Summary

Currently, there is no way to display hosts on geographical maps in a convenient fashion. Zabbix must provide a widget to close this gap.

Use cases

1. I want to see my hosts and problems on a geographical map.

Zabbix acceptance

1. New widget "Geographical map" must be created. It must
   a. display enabled hosts as markers on a map
      i. It must use lattitude/longitude inventory fields
         1. The host must not show on map if one of the fields is empty
      ii. In widget settings it must support filtering by host groups and tags
      iii. It must support filtering by problem severity interactively (see mockup)
         1. Severities must be remembered on a per-widget and per-user basis
         2. Filter options: No problems, Not classified, Information, Warning, etc
            a. Each option must be set separately (e.g. show hosts w/o problems AND with disasters)
      iv. Click or mouse-over on a host marker must display a popup that shows:
         1. Visible host name
            a. Click shows a standard host popup (Inventory, Latest data, Problems, etc)
         2. Problem counters (see mockup)
            a. It must display counters for all severities regardless of severity filter
      v. Host marker colors:
         1. Green if the host is ok
         2. Severity color (as in Trigger displaying options) for the highest problem severity
   b. display clusters (multiple hosts as a single marker) for small zoom levels
      i. Cluster marker must show the hosts count in the cluster
      ii. Click or mouse-over on a cluster marker must display a host marker popup, but:
         1. It must have multiple rows, one per host
         2. It must be either (to be decided in the spec):
            a. limited by vertical map size, or
            b. scrollable
      iii. Double-click on a cluster marker must zoom map so all hosts in the cluster are visible separately (if possible)
         1. If hosts are too close (or in the same position) these must be displayed as a cluster at all zoom levels
      iv. Cluster marker colors:
         1. Green if none of the hosts in the cluster have problems
         2. Severity color (as in Trigger displaying options) for the highest problem severity among all clustered hosts
   c. support setting initial view as a pair of coordinates
      i. From widget settings
      ii. As interactive option "Set this view as default"
   d. support retina displays
2. New configuration screen Administration → General → Geographical maps
   a. It must have the following fields:
      i. Dropdown Map with the following predefined tile providers (see Leaflet providers):
         1. OpenStreetMap Mapnik (default)
         2. OpenTopoMap
         3. Stamen Toner Lite
         4. Stamen Terrain
         5. USGS US Topo
         6. USGS US Imagery
         7. Other - enable fields Tile URL, Max zoom level, Copyright footer
      ii. Tile URL
         1. Must support Leaflet URL template format and global macros

    2. Example: https://api.mapbox.com/streets-v11/tiles/{z}/{x}/{y}?access_token={$MAP_TOKEN}
   iii. Max zoom level
   iv. Copyright footer
    1. Example: © OpenStreetMap contributors
  b. Fields Tile URL, Max zoom level, Copyright footer must be
   i. accompanied by hints (as in Administration → Authentication)
   ii. shown in read only mode with actual values in accordance with Map dropdown selection
 3. Documentation must provide brief instructions how to install a local tile server

The widget should not have any external dependencies (downloadable from third party sources during build or runtime). Dependencies integrated into the code are ok, provided that the license permits it.