



## Carmenta Server 4.5 Extensions

### CSW EXTENSION

- Allows map clients to query and search the server catalogue service for available map services.

### WFS EXTENSION

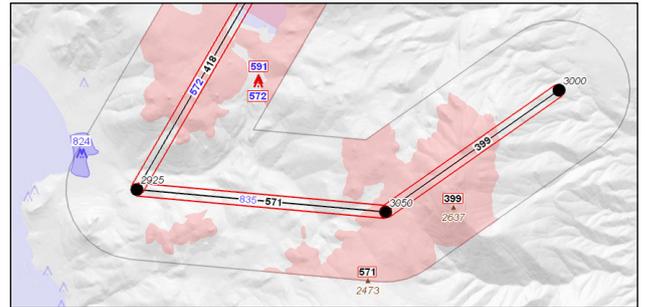
- Allows map clients to retrieve geographical vector data from the map server.

### WCS EXTENSION

- Allows map clients to retrieve raw raster data such as height or temperature maps from the map server.

### 3D EXTENSION

- Enables interactive 3D maps with dynamic loading of data.
- On the fly generation of 3D worlds straight from 2D / 3D GIS data in any format supported by Carmenta Server - no 3D modelling is needed.
- Contains a 3D globe based on the Cesium<sup>1</sup> open-source library.



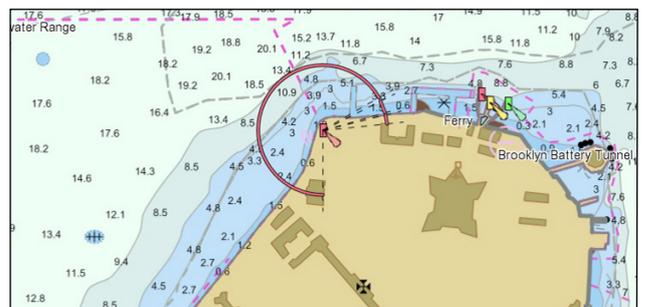
### TACTICAL EXTENSION

- Extension for creating, managing and visualising tactical symbols according to the DOD MIL STD-2525 and NATO App-6 standards.



### NAUTICAL CHART EXTENSION

- Extension for reading and rendering Nautical Charts according to the IHO S-57, S-63<sup>2</sup> and S-52 standards, as well as the C-Map CM93/3 format with optional S-52 visualisation.



### VECTOR TILES EXTENSION

- Allows fast vector maps by supporting tiled and cached vector data on the Mapbox Vector Tiles (MVT) format, either encoded as highly compressed Google Protocol Buffers (Protobuf) or plain GeoJSON.

### TERRAIN ANALYSIS EXTENSION

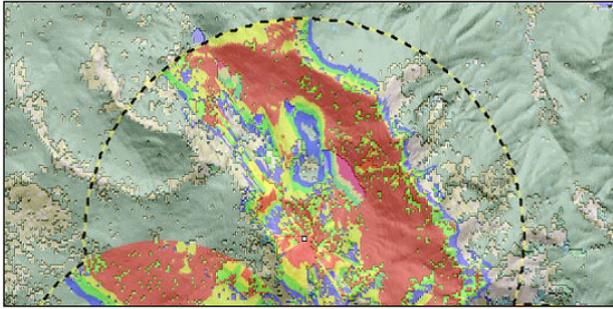
- Extension for Vertical Clearance calculations, to analyse terrain and obstacle clearance in a corridor around routes.

1. Cesium is an open-source JavaScript library licensed under the Apache License, Version 2.0 (Alv2). More information can be found on the Cesium web site, [www.cesiumjs.org](http://www.cesiumjs.org).

2. S-63 encrypted Nautical Charts require explicit permission from the data provider if published as map services on a web map server.

## VISIBILITY ANALYSIS EXTENSION

- Extension for performing visibility calculations such as line of sight.



## MILITARY GEODATA FORMATS EXTENSION

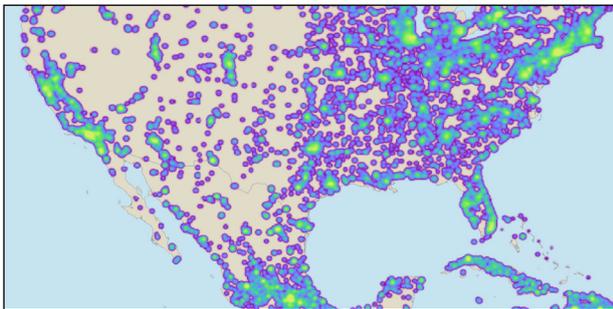
- Adds functionality for reading military geographic data in CMRG (PCMap), DFAD and RPF (CADRG and CIB) formats.

## TERRAIN VEHICLE ANALYSIS EXTENSION

- Extension for calculation of terrain vehicle accessibility and speed in terrain.

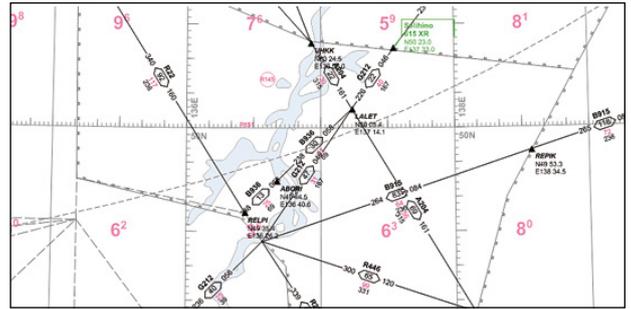
## HEATMAP EXTENSION

- Adds functionality for dynamically generating point density rasters which can be visualised as heatmaps.



## ARINC 424 EXTENSION

- Reads aeronautical navigation database files on the ARINC SPECIFICATION 424-16, 424-17 and 424-18 formats.



## C-MAP CM93 EXTENSION

- Functionality for reading Jeppesen C-Map CM93 nautical chart data.

## C-MAP CM93 S52 PRESENTATION EXTENSION

- Adds support for visualising CM93 data according to IHO S-52.

## DWG AND DXF EXTENSION

- Extension for reading AutoCAD CAD databases in DWG and DXF file formats.

## SPATIAL DATABASE EXTENSIONS

Extensions for reading geospatial data from different kinds of database systems:

- Microsoft SQL Server Extension
- MySQL Extension
- Oracle Spatial Extension

