[0080] The WMS standard allows the client to request an arbitrary region. If the client wants tiles, it can make its requests in a tiled pattern, but the server has no way to know that's what's happening and if the server stores the map as tiles of its own, it has no way to let the client know what the tile arrangement is. The WMTS standard provides for defining a service that can serve tiled maps rather than maps. The Capabilities structure in WMTS describes ***TileMatrixSet***, which is a set of quantized integer coordinates such as ***TileMatrix*** (the zoom level), ***Row number*** (X dimension), and ***Column number*** (Y dimension), which in turn can be used to request tiled imagery with a ***GetTile*** request. The three integer coordinates in the GetTile request always refer to the same geographical area. Unlike WMS, where a GetMap request can describe an arbitrary bbox, a WMTS GetTile request must be made in accordance to the TileMatrixSet specification. The bounding box of the request can be calculated from the GetTile coordinates.

[0081] The TMS standard is a much simpler protocol for tiled maps. TMS uses integer indices for the tiles rather than requiring the client to request a bounding box that aligns with a particular grid.

Some example flow charts

[0082] FIG. 2 shows, according to a WMS embodiment of the present invention, a simplified flow chart of methods 200 comprising a method at the client system 101 as instructed by a user, and a method at the server system 151 that is coupled to the client system 101, the methods operating to obtain for the user an API in the form of a URL for a user-specified service using a user-specified service naming convention for a number of areas, each area being a single named associated AOI, associated range of one or more dates, and optionally one or more other user-generated associated filters. The thus obtained URL for the user-specified service is usable by a WMS client, as a GetCapabilities request to enable a coupled WMS server to return metadata, e.g., in the form an XML document, about the areas, the metadata enabling an WMS client to obtain map imagery. The method provides to the user a service that is dynamic and that is user-specifiable. By dynamic is meant that the resulting API provides for any surveys in the AOI(s) to be automatically updated whenever the respective AOI has new content made available by the survey provider. Using this API with a WMS client provides for the WMS client a capabilities response, e. g., the XML, containing a respective API (as a respective URL for GetMap) for each area (each named AOI and associated date range) to obtain map imagery using the provided GetMap URL.

[0083] The flowchart also is applicable to a WMTS embodiment, and also to a TMS embodiment.

CLAIMS

What is claimed is:

1. A method of operating a server processing system to enable obtaining map imagery, the method comprising:

accepting (207) from a client processing system a definition of a set of one or more areas, each area having an associated area of interest, “AOI”, and one or more associated dates;

generating (211) and sending (213) to the client processing system an API for the set of one or more areas for the set, the sent API determined at the server, the sent API being automatically updated whenever a respective AOI of a respective area of said set has new content made available by a survey provider, such that using the sent API by a map service client provides a mechanism for the map service client to request from a map service server for the map service and to obtain from the map service server responsive to the request metadata that provides one or more respective map-display APIs for each area to obtain map imagery using the provided respective map-display API, including map imagery corresponding to the new content, or

generating and sending to the client processing system an API template for the set of one or more areas for the set, the sent API template determined at the server, the sent API template being automatically updated whenever a respective AOI of a respective area of said set has new content made available by a survey provider, such that populating the sent API template forms one or more tiled map-display APIs for one or more respective areas in the set, the one or more map-display APIs usable to obtain tiled map imagery from a service providing tiled maps, including tiled map imagery corresponding to the new content.

2. The method of claim 1,

wherein the accepted definition is of a user defined service for the set of for one or more areas including a service name for the user defined service using a user-specified naming convention for services, "service naming convention",

wherein each area of the user-defined service has a named associated area of interest, AOI, and

wherein the one or more associated dates being a single associated date or an associated range of dates.

3. The method of claim 1 or 2, wherein the API is sent, wherein the map service client is a Web Map Service, WMS, client, and wherein the map service server is a WMS server, such that using the sent API by the WMS client provides a mechanism for the WMS client to request from the WMS server and obtain from the WMS server responsive to the request metadata that provides one or more respective map-display APIs for each area to obtain map imagery using the provided respective map-display API, or wherein the map service client is a Web Map Tile Service, WMTS, client, and wherein the map service server is a WMTS server, such that using the sent API by the WMTS client provides a mechanism for the WMTS client to request from the WMTS server and obtain from the WMTS server responsive to the request metadata that provides one or more respective tiled map-display APIs for each area to obtain tiled map imagery using the provided respective tiled map-display API.

4. The method of claim 3, wherein the sent API is in the form of a URL usable by the WMS or WMTS client as a GetCapabilities request.

5. The method of any one of claims 3 or 4, wherein each respective map-display API is a respective URL for a WMS GetMap request.

6. The method of any one of claims 3 to 5, wherein the functionality of the WMS or WMTS client is carried out at the client processing system.

7. The method of any one of any one of claims 3 or 4, wherein each respective tiled map-display API is a respective URL for a WMTS GetTile request.

8. The method of any one of claims 3 to 7, wherein the metadata is in the form of an XML structure.

9.. The method of claim 1 or 2, wherein the API template is sent from the server processing system, wherein the map service client is a Tile Map Service, TMS, client, and wherein the map service server is a TMS server, such that populating the accepted API template forms one or more tiled map-display APIs for one or more respective areas in the set, the one or more tiled map-display APIs usable to obtain tiled map imagery.

10. The method of claim 9, wherein the sent API template is in the form of a URL template.

11. The method of any one of claims 9 or 10, wherein each respective tiled map-display API is a respective URL for a TMS tiled map display request.

12. The method of any one of claims to 9 to 11, wherein the functionality of the TMS client is carried out at the client processing system.

13. The method of any one of claims 1 to 12, wherein each area has one or more user-generated associated filters that are sent by the client processing system to the server processing system.

14. A non-transitory machine-readable medium comprising instructions that when executed on one or more processors of a processing system carry out a method as recited in any one of claims 1 to 13.

15. A processing system comprising one or more processors and a storage subsystem, the storage subsystem comprising instructions that when carried out by at least one or the processors carries out a method as recited in any one of claims 1 to 14.