

### *July 2023*

American Innovations (AI) is committed to continuously improving our CartoPac Enterprise Platform through feature enhancements and upgrades.

The updates included in the 10.2 release of CartoPac Enterprise Studio, Server, and Mobile applications are described below.

### *New Features*

The following features were added to the CartoPac Enterprise Platform:

#### *Saving While Forms are Open*

Version 10.2 adds functionality to the CartoPac Mobile application that allows CartoPac Touch and iOS to save the project while forms are open. This change eliminates the need to return to the map to save a project and reduces the risk of data loss.

This functionality is available on all index or relationship controls. Note that this functionality should be used strategically and not applied to all relationship controls. If a form is cancelled, CartoPac will still save the form between records, ensuring that only important records are saved and not forms that are frequently cancelled.

This change applies to CartoPac iOS and CartoPac Touch. This property can be configured within CartoPac Studio.

Server Administrators- Solution administrators will need to set Relationship Control property Save on Return to `TRUE` on all controls to strategically determine when CartoPac commits entries to the mobile database storage.

Field Users- No changes needed to implement this functionality.

#### *CartoPac Mobile Python Integration*

Version 10.2 implements functionality to allow CartoPac Touch to call and execute embedded Python scripts via the CartoPac-Python (CartoPy) API. The CartoPy API can be used to perform mobile operations or integrate with external local or web applications.

CartoPac Mobile can now call and execute embedded Python scripts allowing the CartoPac Mobile application to perform certain tasks outside of the CartoPac Mobile forms. CartoPac solutions can now be configured and deployed with Python scripts using the CartoPac-Python (CartoPy) API to interface with CartoPac collected data. The Python script can be configured to accept any number of inputs from the

CartoPac application and update as many attributes as necessary. The External Application control can be configured to allow the Python script to execute silently without providing user feedback, additionally, the External Application control can be configured to auto-calculate when logical conditions are met, preventing the need for a user to manually execute the Python script. Python scripts are added to a project in CartoPac Studio via the Solution Explorer in a new Supplemental Files node. Once attached, CartoPac will download the script with the project and only call the script on command or when configured logical conditions are met within a form.

This change allows solution architects and field users access to functionality not previously available strictly within the CartoPac forms logic.

This change only applies to CartoPac Mobile and CartoPac Studio.

Server Administrators- No changes needed to implement this functionality.

Field Users- No changes needed to use this functionality.

## *Auto-Closing Forms*

Version 10.2 adds new properties to allow for auto-closing forms in CartoPac Mobile and iOS. This will allow CartoPac forms to open, execute required operations, and close the form without input from the user. This change enables more functionality for the end user without additional user input.

Two new properties have been added to each form:

- **Auto-Close Form** [`TRUE/FALSE`]: When set to `TRUE` will cause the form to automatically close once it has been called. This prevents the user from needing to press 'OK' to close the form and return to the parent.
- **Auto-Close Timer** [`Integer`]: Measure (in milliseconds) of how long a form should be open and displayed to the user prior to being closed. This can be used to indicate a message to the field user while the form is processing. Note that if set to less than 100 (1/10th second), the form will not even display to the users.

Auto-closing forms can be used to segregate logic to a single form that can execute without any negative performance on the data entry form. This functionality allows CartoPac to offload computation controls to a new form to improve performance. CartoPac Enterprise can also auto-close the collection of features that have no data entry requirements for a form.

New properties have been added to Forms (via the Forms Explorer Properties), that will modify the behavior of the form. Note that if an attribute is marked as required and `NULL` on the auto-closing form, the user will be prompted that attributes are missing and must be resolved prior to closing the form.

This functionality is available in both iOS and CartoPac Mobile. CartoPac Studio has been modified to show the new form level properties needed to enable this change.

Server Administrators- Solutions must be modified to enable an auto-closing form. Please work with your account representative to determine where this functionality can improve CartoPac Enterprise workflows.

Field Users- No changes needed to use this functionality.

## *Automatic Provision of SAML Users*

Version 10.2 adds a stand-alone application that will allow CartoPac Server, when configured for SAML authentication, to automatically provision and assign users CartoPac roles based on Active Directory (AD) group participation.

This stand-alone application will be deployed to the CartoPac Field Server application and is able to use CartoPac authentication configuration and configuration files to determine which groups to provision users from, which roles to assign those users to.

This utility will streamline the management of CartoPac users based on AD group participation. It can be responsible for creation, role assignment, and disablement of user profiles based on their involvement in specified groups.

Using data available to CartoPac via the SAML authentication configuration, CartoPac is able to query specified active directory tables to determine user participation and status. This data is used to generate the necessary commands to provision and assign those users to roles in the CartoPac Server application.

This change only applies to the CartoPac Field Servers that are configured for SAML authentication.

Server Administrators- This functionality needs to be configured and deployed. This will require some consideration for AD group participation and convention. Speak to your CartoPac Account Manager or Professional Services specialist for additional detail.

Field Users- No changes needed to implement this functionality.

## *iOS Server and Version Check*

CartoPac iOS application will now verify server and mobile version mismatches prior to downloading a project. Users will be alerted to minor version mismatches and prevented from downloading with a major version mismatch. This change will protect data integrity and reduce the risk of data loss due to version mismatches.

CartoPac will now validate the server version number against the mobile device's installed CartoPac version.

By preventing users from downloading projects with a major version mismatch, CartoPac can reduce the risk of data integrity concerns by ensuring CartoPac can download and merge data correctly.

CartoPac iOS will now query and validate server versions upon accessing the **Download** menu of the CartoPac iOS application.

This change only applies to CartoPac iOS application as this functionality is already available in CartoPac Touch.

Server Administrators- No changes needed to implement this functionality.

Field Users- No changes needed to implement this functionality.

## Improved Features

The following features have been improved:

### Enable GNSS from PSS

Version 10.2 adds the ability to enable and disable a paired Global Navigation Satellite System (GNSS) device from the CartoPac Peripheral Status Screen (PSS). This change allows users to manage and control all paired peripheral devices from the PSS.

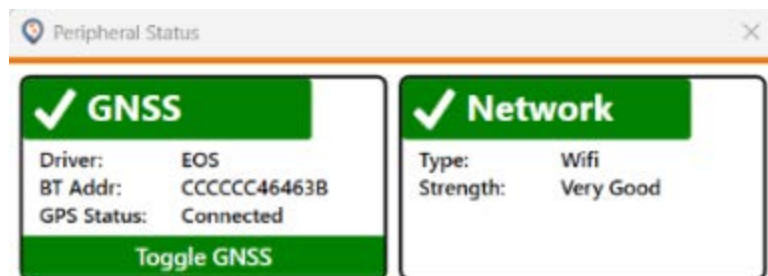


Figure 1-1. Peripheral Status Screen GNSS Display

The toggle function on the GNSS card of the PSS allows users to enable or disable the device.

This change only applies to CartoPac Touch.

Server Administrators- No changes needed to implement this functionality.

Field Users- No changes needed to use this functionality.

## *Improvement to Derived Features Workflow*

Version 10.2 includes multiple improvements to the Derived Features Workflow. Updates include the ability to ensure that post-processed derived feature projects are updating during post-processing, as well as the preventative measures preventing users from spatially editing a derived feature.

The Derived Features functionality has been updated to improve integrity of collected data. These changes that ensure if a derived feature GNSS point is post-processed, CartoPac will update the location of all derived features as well. Additionally, CartoPac now prevents users from spatially manipulating any derived features that features via spatial editing. In conjunction these changes protect the quality and integrity of features collected with the Derived Feature workflow.

These changes ensure that accuracy is maintained with derived feature collected assets.

Server Administrators- No changes needed to implement this functionality.

Field Users- No changes needed to use this functionality.

## *Fixed Issues*

The following issues have been corrected:

- Windows Tablet and Touch:
  - Addressed Unexpected CODE 2700 Behavior
  - Snapping and Laser Range Finder Issue
- iOS
  - iOS Stylized Button Regression
  - iOS Relationship Control Regression