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What's New in Carmenta Server 4.8 and Carmenta Server Core 2021.0

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The Complete Web Map Server Offering

Carmenta Server 4.8 and Carmenta Server Core 2021.0 are the new versions of Carmenta's web map server products, that together offer support for web map services on a variety of platforms, including Windows Server and container platforms such as Docker Containers.

Both map server products are built on an internally scalable architecture based on the Carmenta Engine map server runtime, providing the very high performance and reliability necessary for mission-critical systems.

Carmenta Server and Carmenta Server Core supports reading of a large number of different data sources on various formats, publishing them as web map services on different standardized protocols, for use as background maps and map overlays in 2D and 3D map clients.

In addition, they also allow publishing of advanced interactive geospatial analyses functions, using either built-in or custom algorithms.

Improved Publishing of 3D Services

Applies to: Carmenta Server 4.8 and Carmenta Server Core 2021.0

Carmenta Server and Carmenta Server Core have a rich support for the open-source Javascript library Cesium, used for creating high-performance 3D web map applications.

The process of publishing various services for use with Cesium has been significantly enhanced with the new release. It is now possible to publish a collection of different web map services from a single map configuration, including one or more of:

- A quantized-mesh terrain service for use as a Cesium Terrain Provider
- Raster services for use as Cesium Imagery Providers
- A 3D Tiles service for use as a Cesium 3D Tileset
- Vector services for use as Cesium entities

The regular SDK development tools Carmenta Studio and Carmenta Explorer are used to define and preview the map services, before publishing them.

More Generic Container Support

Applies to: Carmenta Server Core 2021.0

Previous versions of Carmenta Server Core were targeting Docker, being the most popular container engine in use. This new version expands this support to also include Podman, turning Carmenta Server Core into a web map server for more generic container platforms.

Podman is an open-source daemonless container engine for Linux, which is both CLI and binary-compatible with Docker. It has support for containers run as root or in rootless mode. The above allows users to run containers with higher security and integrity with Podman, while still allowing the same CLI interaction and Kubernetes integration as with Docker.

Support for Rootless Containers

Applies to: Carmenta Server Core 2021.0

One of the major benefits of Podman is its support for running containers without full root authority. To support this fully, Carmenta Server Core 2021.0 can be configured to run all its internal processes as unprivileged user accounts without root authority. This increases container isolation and adds a new security layer to minimize the impact of any security breech.

It also allows mounting file volumes in the Carmenta Server Core containers in rootless mode, to further enhance security in the runtime environment.

Support for Tactical Graphics in MIL-STD-2525D and NATO App-6D

Applies to: Carmenta Server 4.8 and Carmenta Server Core 2021.0

Carmenta Server and Carmenta Server have a rich support for visualization of different military symbology standards, such as DOD MIL-STD-2525 and NATO App-6. The support for the "D" version of the standards, which were included in the previous versions of the products, supported point symbology. This has now been extended to include tactical graphics as well.

Bundling of Resources

Applies to: Carmenta Server 4.8 and Carmenta Server Core 2021.0

The distribution and handling of maps and map configuration files have been greatly simplified, with the new support for map bundles in a single file. Simply create a ZIP archive of any number of map configuration files, geodata sources and other resources, copy the ZIP file to a monitored Carmenta Server/Carmenta Server Core catalog folder and let Carmenta Server discover all publishable services contained (and even auto-publish them, if configured to do so).

The map bundles are platform independent and may be created on and/or distributed to Windows and Linux file systems, supporting different multi-platform configurations.

Additional Improvements

Applies to: Carmenta Server 4.8 and Carmenta Server Core 2021.0

The following additional improvements have been made to Carmenta Server 4.8 and Carmenta Server Core 2021.0:

- **Built with Carmenta Engine 5.15**, the latest version of the Carmenta map engine
- **Support for Windows 11** as an SDK development environment
- **General Service Publishing Improvements**, making it easier to track services as they are published and unpublished, and to analyze and investigate any publishing problems
- **GeoPackage reading improvements**, allowing the reading of DGIWG profiles and vector tile data (MVT) from OGC GeoPackages using the Vector Tiles Community Extension. The OGC GeoPackage Metadata extension is now partly supported as well.
- **Support for reading meteorological data** on the GRIB 1 format, including some additional support for visualization of wind barbs
- **Improved visibility calculations**, allowing analysis of a target area, in addition to the observer's surrounding area
- **Support for raster data in MBTiles files**, besides vector data
- **Extended Expression syntax**, adding several math functions such as *abs*, *sqrt*, *cos*, *sin* and *exp*
- **Improved timeout handling for external sources**, allowing more graceful handling of command and connection timeouts when using external web services or databases as geodata sources
- **Label organizing of nautical charts**, improving the visibility when S-57 nautical data is used for background maps, and not for navigation scenarios