORSA BAKKIE, with buttons for 'Go To', 'Report', and 'Edit'.
- History:** A dropdown menu.
- Last Message:** 2008/11/05 08:15:08
- Position:** Meiring Naude Rd, 570 m from N4 crossing, Scientia, E of Central Pretoria, Gauteng, South Africa
- Speed:** 1 KM/H, **Altitude:** 0, **Heading:** 221
- Incident:** OK
- Status:** Stopped @ 2008/09/03 09:45:04

Red arrows point from text labels to specific elements in the interface:

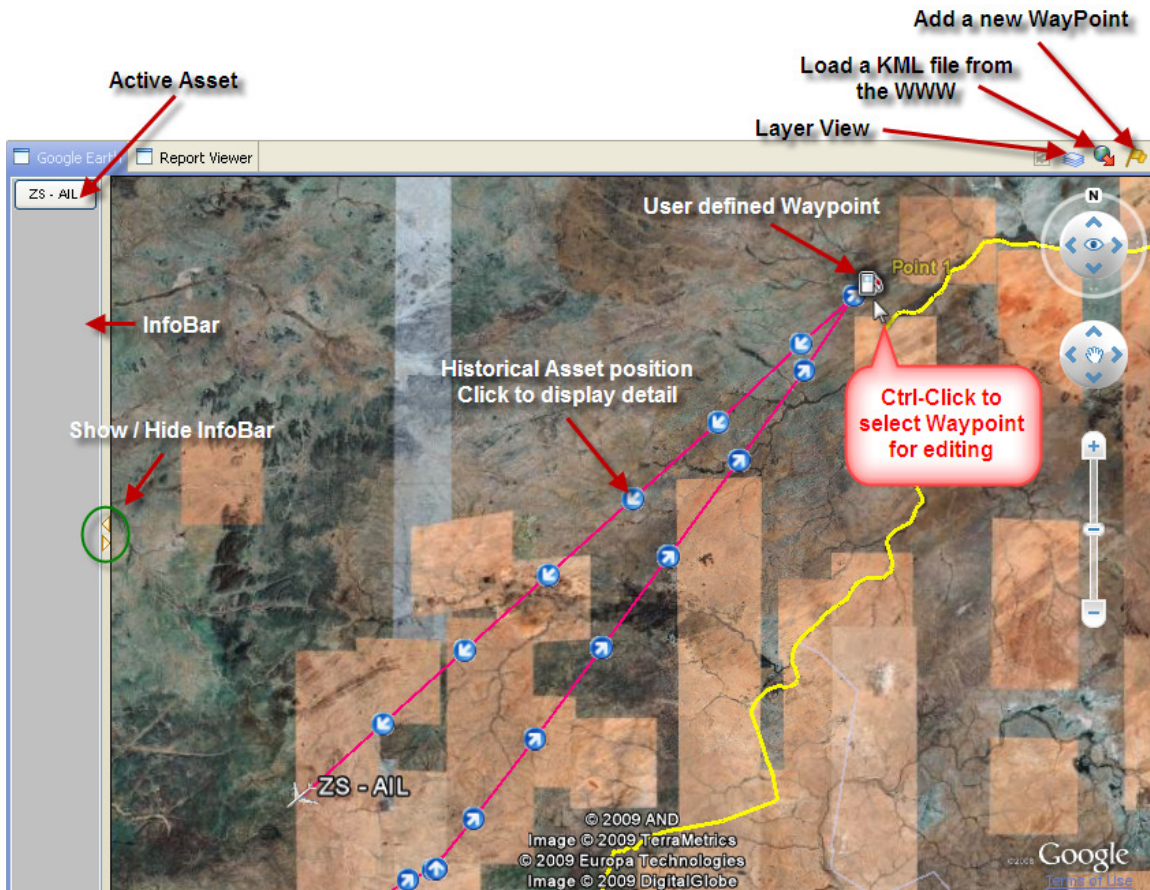
- 'Show on Map' points to the 'Go To' button.
- 'Edit Asset detail' points to the 'Edit' button.
- 'Generate Asset reports' points to the 'Report' button.
- 'Time of last received message' points to the 'Last Message' field.
- 'GeoCoded Asset position' points to the 'Position' field.
- 'Last recorded Incident' points to the 'Incident' field.
- 'Last recorded Status' points to the 'Status' field.

GeoCode

The process whereby an asset's current position is expressed in terms of some feature close to the asset. This could be a position on a road, distance and bearing to the closest town or distance and bearing to a user defined position / Waypoint on the map.

Mapping View

The Mapping view displays last known positions for selected assets. It also provides the user with the ability to switch Layers on and off, add or edit Layers, add or edit Waypoints and display KML files from the WWW.



Layers

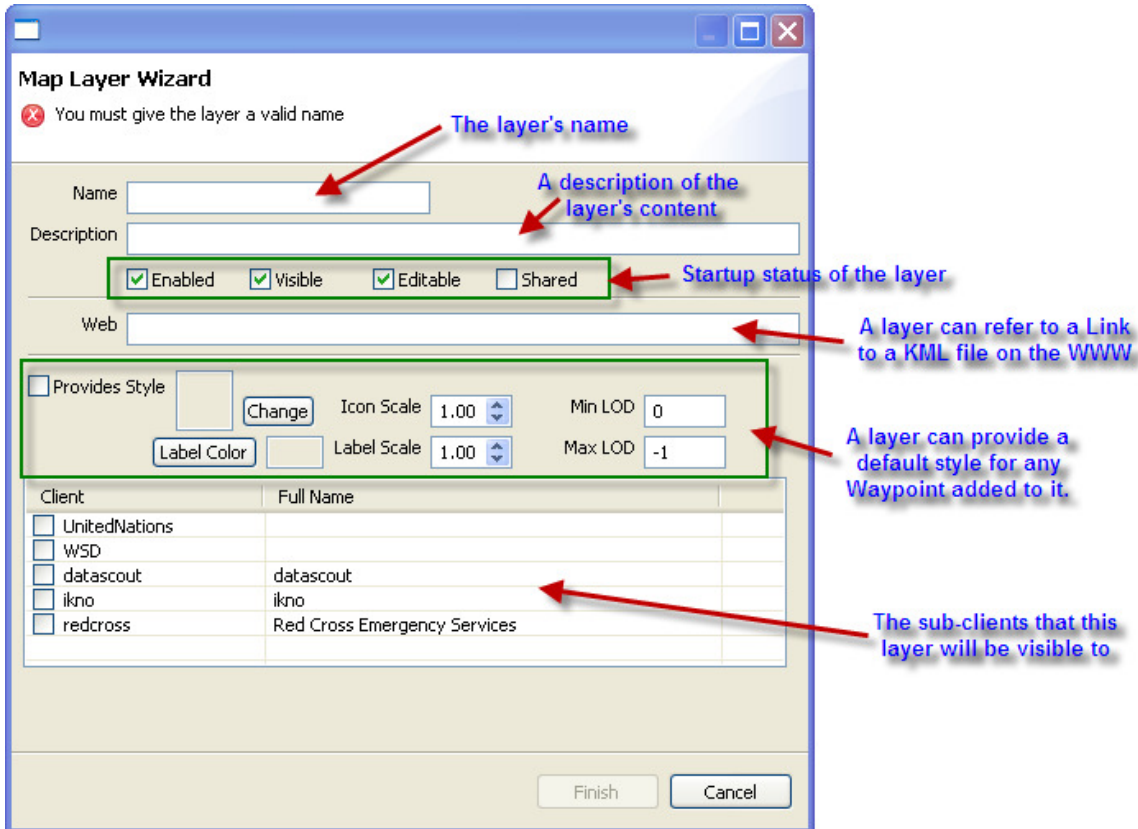
A layer contains mapping data related to a specific topic. A typical layer could be points on the map representing Hospitals. A user can create a layer containing specific areas or points of concern.

A user-defined layer can be used to GeoCode the position of a specific asset. For instance a user might have a specific area being patrolled containing points that need to be visited by the patrolling agent. Creating a layer containing this area and the visiting points, a user can then assign an asset to this layer. Subsequent position reports will be expressed in terms of this layer, i.e the assets position will be reported as “51m NW of Point ABC, Area XYZ”.

Viewing / Adding or Editing Layers

In the Mapping View, click the Layer View button. On this view the user can select which layers to enable or disable. Enabling or disabling a view adds or removes it from the Mapping View.

Double click on an existing Layer to open the Editing dialogue. To Add a new Layer click the New button.



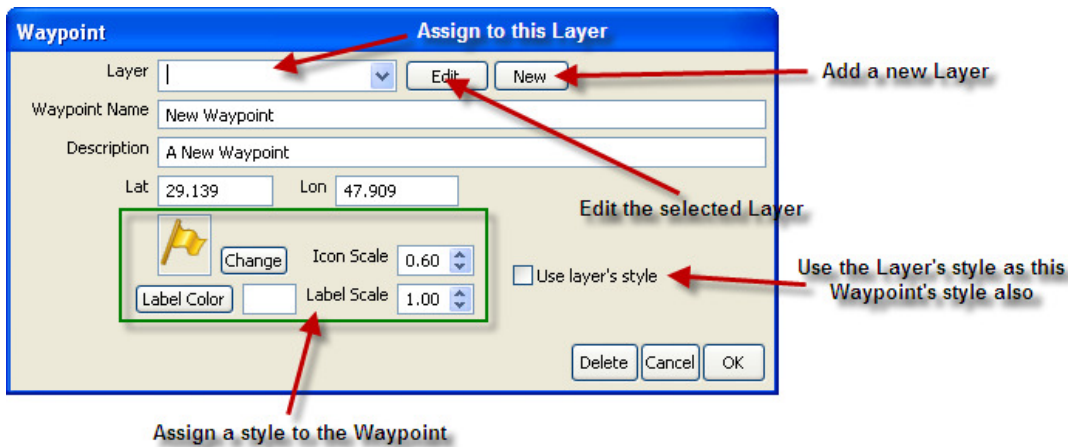
A layer that is linked to a KML file from the WWW will be marked as not-editable. Only editable layers can be used to add Waypoints to. Shared layers will be visible to all Users of iTrac.

Waypoints

Waypoints are points on the map defined by a user to indicate points of user interest. These waypoints must be assigned to an existing Layer and can then be used to GeoCode an asset's position. Only editable Layers can be used to add Waypoints to.

Adding a New Waypoint

In the Mapping View, click the Waypoint button. A new waypoint will appear on the Mapping View as well as an editing dialogue for the new waypoint. By clicking on the Waypoint and dragging it the position can be adjusted. Assign a name, icon and icon style as well as a label style to it. Clicking Cancel will remove the Waypoint.



Editing an existing Waypoint

In the Mapping View, click on the Waypoint you wish to Edit while holding down your **Ctrl key**. If this Waypoint is editable the Waypoint Editig dialogue will open. Using the dialogue you can change the Waypoint's properties as well as Delete the Waypoint if required.

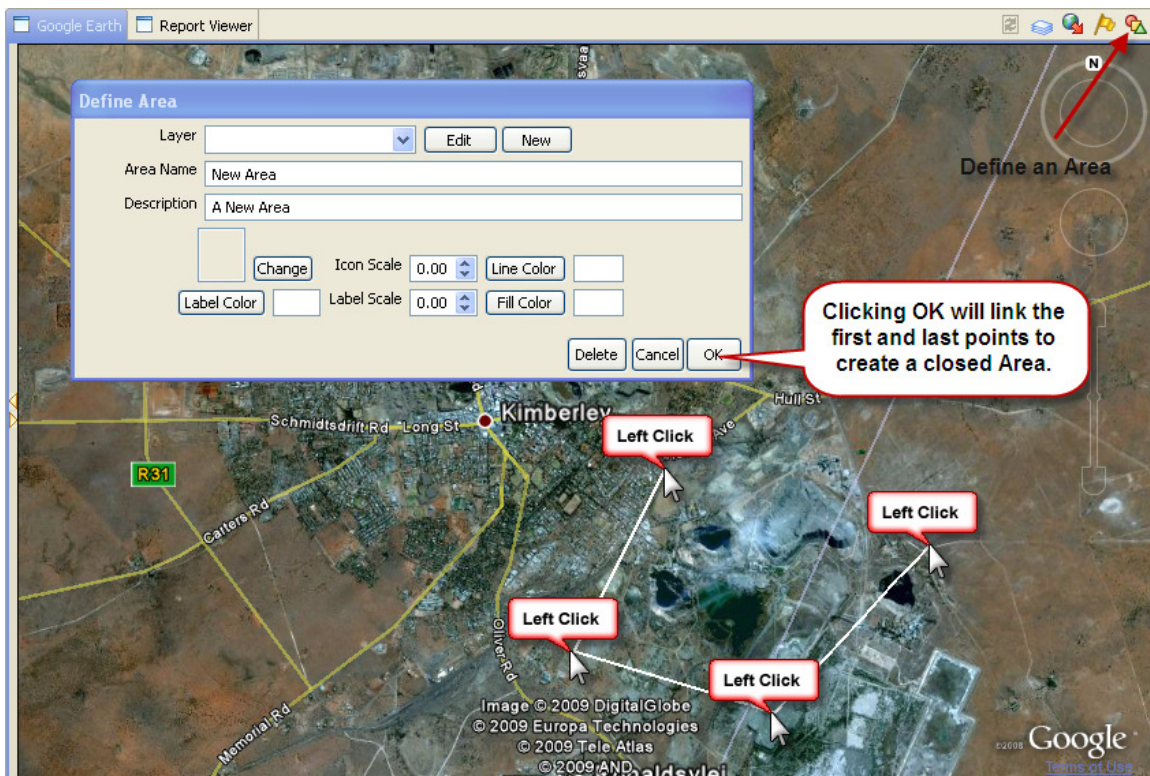
Areas

Areas are geographic areas on the map defined by a user to enclose areas of interest. Just like Waypoints these areas are assigned to an existing Layer and can be used to GeoCode an asset's position. Only editable layers can be used to add Areas to.

Adding a new Area

In the Mapping View, click the Area button. This will open the Area properties dialogue. Enter a name and description as well as styling for the area. Use the mouse cursor and left mouse button to define the outer boundaries of the area by creating multiple line segments around the area. Click on a point to start a segment, and click again at the point where the segment should end. Repeat this around the area.

To close the area (i.e connect the last point to the first point) click OK in the dialogue window.



Editing an existing Area

In the Mapping View, ***slowly slide your mouse cursor over the outer edge*** of the area you wish to edit until the cursor changes into a normal pointer, left click while holding down your ***Ctrl key***. If this Area is editable the Area Editing dialogue will open. Using the dialogue you can change the Area's properties as well as Delete the Area if required.


Fenced Areas

Fenced Areas are Rules defined to manage Asset access to specific areas. By defining a Fenced Area, Users can be notified when an Asset enters or exits a specific Area. The time that a Fenced Area is active can also be set. This means an Asset may for instance enter Area ABC between 08:00 and 17:00 but any other time will trigger a condition that can be assigned to a Watcher (see [Watchers](#)).

Adding a Fenced Area

Each incoming message in iTrac is evaluated using a set of predefined rules. One such type of rule is FencedArea. Using this, different events may be generated by an Asset entering or leaving a geographical area.

In order for you to add a Fenced Area first define an Area as discussed above.

In iTrac's Menu Bar, click on the Fenced Area icon . Give the Rule a name – this is the name that will be used in the formatted message sent to the Watcher. The Reset time determines how much time to elapse before a violation of this Fenced Area will again be triggered and sent to the Watcher (see below).

Watchers

Watchers are specific users assigned to be notified when certain conditions within the system becomes true. A watcher could be assigned multiple conditions to look for. On such a condition becoming true, a specific action will be taken, such as sending the user an SMS or E-Mail. Some conditions currently available include:

- Alarm / Panic
- Low Battery warning
- GeoFence violation
- Ignition On/Off
- Message originating from an asset equipped with the Mercury system
- Movement Begin/End
- Non-Movement

Adding and Editing Watchers

In iTrac's Menu Bar, click on the Watcher icon. Select how to display the Watchers, either by User or by Asset. A User can watch multiple Assets and an Asset can be watched by multiple Users.

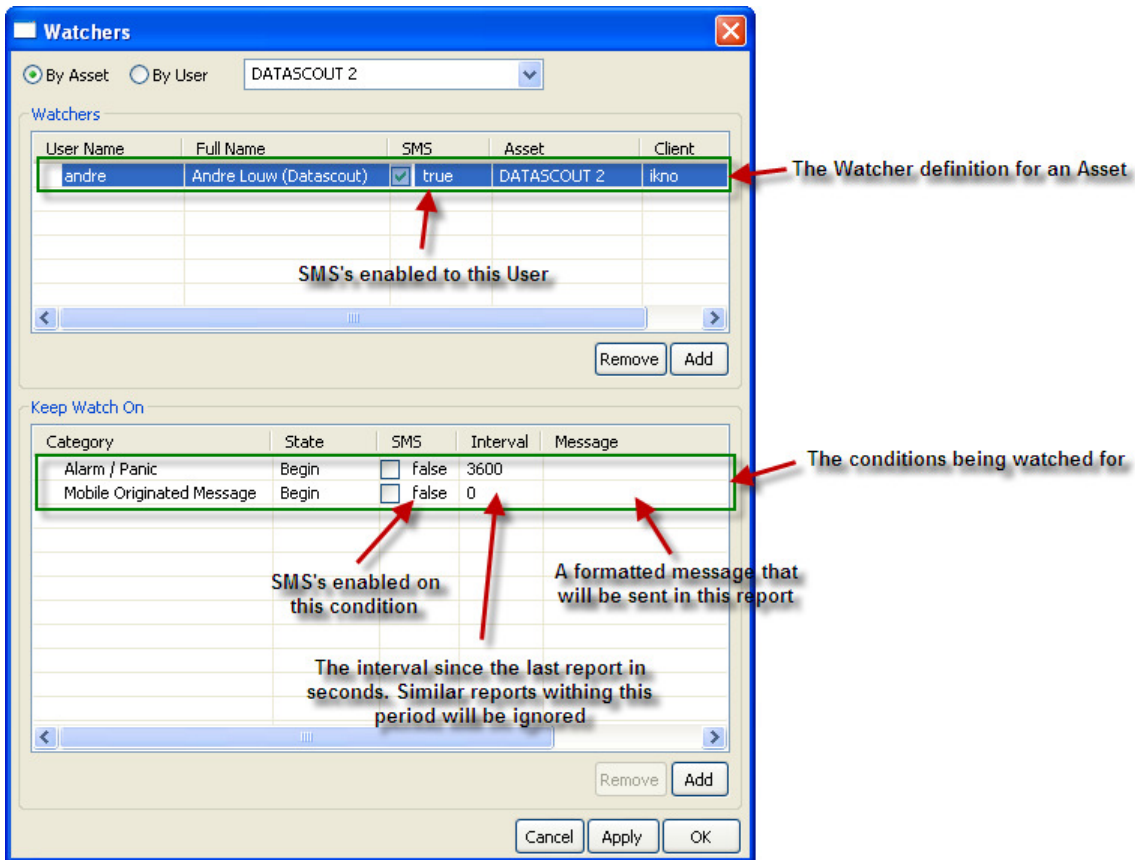
View by Asset

Select an Asset in the drop down list. Click on the "Add a watcher" button to add a User that will keep watch on the selected Asset. Tick whether this User should receive SMS and/or Email messages when an event occurs.

View by User

Select a User in the drop down list. Click on the "Add a watcher" button to add an Asset that the selected User will keep watch on. Tick whether this User should receive SMS and/or Email messages when an event occurs.

Click on a Watcher in the 'Watchers' table view to show what it is keeping watch on.



For each condition being watched a message can be defined to be sent with the report. This message may contain any of the following keywords, which will be replaced with the relevant data:

- %ASSET% replaced with the Asset's name,
- %RULE% the name of the Rule that triggered this condition,
- %TS[Date Format]% the formatted timestamp of the time this condition was triggered. Valid date format codes are:
 - yyyy – year including century
 - yy – year excluding century
 - MM – number of month (January = 1)
 - MMM – the 3 letter abbreviation for the month
 - dd – the day of the month
 - HH – the hour in day (0-23)
 - hh – the hour in day (1-12)
 - a – AM / PM indicator
 - mm – the minute of the hour
 - ss – the seconds of the minute
- %LOC% the geocoded location
- %SPD% the speed of the Asset
- %LAT% the latitude of the Asset's position
- %LON% the longitude of the Asset's position

Perspectives

The iTrac software was developed with the aim of making the user's experience as pleasurable as possible. This means you have full control over the layout of your screen.

iTrac uses a concept called "perspectives". A perspective implies a default layout when first opening the software. Currently there are 2 perspectives available – "Light View" which offers the least amount of customisation of the views, and, "Client View" which offers a lot of customisation. Different perspectives can be opened via the "Window/Open Perspective" menu.

When the software is opened for the first time it starts up with a default layout. If the perspective in use permits it, the views can now be moved and sized to best suit your way of using the application as well as the size of your available screen real-estate.

After setting up your view these settings will remain in effect for the life time of the software on that specific machine. These settings are stored in an area called the "workspace". When moving the software to another machine it is possible to copy the folder containing your workspace to the new machine. This way all your settings will be carried over to the new machine.

Network test

The software is dependant on an internet connection being available. This is the cause of 99% of the problems that users experience, the main symptom of a poor network connection being that the software takes very long to start up. A connection of at least 128 Kbytes/second download speed is recommended. If after starting the software it doesn't seem to be doing anything try the following:

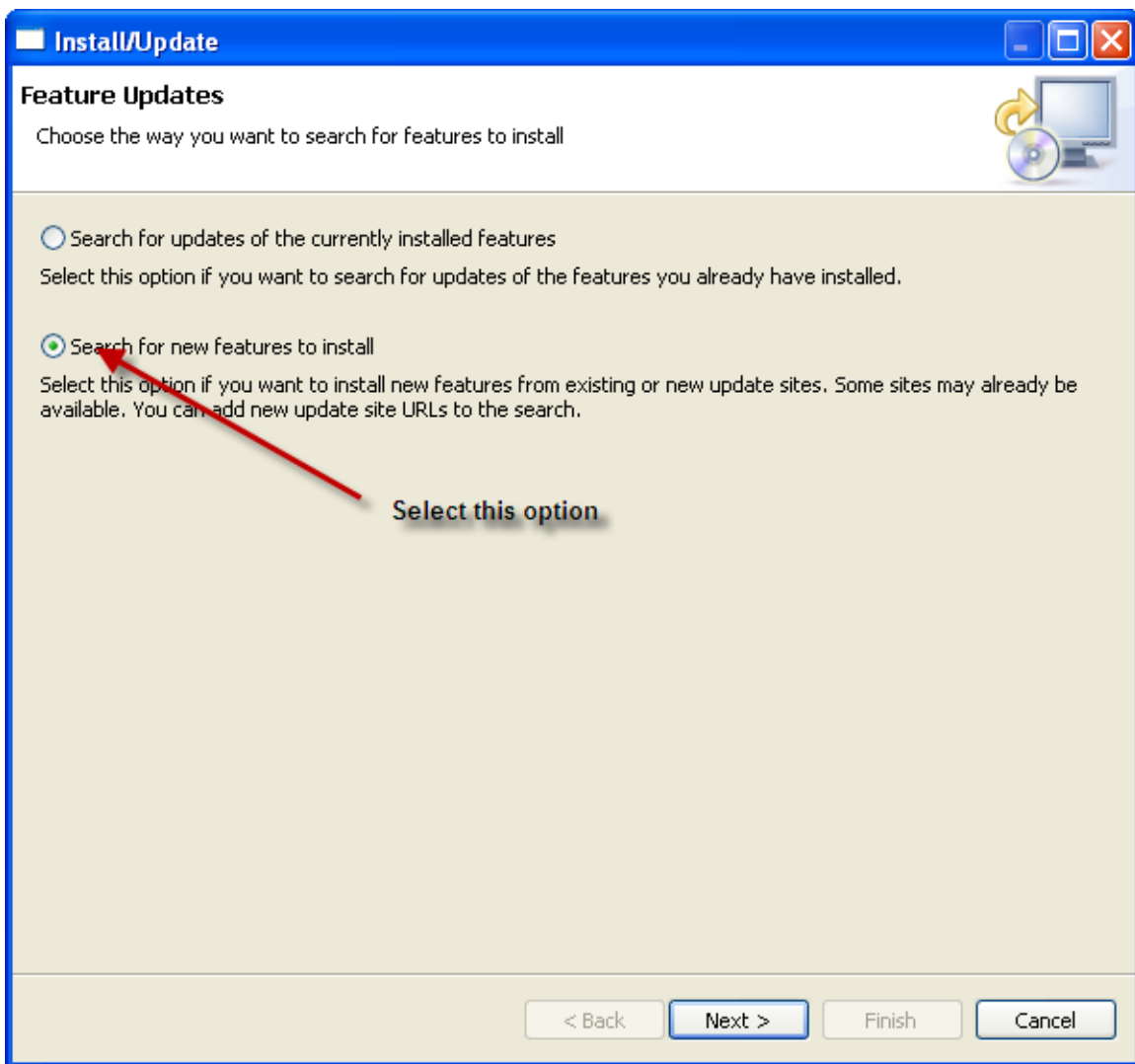
- 1) In a command prompt (press Window Menu key + 'R', type in 'cmd' and press enter).
- 2) Type: ping 41.223.68.49 and press Enter
- 3) This does a basic network test to the tracking server. It displays the number of milliseconds for a packet to be sent to the server. If it reports timeouts on the connection please have a system administrator look at the problem before proceeding.

Updating iTrac from the Web

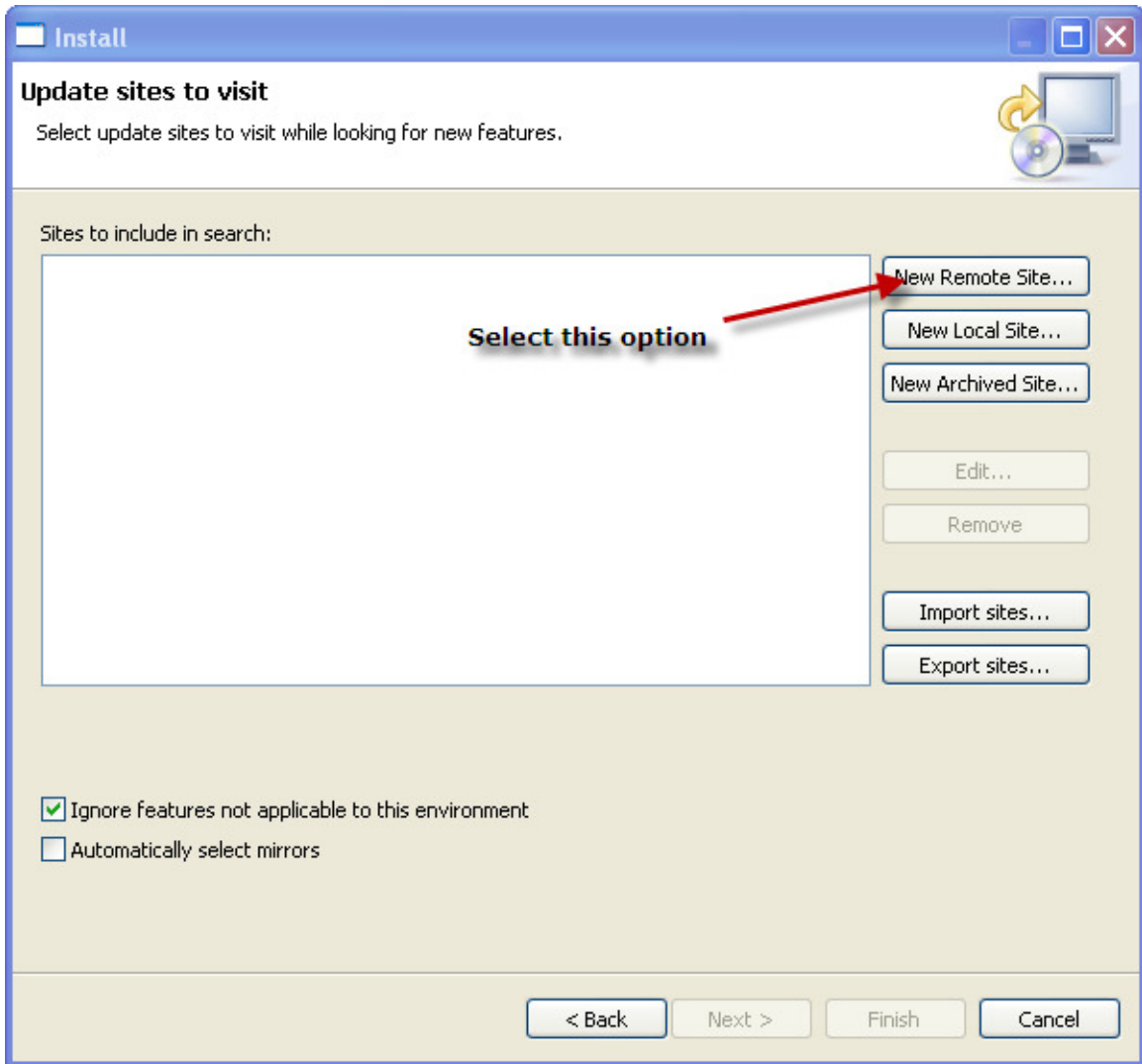
iTrac can be updated over the Web. Before starting the update process it is always a good idea to create a backup copy of the existing iTrac. This is done by copying the iTrac folder (by default this is C:\iTrac) to another folder (you could copy it to C:\iTrac_old).

Click on the Menu option Help / Software Updates / Find and Install...

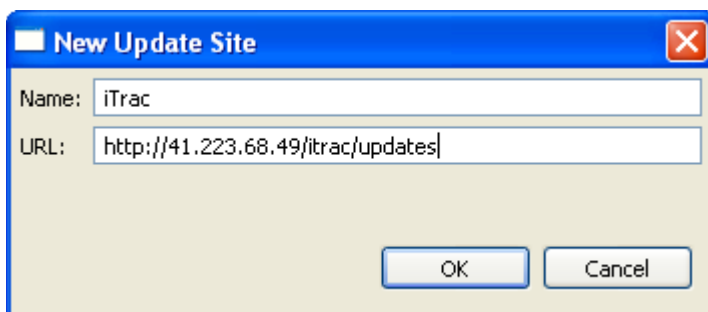
Select the option that reads “Search for new features to install”, click Next...



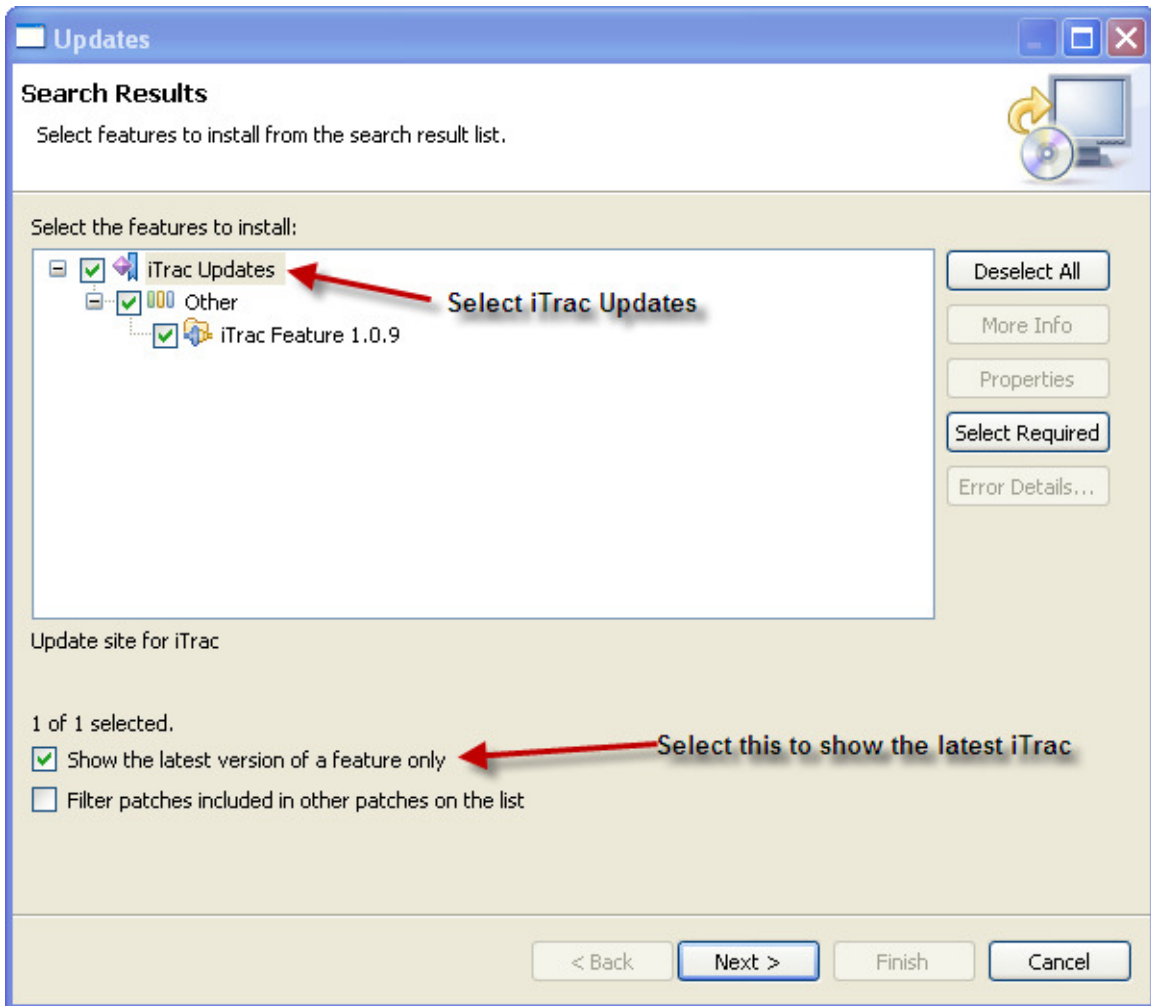
In the next screen click “New Remote site



When prompted enter the information exactly as shown:



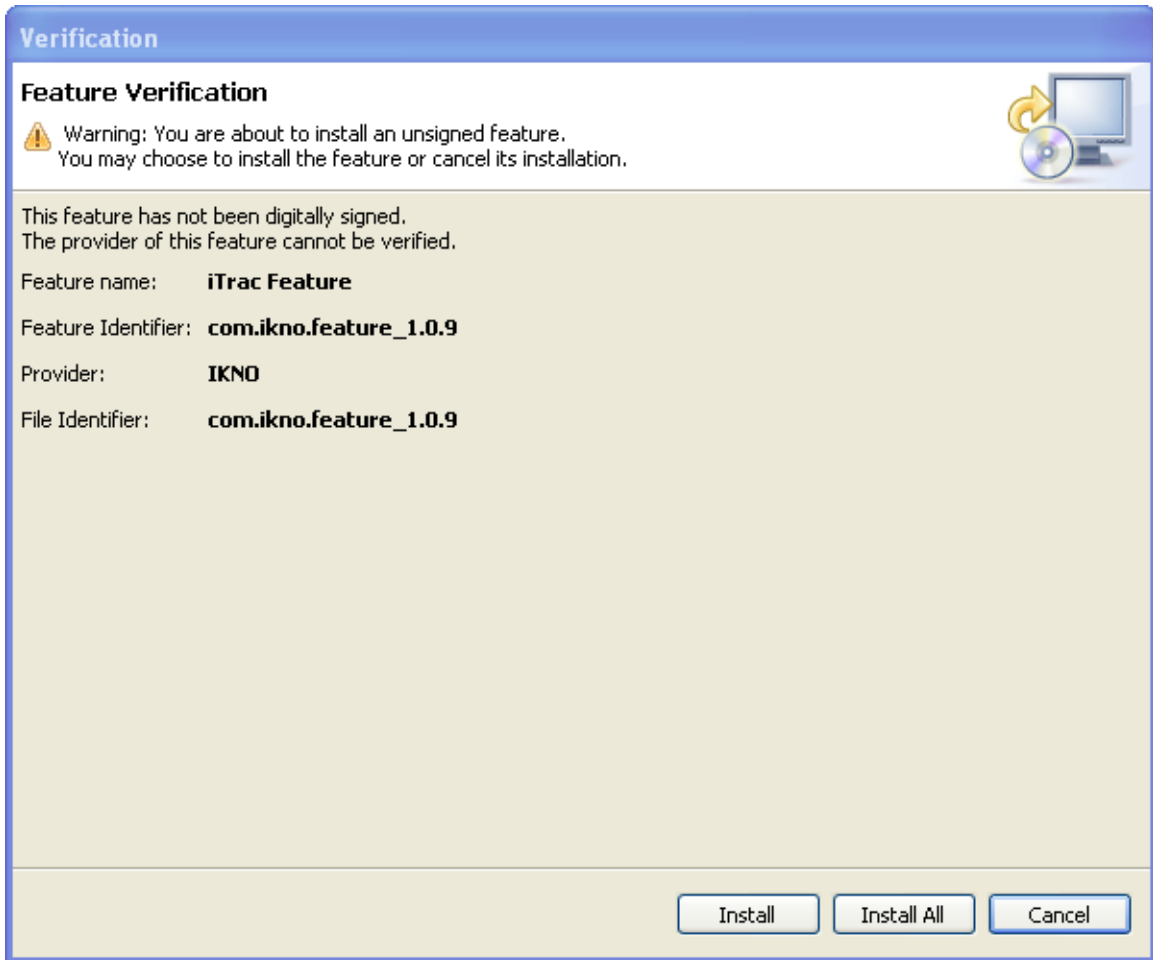
Click finish on the Install window. When the “Search Results” window appears you will see a feature called either “iTrac” or “iTrac Updates” or something similar. Select the tick box next to the feature.



Click Next and click 'I accept the terms in the license agreement'.

Click Next

Click Finish to start the update process. Please be patient and do not quit iTrac until a window appears asking you to confirm the updates found.



Click Install All. When asked if you wish to restart, click No.

Exit iTrac as you normally would.

In the folder iTrac on your C drive delete the sub-folder 'workspace'.

Start iTrac. You should now have been upgraded to the latest version of iTrac.