TRADECRAFT TECHNOLOGIES, INC

AMPS Integrators Guide

Introduction

The AMPS software has many different sub parts that are integrated together to deliver a quality user experience. Parts of the AMPS system also supports additional add-on integrations for extensions (reports, automation, etc.). This document describes the major integrations between the AMPS components and indicates where future add-on components can be connected.

React.js Front-End and C#.NET API

The front-end web application connects to the API for any and all data served from the database. By using this layer of abstraction, changes to the database can occur without requiring changes in the front-end layer. This also allows for several optimization technologies to be used to serve the data quicker versus direct queries to the database. The API also allows for numerous other clients to connect for numerous extensions such as ad hoc reporting or possibly automation of repetitive tasks. The front-end and the API are not required to be installed on the same server. The API requires a user to authenticate themselves, using the OAuth2 protocol to obtain a token, prior to consuming the endpoints.

C#.NET API and MS SQL Server

The API is tightly coupled with the database – the API's data models are built dynamically based on the current database structure and allows for several caching and data optimization technologies to be used to serve the data quicker to the API consumers. Ideally, the API and the database are hosted on the same server to allow for minimum latency between the two.

CesiumJS Front-End Maps and GeoServer

The front-end system has several maps that are connected to the GeoServer backend to serve maps of various locations and different scales of detail. CesiumJS itself manages the user inteactions and then makes the necessary calls to GeoServer to be served the various maps and layers that are needed to be displayed to the user.