AMENDMENT NO. 9 TO MASTER CONTRACT FOR AN AUTOMATED VEHICLE LOCATION SYSTEM, HOSTED SOFTWARE, AND SERVICES AGREEMENT BETWEEN SNOHOMISH COUNTY AND CALAMP RADIO SATELLITE INTEGRATORS, INC.

Snohomish County hereinafter referred to as the "County" and the undersigned, hereinafter referred to as the "Contractor", desire to amend the contract executed on August 29, 2012, as amended by Amendment No. 1 on December 11, 2012, Amendment No. 2 on October 8, 2013, Amendment No. 3 on September 29, 2014, Amendment No. 4 on October 13, 2014, Amendment No. 5 on February 4, 2015, Amendment No. 6 on May 13, 2015, and Amendment No. 7 on June 22, 2017, and Amendment No. 8 on September 26, 2017 and identified as the Master Contract For An Automated Vehicle Location System, Hosted Software, And Services Agreement Between Snohomish County And CalAmp Radio Satellite Integrators, Inc. (the "Master Contract").

WHEREAS, the 2G Advanced Vehicle Location equipment currently installed in County vehicles which makes up ninety-seven of the three-hundred seventy-nine units have reached their end of life as of 12/31/2020, and

WHEREAS, in order to maintain location services in all Public Works vehicles the County requires new AVL equipment, and

WHEREAS, the contractor has offered to replace the expired units with upgraded units at no additional cost to the County through the remainder of the agreement term,

All provisions in the original contract remain in effect except as expressly modified by this amendment.

The changes to the contract are described below.

1. Exhibit A, Appendix 1a is hereby added to the original agreement as an additional specification for 79 upgraded AVL units.

Cal/Amp®

Proposal to:

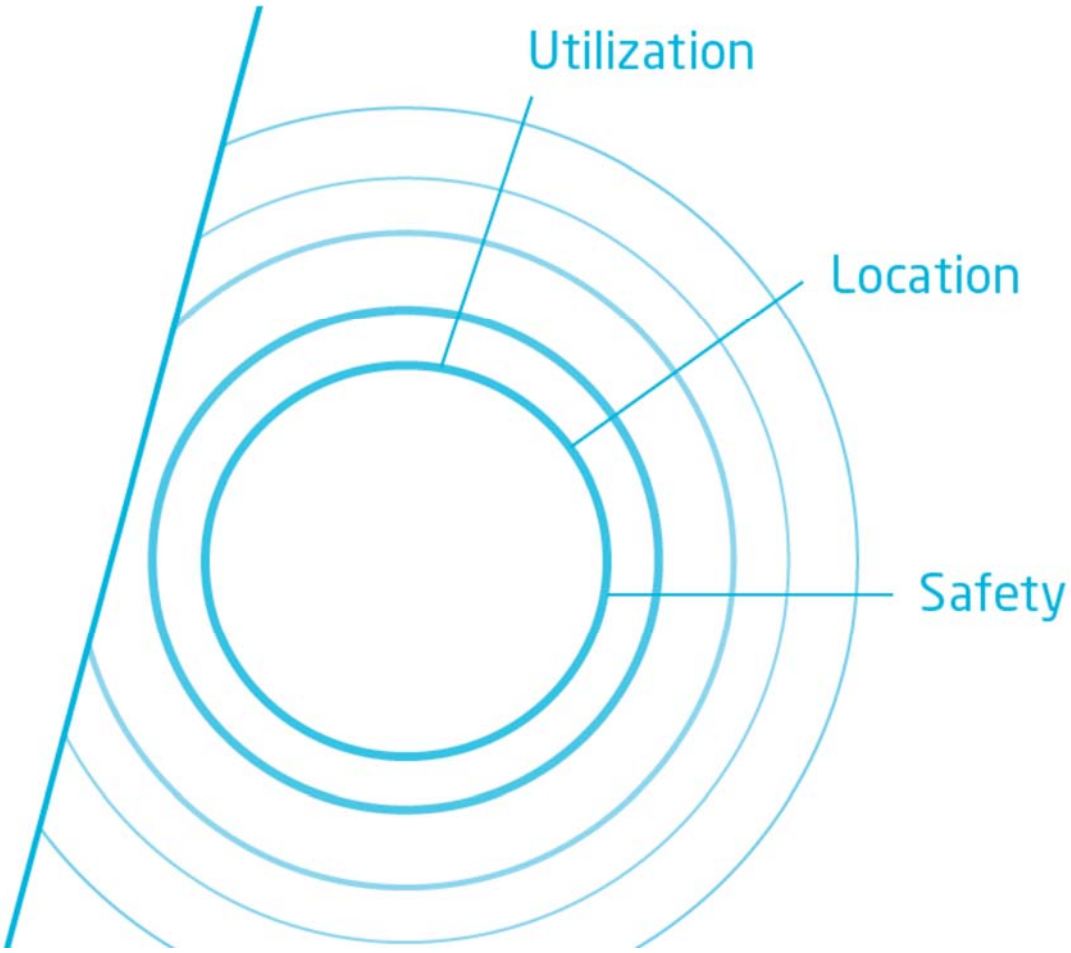
Snohomish County

AVL & Telematics Solution

Snohomish County Washington

Technical Proposal

March 11, 2021



Title Page

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March 11, 2021

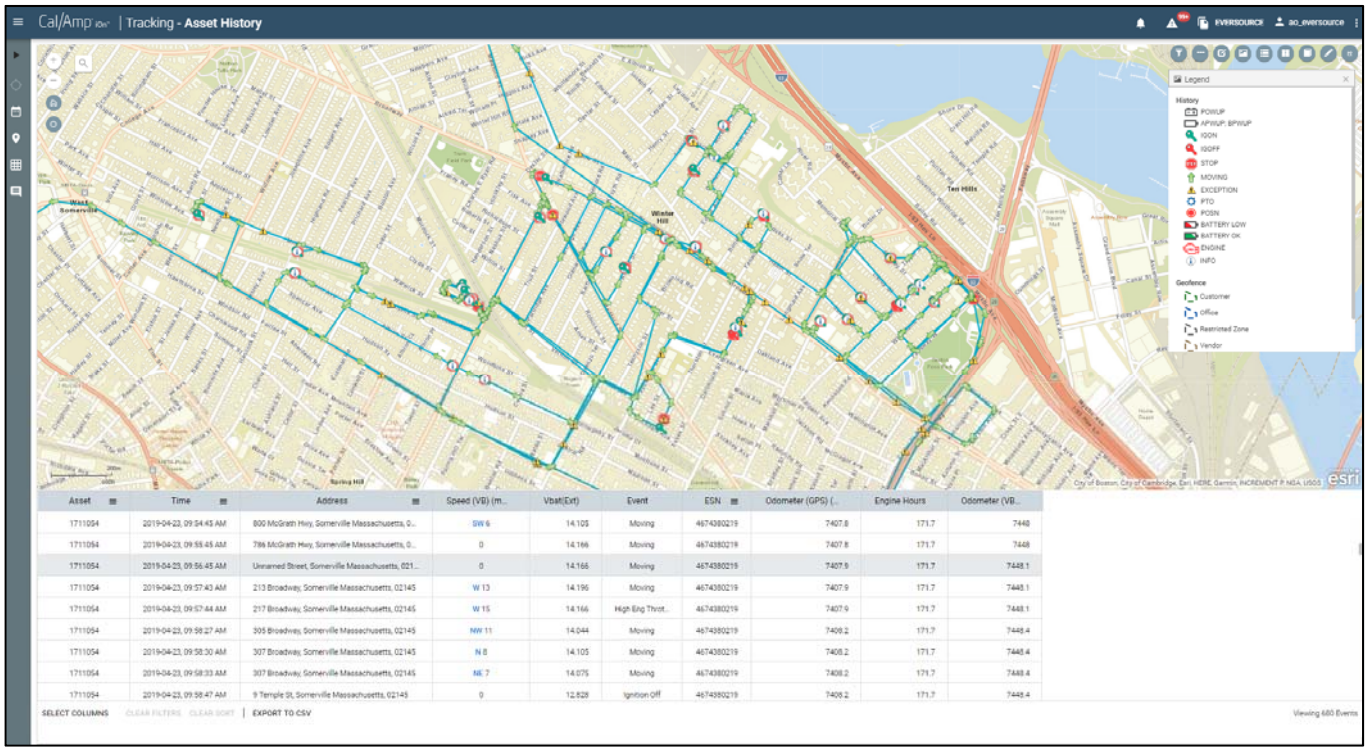

Table of Contents

Executive Summary

Snohomish County's Objectives:

Snohomish County seeks to update their existing CalAmp fleet telematics system, or Automatic Vehicle Location (AVL) system to meet the evolving and unique requirements of their vehicle fleet and various departmental operations. Snohomish County desires to implement an updated AVL system to enhance the ability to efficiently manage the assignment of vehicle operations; to use the AVL system to increase employee safety, productivity, and service to Snohomish County employees, citizens, and customers.

The CalAmp Proposal:

In order to continue the great partnership between CalAmp and Snohomish County, we have an exclusive offer we trust will be very appealing to the County. We are proposing to migrate the existing system to our iOn Telematcs system, our new state-of-the-art, flagship AVL and telematics solution with a robust offering of new and improved reporting, functions, and flexibility. We are proposing all new advanced CalAmp devices with engine diagnostic connections and the latest LTE wireless technology.

Highlights of our all-inclusive offer:

- All new LTE CalAmp AVL devices with diagnostic connections (unlimited)
- Initial device installation/swap included
- Migrate to new CalAmp iOn Telematics software platform
- Unlimited live online training
- New lower monthly price

Our Commitment

CalAmp has provided Automatic Vehicle Location (AVL) and telematics systems that work to the highest levels of performance, reliability, and scalability since 1990. We are one of the most experienced GPS vehicle tracking system providers in the industry and have manufactured millions of GPS units fielded throughout the world. **CalAmp has notable experience with government, utility, and large enterprise fleets.** CalAmp stands ready to continue to support our services and products for sophisticated government agencies with the high standards expected of the industry's leading manufacturer and provider of AVL technology.

Our AVL Experience

In recent years, CalAmp's acquisition of LoJack, Radio Satellite Integrators, Wireless Matrix, Synovia, and others has given us unparalleled local government experience and a market-leading AVL solution based on Esri ArcGIS Server technology. CalAmp has directly implemented thousands of AVL systems in hundreds of thousands of vehicles and has the largest breadth of AVL experience of any company in the world. We manufacture over two million M2M devices annually. CalAmp leverages this real world experience with municipal and government fleets to offer you the most innovative and reliable AVL systems on the market.

CalAmp iOn Telematics Solution

CalAmp's iOn Telematics application incorporates mapping technology using Esri ArcGIS Server and can be implemented in a variety of configurations and is a hosted Web browser based software as a service. Engineered and designed as an enterprise-level government AVL solution, the CalAmp iOn Telematics solution can be uniquely tailored for specific end-user departments (such as sanitation and snow plows) as well as fleet managers. The in-vehicle mobile units and CalAmp Telematics Cloud (CTC) are linked via two-way LTE wireless communications, allowing for timely data transmission between the field and software.

CalAmp Mobile Units

CalAmp is the world leader in AVL unit manufacturing and can offer a wide variety of the newest state-of-the-art AVL devices for various customer needs. The CalAmp LMU series of mobile GPS devices can be equipped with a variety of networks, options, serial ports and sensors that integrate to virtually any devices and external status signals, such as: cameras, armatures, PTO, lights, brooms, engine diagnostics, ID readers, etc.

Company Profile & Financials

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About CalAmp

CalAmp (NASDAQ: CAMP) is a proven leader in providing wireless communications solutions to a broad array of vertical market applications and customers. CalAmp's extensive portfolio of intelligent communications devices, robust and scalable cloud service platform, and targeted software applications streamline otherwise complex machine-to-machine (M2M) deployments. These solutions enable customers to optimize their operations by collecting, monitoring and efficiently reporting business critical data and desired intelligence from high-value remote assets.

For more information and a detailed financial statement, please visit www.calamp.com

Audited SEC Financial filings: http://investor.calamp.com

CALAMP VITALS

- Headquartered in Irvine, California; 11 offices worldwide
- Founded in 1981; publicly traded since 1983 (NASDAQ: CAMP)
- Number of Employees: Approx. 1300
- Annual device run rate: Approx. 2M units
- More than 10 million devices under management on our platforms
- Approx. 1.3M+ unique software application subscribers

CalAmp Experience

Our expertise is rooted in our deep knowledge of the complexities of machine-to-machine communications (M2M) and the unique challenges and demands of a wide array of vertical markets. We help reinvent business and improve lives around the globe with technology that connects cargo, companies, cities and people. With our global network of licensees and a strong ecosystem of industry partnerships, we bring intelligence to the edge and drive business efficiencies.

Industry leading technology, powerful data analytics and a world class ecosystem of telematics leaders are the heart of The New How. It's about solutions that power autonomous IoT interaction, facilitate efficient decision making and optimize resource utilization.

CalAmp Telematics Experience

City of Dallas: The City of Dallas is at the heart one of the largest metropolitan areas in one of the largest states in the country. CalAmp is currently implementing a city-wide AVL system with the City of Dallas. After a thorough and competitive RFP process, CalAmp was selected more than a dozen proposals to provide a turn-key AVL system that is starting with the solid waste fleet. The enterprise level AVL system will thereafter be expanded to potentially every one of the 5000 city-owned vehicles throughout dozens of city departments.

Commonwealth of Virginia- VDOT: CalAmp was awarded the state contract for the Commonwealth of Virginia through a rigorous RFP process. The state contract requires all Commonwealth agencies to use the selected CalAmp technology for their telematics and fleet management needs. The first Commonwealth agency to proceed using the new contract was the Virginia Department of Transportation (VDOT). VDOT signed on for a ten (10) year contract to track 12,000 vehicles for their internal vehicles as well as snow plow contractors.

Commonwealth of Pennsylvania: As the fifth most populous state in the union, the state government of the Commonwealth of Pennsylvania is tasked with the massive responsibility to keep state-run services operating smoothly and efficiently. In order to do this, the Department of General Services' Bureau of Vehicle Management selected CalAmp to provide a turn-key AVL and telematics system to help manage passenger vehicles across the state. In addition to advanced vehicle telematics and diagnostic data, the system provides other functions such as a driver ID as well as a commute usage button allowing the state to analyze commute use versus operational use.

Chatham County, GA: Chatham County is the state of Georgia's fifth most populous county and with it's 265,000 residents, it is the most populous county outside of the Atlanta metro area. Home to the beautiful City of Savannah, Chatham County uses the GovOutook AVL system to track a wide variety of vehicles and departments, with a heavy concentration on the Public Works and Parks Services Departments. The enterprise design of the system allows various agencies and groups to use the system in different ways.

City of Savannah, GA: As the fifth most populous city in the state of Georgia, Savannah is known for its historical significance and beauty. With a population nearing 150,000 the city needed technology and capabilities to manage their expansive vehicle fleet for optimal productivity and accountability. Using the CalAmp Telematics system, the City tracks several hundred vehicles for dispatching and fleet management purposes.

City of San Diego: The City of San Diego has the eighth largest population in the country and a metro area population of over 3 million. Through an extensive competitive selection process, the City selected and contracted CalAmp to provide a comprehensive enterprise AVL system for their vehicles. CalAmp implemented a city-wide AVL system that encompasses every city-owned vehicle spanning over a dozen different departments.

The CalAmp AVL system spans over approximately 1900 vehicles and all city agencies including: public utilities, environmental services, parks, fire, inspectors and many more.

City of Las Vegas: The City of Las Vegas, Nevada is a world renowned entertainment, gambling, and tourist destination. With nearly 650,000 residents, Las Vegas is the most populous city in the State of Nevada and the 28th most populated city in the United States. In order to effectively manage their expansive vehicle fleet operations and maintenance across several departments, the City selected CalAmp to supply a state-of-the-art AVL solution that provides real time vehicle location and usage for a wide variety of managerial and analytics purposes.

New York City Metropolitan Transit Authority (MTA): New York City MTA is responsible for public transportation throughout New York City, including subway and bus service. NYCT is the largest public transportation agency in North America and has a ridership of over 7 million trips daily and 2 billion trips annually. CalAmp has multiple contracts for various fleets within NYCT MTA. Currently there are several departments using the CalAmp AVL system including: Revenue, Supply Logistics, Bridges & Tunnels, Electronic Maintenance Division, Bus Support, and others. CalAmp has several different systems tracking snow plows, armored trucks, supply logistics vehicles, as well as bus support vehicles.

Cook County, IL: Cook County is nationally known for being home to the great city of Chicago, Illinois. With 5.2 million residents, Cook County is the second most populous county in the country. CalAmp was contracted to implement a county wide AVL system for Cook County installed in vehicles in various County departments. The County uses the CalAmp AVL system to track and manage hundreds of vehicles and agencies including snow plows for the Highway Dept. as well as various vehicles for departments such as Building & Zoning, Homeland Security, and Forest Preserve.

City of Alexandria: Located just down the Potomac River from Washington DC, the City of Alexandria is home to approximately 150,000 people. As the location to many national organization headquarters and federal operations, the city wanted to do all they could to make sure their public services and various infrastructure run with optimal efficiency and accountability. The City uses the CalAmp AVL solution to track a variety of vehicle fleets including public works, refuse, and snow plow operations.

City of Ann Arbor: Ann Arbor, Michigan is home to the world renowned University of Michigan. With a metro area of over 340,000 residents, Ann Arbor is one of the most progressive and forward thinking cities in the Midwest. The City selected CalAmp to provide real time vehicle tracking for its city vehicles, including public works and snow removal vehicles with an interface to the Cityworks system. Residents are able to log on to the City website and view the location of the snow plows relative to their routes and homes. Leveraging a shared Esri GIS technology, the city's snow plow routes are overlaid on the map display.

Technical Overview-Proposed Solution

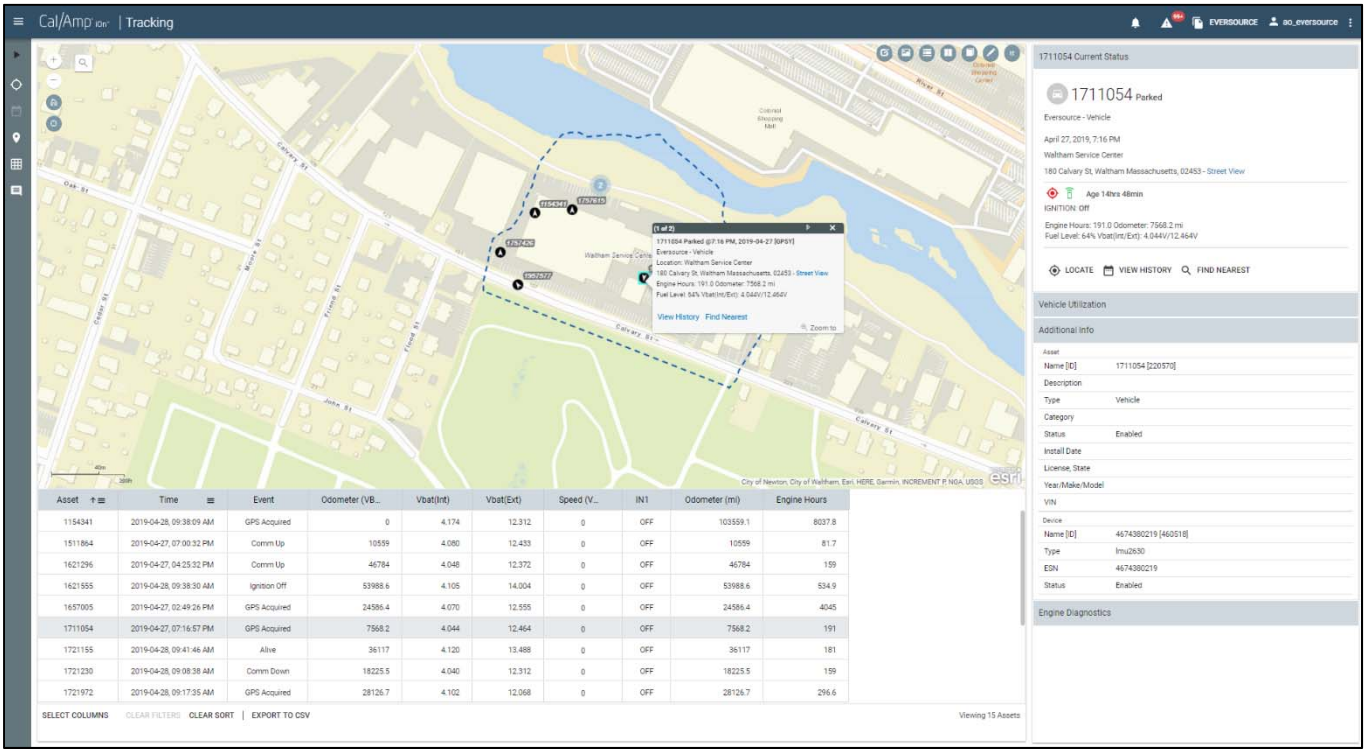
CalAmp's Telematics Solution

The CalAmp iOn Telematics solution consists of in-vehicle equipment and hosted base applications and services.

The **In-Vehicle Equipment is centered on the CalAmp LMU Mobile Unit,** a self-contained "black box" device integrating GPS location and sensor technologies, as well as wireless communications. The mobile device can be connected to any device such as: cameras, data terminal, ID reader, as well as sensors including: lights, ignition, doors, plows, spreaders, alarms, etc.

The CalAmp iOn Telematics ***Web browser based Application*** is compatible with Esri ArcGIS Server mapping technology and securely hosted in the cloud using the CalAmp Telematics Cloud (CTC) platform. Users interact with the system through intuitive mapping tools as well as a configurable robust reporting application. The CalAmp iOn Telematics program will use the client's existing Esri GIS map data if it's available.

The CalAmp system manages all fleet communications and configuration, acts as a messaging and data transfer gateway between base-side applications and in-vehicle devices, and archives and distributes the vehicle location and status information to the mapping application over the Internet.



Note: Your user interface may differ from screen shots provided.

CalAmp Telematics Cloud (CTC) Enablement Platform

The CalAmp iOn Telematics solution is based on the robust CalAmp Telematics Cloud (CTC) platform and can direct and communicate two way data with virtually any variety of third party database or application via a rich offering of APIs and a data pump.

Data Integration with Third Party Applications

CalAmp CTC is a turn-key, cloud-based M2M application enablement platform with a complete set of services that simplifies the complexity between remote assets and enterprise applications. The result is a reliable and secure solution delivered in the shortest cycle at the most economical price from both a component and total cost of ownership analysis. CalAmp CTC enables enterprise organizations to translate business goals into significant ROI and easily roll out a solution across the entire enterprise.

CTC's interactive API docs include a tool for exercising the RESTful APIs. This developer-friendly tool visually describes how to consume the REST API services. REST API descriptions and related object schemas are integrated in the CalAmp's development practices so the API tools are documented as changes occur. Full details of all parameters and responses are available, plus an interface to try each service.

CalAmp has been working with Esri for more than 20 years and is a Silver Esri Partner. Our solution's mapping engine is based on Esri ArcGIS Server so we can display your proprietary GIS map data layers within our system as well as send data directly into your GIS.

CalAmp is a proud Cityworks Business Partner and shares many mutual clients with various types of system integrations. Since both CalAmp and Cityworks platforms are based on Esri GIS, mapping integrations are particularly robust but can also utilize each others APIs.

CalAmp Telematics Cloud (CTC) Enablement Platform

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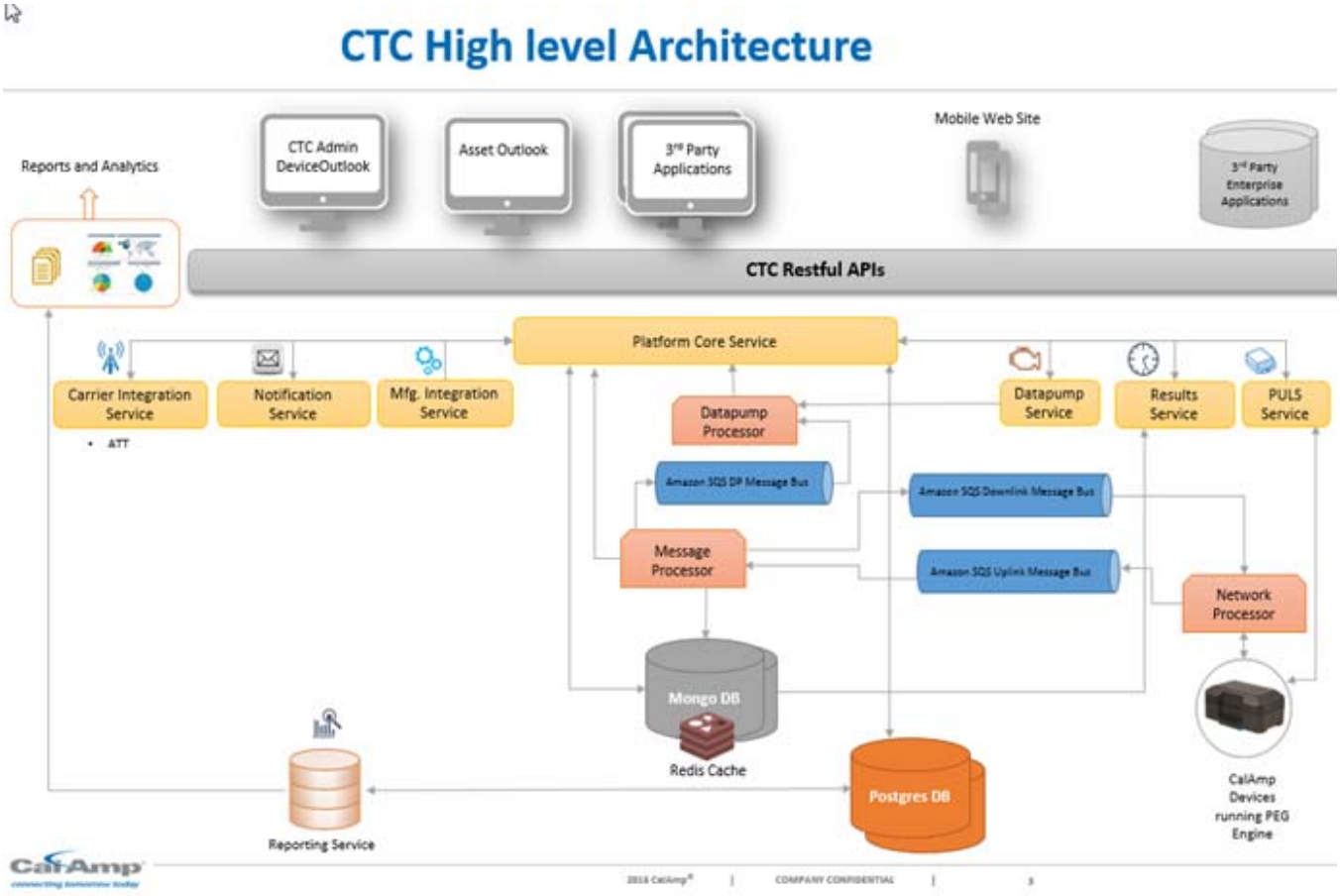


Entity Services

Enable the definition of and retrieval of platform resources. Configure and organize accounts and devices to consume information based on business requirements.

KEY ADVANTAGES: Enrich device data with metadata, accounts and alerts. Apply fine-grain access control around resources.

Data Pump Services

Enable the retrieval of messages from all devices in an account. The service is a FIFO (First-In, First-Out) data queue.

KEY ADVANTAGES: Real-time data feed from all devices in an account, including data decoding capabilities, parsing and binary conversion.

Results Services

Enable the retrieval of historical information. Third-party apps can access persistent data storage for post-processing and data analytic purposes.

KEY ADVANTAGES: CalAmp Telematics Cloud provides the heavy lifting. Reduces data management and code complexity. Provides flexibility over how data is managed and stored.

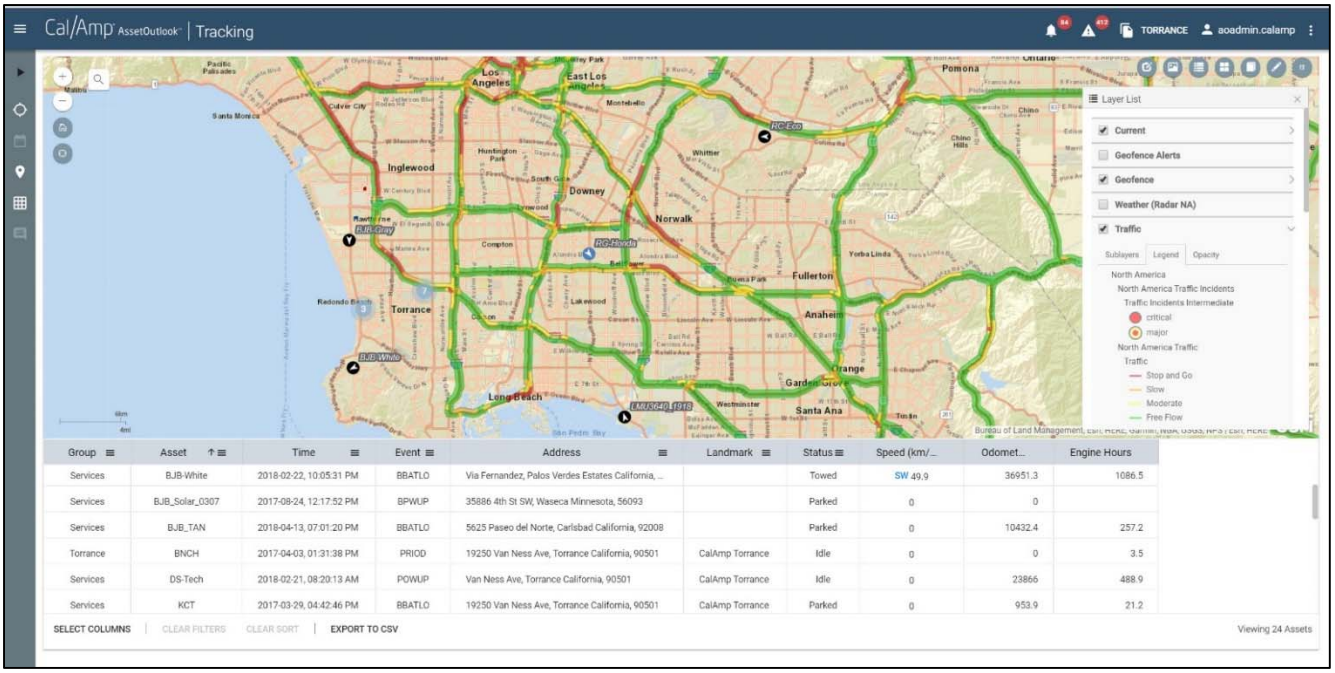
CalAmp iOn Telematics Application

Our newly updated powerful Web-Based mapping and display application, CalAmp iOn Telematics, will provide operations personnel the capability to rapidly, geographically analyze the vehicle information and make critical decisions. This mapping application is compatible with Esri ArcGIS Server GIS technology, which displays data collected from the mobile units. They run the tools and controls that enable the operations personnel to quickly adapt the information they are collecting, and analyze the data they are using to manage evolving situations.

The CalAmp iOn Telematics solution provides valuable AVL Management tools:

- Real-Time Vehicle Tracking (map-based)
- Reporting (breadcrumbing, tabular, scheduled, exportable)
- Real-Time Alerts (e-mail and text)
- Dashboarding (KPIs and trends)

The assignment of user-permission levels allows access to appropriate sub-sets of the installed functionality.

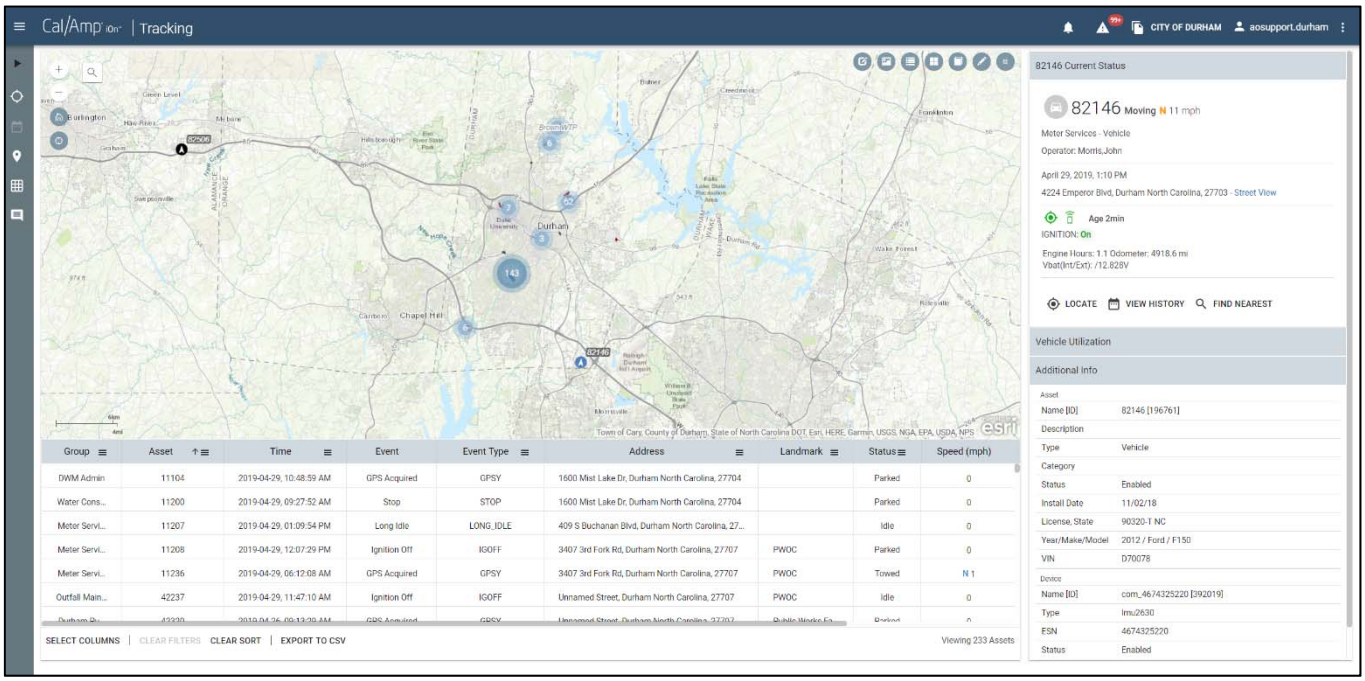


Note: Your user interface may differ from screen shots provided.

Real-Time Vehicle Tracking

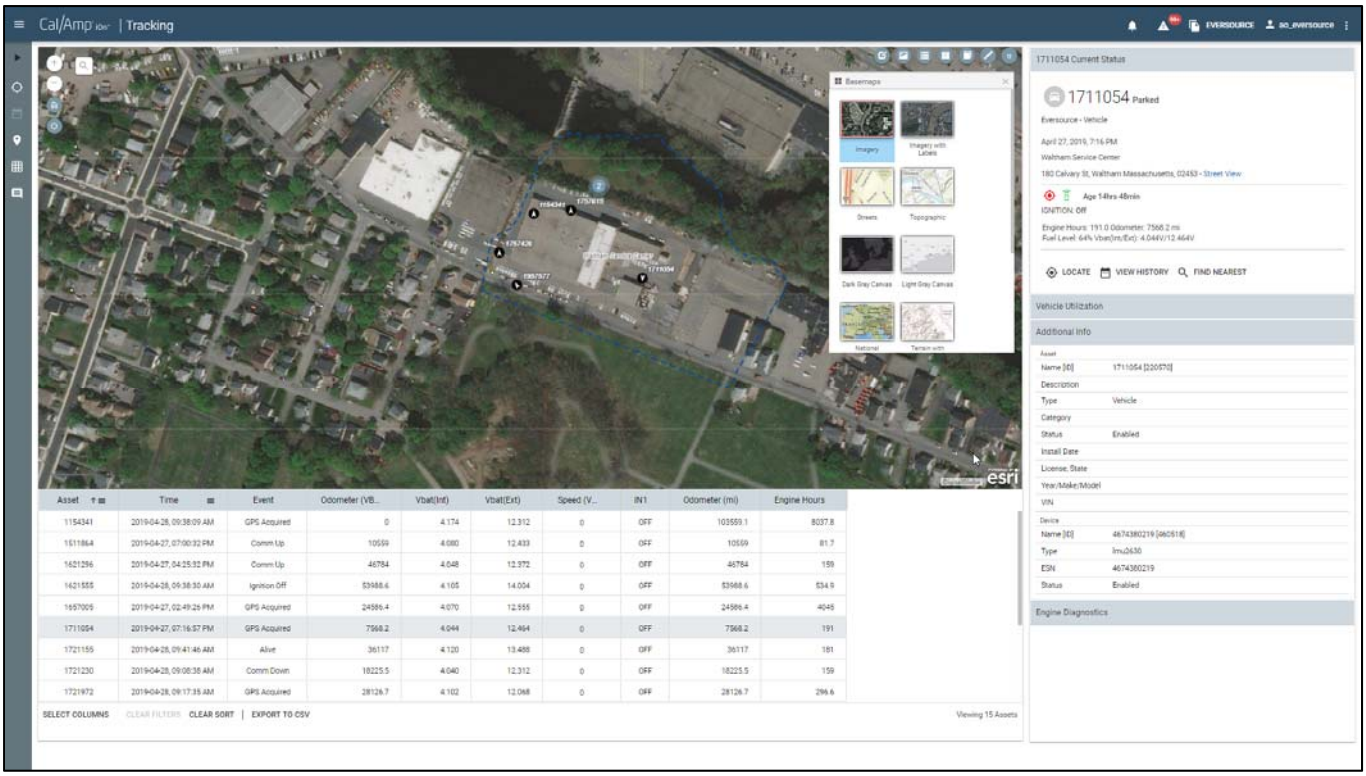
The CalAmp iOn Telematics application displays the current location and status of the vehicle fleet, along with address, landmark and other attribute information, over your proprietary and publically available Esri GIS map data. The use of a powerful Esri ArcGIS Server mapping along with the incorporation of vector map data allows for almost endless display and analysis possibilities.

The vehicle icons indicate (using colors, directional symbols, and labels) various vehicle attributes (such as ID, status, ignition, heading, etc.). All of the vehicle attribute data may be instantly queried and displayed in a pop-up box with a simple click. Further, collapsible information windows show in-depth data on the selected vehicle including usage, diagnostics, background info, and actionable tools.



Map Viewing Features

The CalAmp iOn Telematics Application displays the vehicle data in a "map window." The map window can be set to display a particular area, region, or address, or to track a specific sub-set of the entire fleet (from the entire fleet to an individual vehicle). In CalAmp iOn Telematics the map display window possesses a full-set of map manipulation and query functionality. Map manipulation tools and buttons are available to zoom, pan, and center the display on a particular vehicle or address. Additional tools are available to enable or disable labeling, and to adjust the map display according to user needs or preferences. Map query options include the ability to locate an address, vehicle, or landmark.

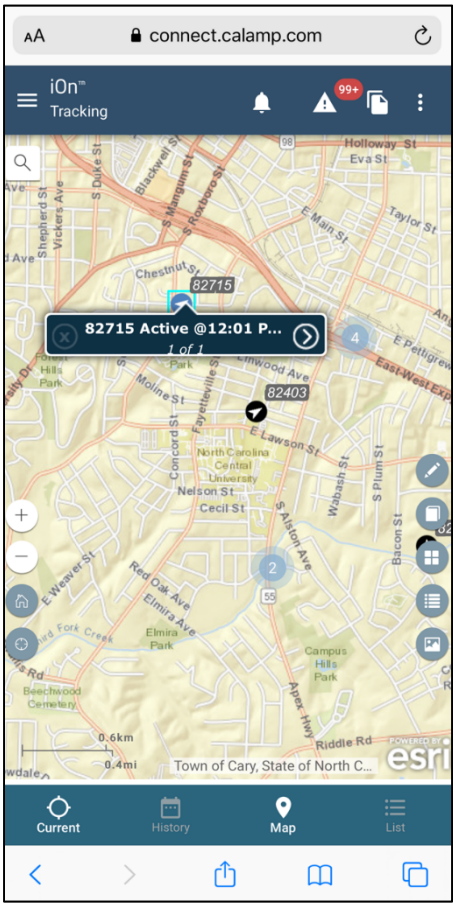


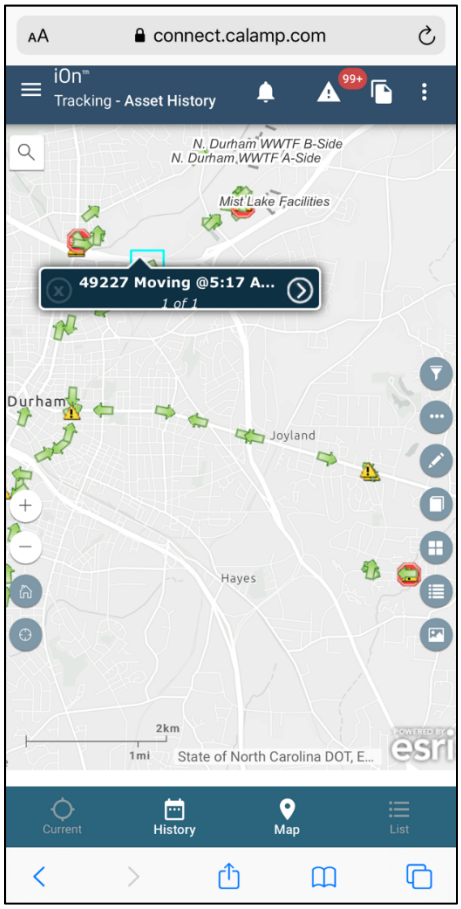
Mobile App- Mobile Device Compatible

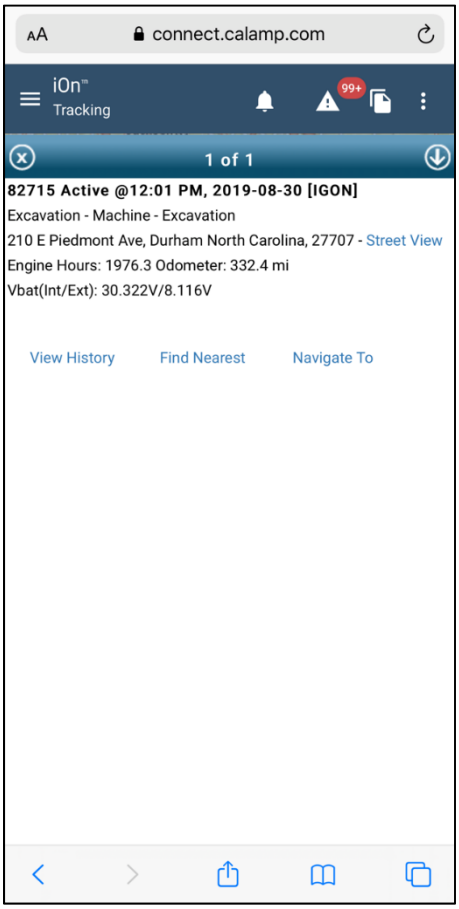
The standard CalAmp iOn Telematics application can be accessed in any web browser including mobile phones and tablets.

Using the latest web programming technology (HTML5 Javascript) allows the application to automatically configure its menus, buttons, orientation, and font size to be user-friendly and navigated with any mobile device, screen size, or operating system.

- No cumbersome apps to download and constantly update.
- No compatibility or functionality issues between operating systems or device types.
- Major tracking functions of the system on any mobile device.

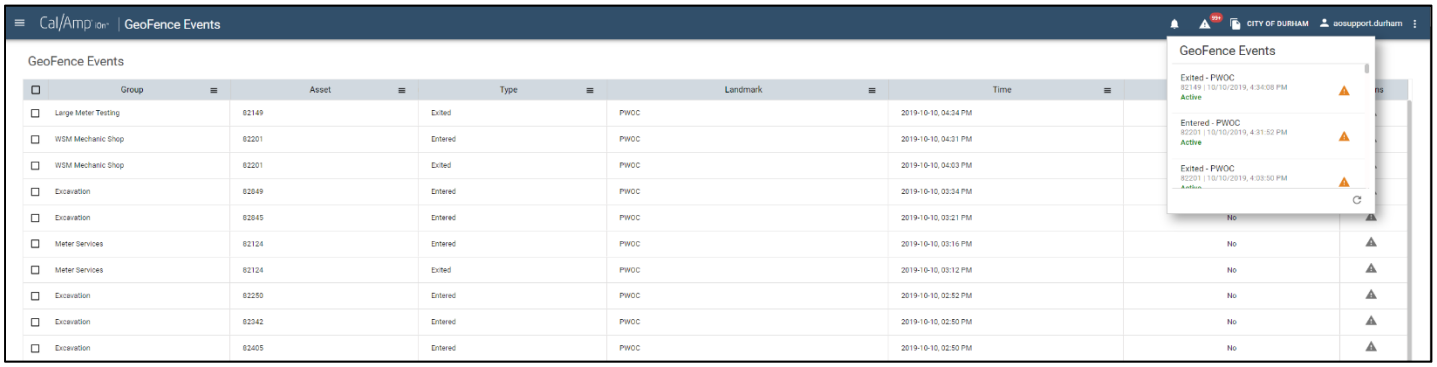


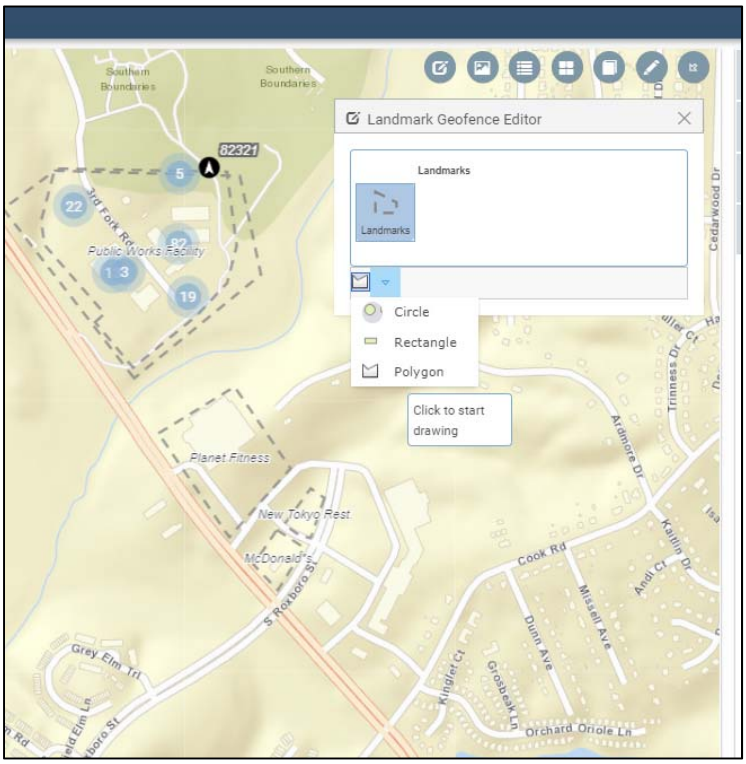




Geo-Fencing

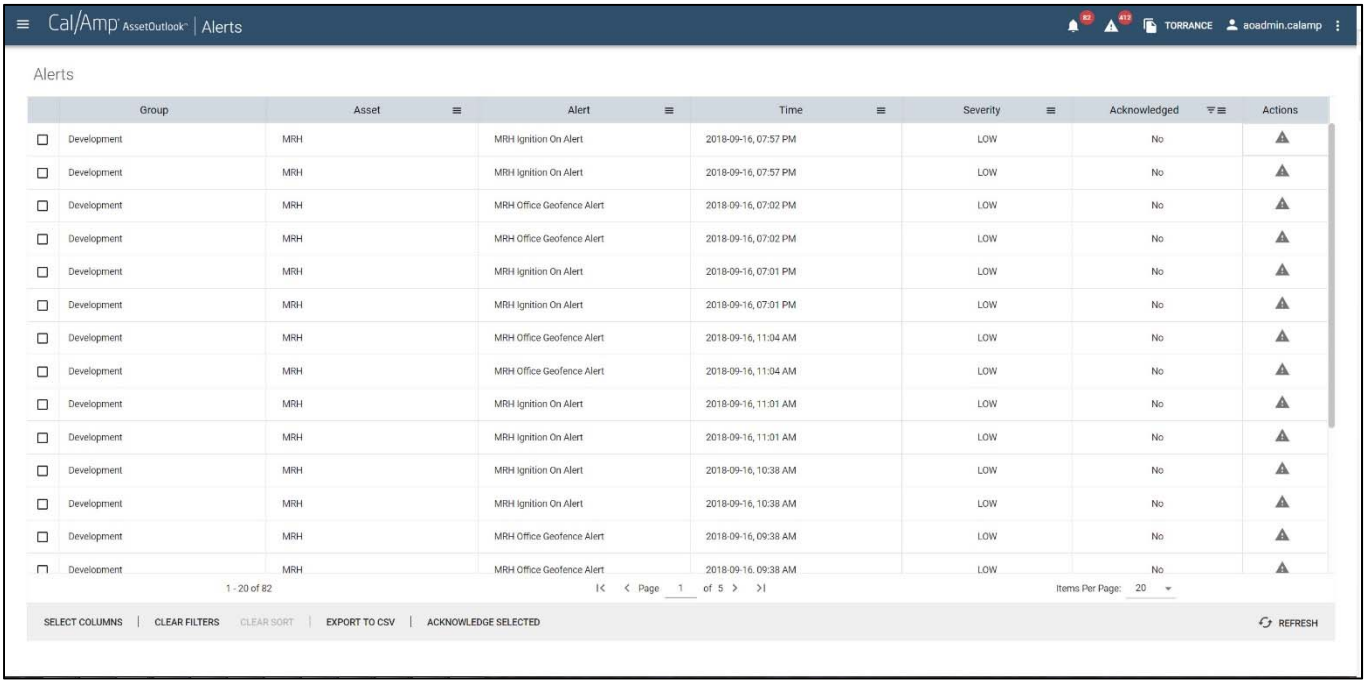
The CalAmp iOn Telematics Solution allows the user to set geo-fences on the map display. The geo-fences will create an alert and/or exception report when breached and will appear as another item of status data with each vehicle position report. Geo-fences can be created as polygons or a configurable radius from a specific point, as well as created from existing boundaries, landmarks or zones within your GIS.





Real-Time Alerts

The CalAmp iOn Telematics system allows authorized administrators extensive control over system features including alerts and alarms. The system can be configured to notify selected users when specific events occur with any of the vehicles. This includes geo-fences, idle, panic buttons, speeding, harsh driving, etc. Notifications can be sent as an e-mail, SMS, or to the alert screen on the software.



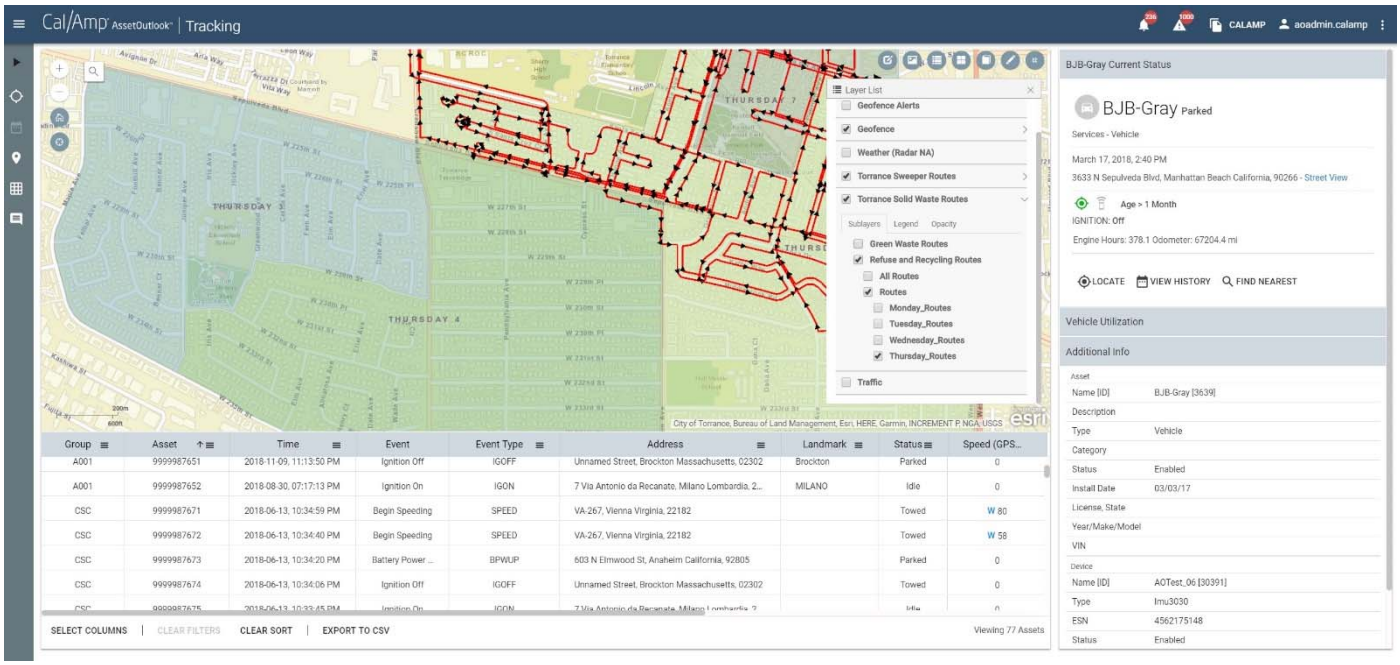
Esri GIS Mapping

The CalAmp iOn Telematics mapping application is compatible with Esri ArcGIS Server, the mapping and GIS engine from Esri, the largest GIS software vendor in the world, and a pioneer of the technology. Their systems are in use throughout the world by utilities, governments, and large companies, in thousands of applications, which rely on analysis of spatially referenced data.

esri Partner Network Silver

Using YOUR Map Data

The CalAmp iOn Telematics system can use virtually any type of map data, but in particular our software can overlay our AVL information on your own Esri GIS maps WITHIN our application. CalAmp allows you to utilize your existing investment of time and labor that went into your Esri map data. The CalAmp iOn Telematics system displays real-time vehicle location and status data in relation to the infrastructure, assets, boundaries, updates, routes, parcels, landmarks, and other critical elements of your constantly changing GIS map data. CalAmp has extensive experience working with Esri data and environments in all forms (.shp files, SDE, etc.). As an option, CalAmp can actually access your GIS map data in real time via Map Services.



Example Zone and Turn by Turn Route Overlays

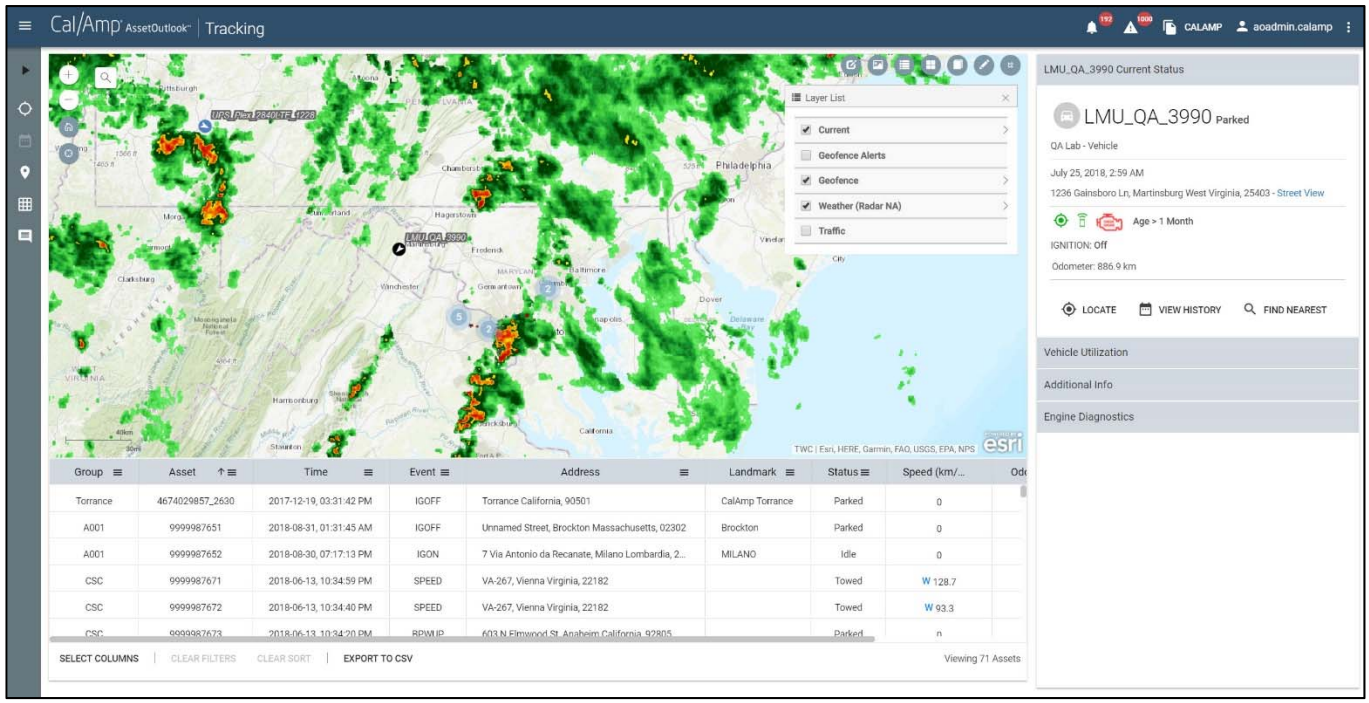
Exchanging Data with GIS

In addition to bringing your GIS data into our AVL application in real-time, we can also provide AVL data outward to your GIS, or any Esri GIS based application using a variety of interface protocols such as Map Services and Esri GeoEvent Server.

External Data Overlays

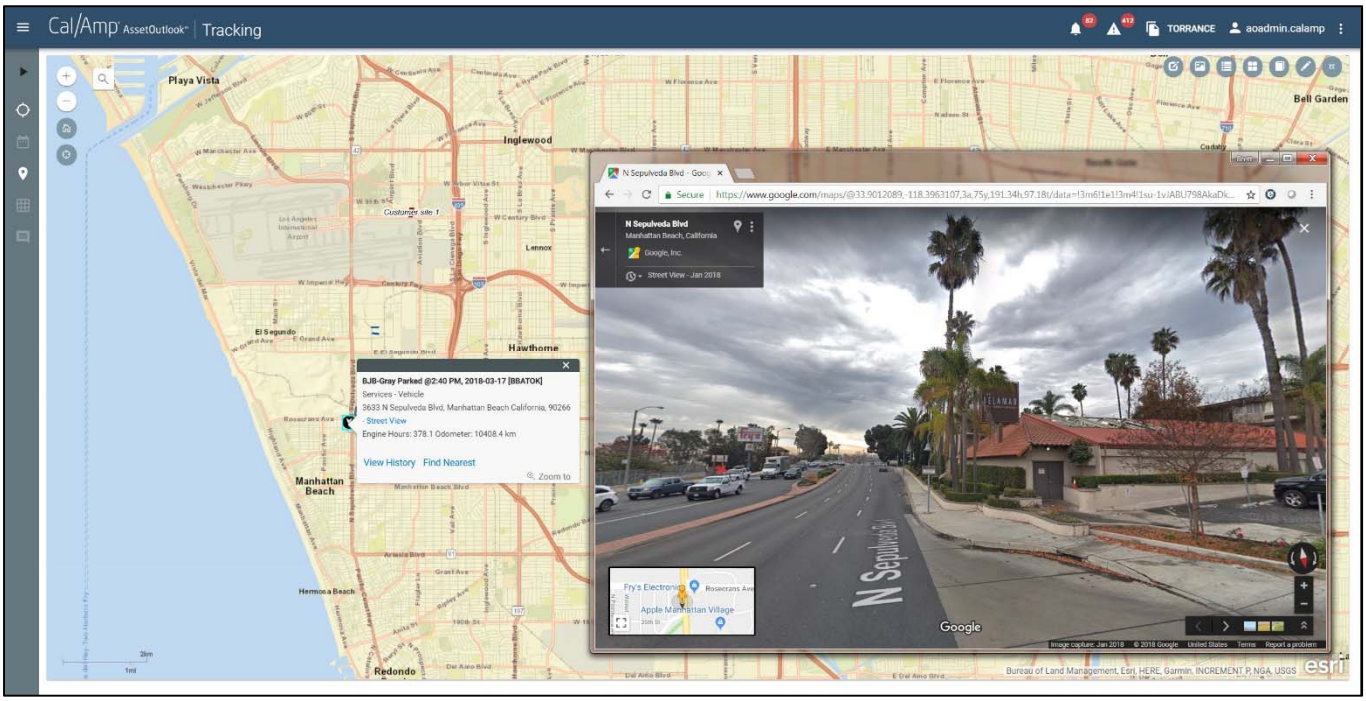
Because of our powerful universally used Esri GIS mapping technology, we can display external data from other map data sources as an option. Data can come from your own GIS sources or external sources and used as a layer in our AVL mapping. Some examples of these sources/feeds are:

- Real-Time Weather
- Real-Time Radar
- Real-Time Traffic



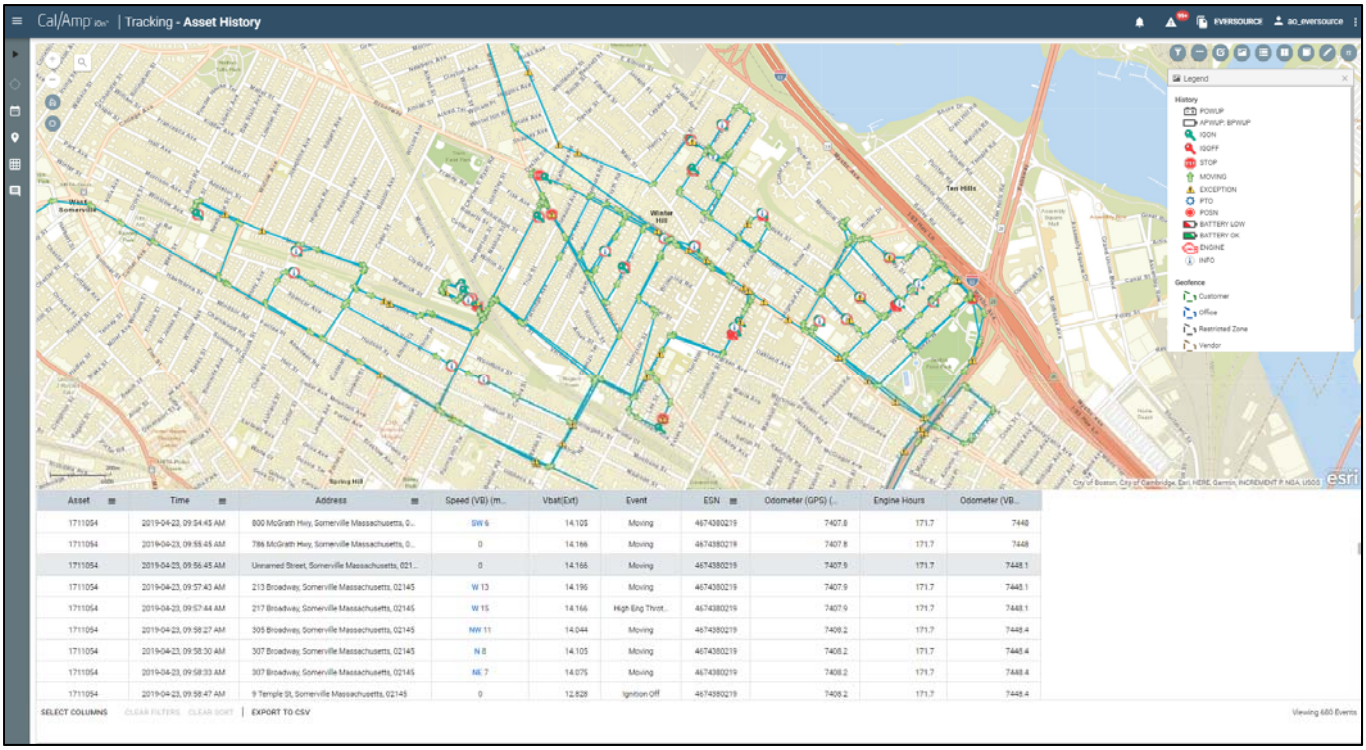
Google Maps Street View Tool

The CalAmp iOn Telematics system has a feature that leverages the highly useful Google Maps Street View tool from the CalAmp iOn Telematics system interface. This CalAmp Google Street View Tool allows the user to click anywhere on the GIS map data within the CalAmp iOn Telematics Map window, and CalAmp iOn Telematics will hyperlink that location to a new pop-up window showing the Google Maps Street View of that exact location. This function allows the CalAmp iOn Telematics user to see the typical real world surroundings of a specific place from their GIS. The Google Maps Street View shows images of the area recently captured (not real-time) by Google's mobile cameras. It allows the users to see things like buildings, road signs, lanes, businesses and other permanent structures that exist at that location that their GIS data does not have.



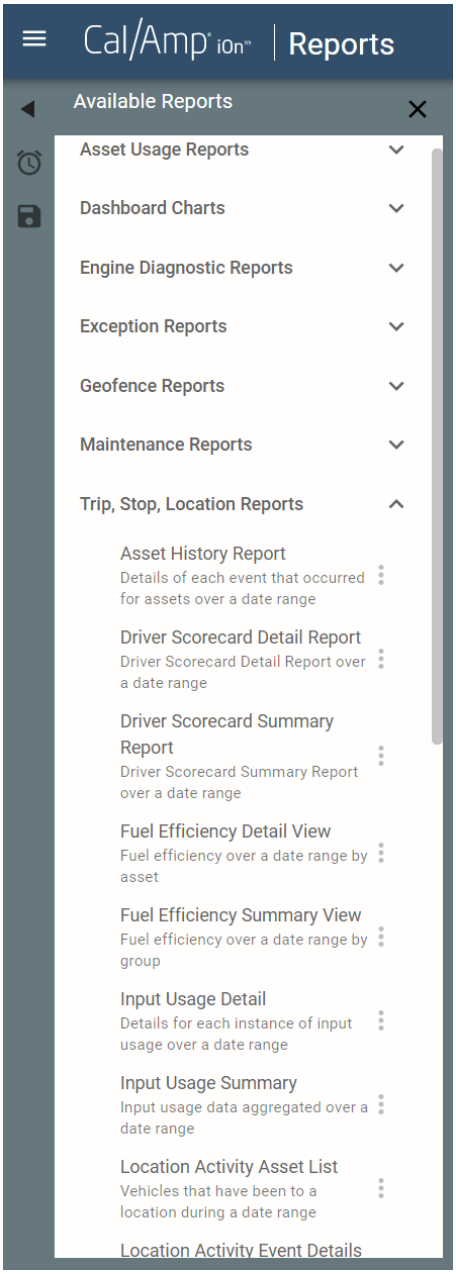
Historical Breadcrumb Replay Feature

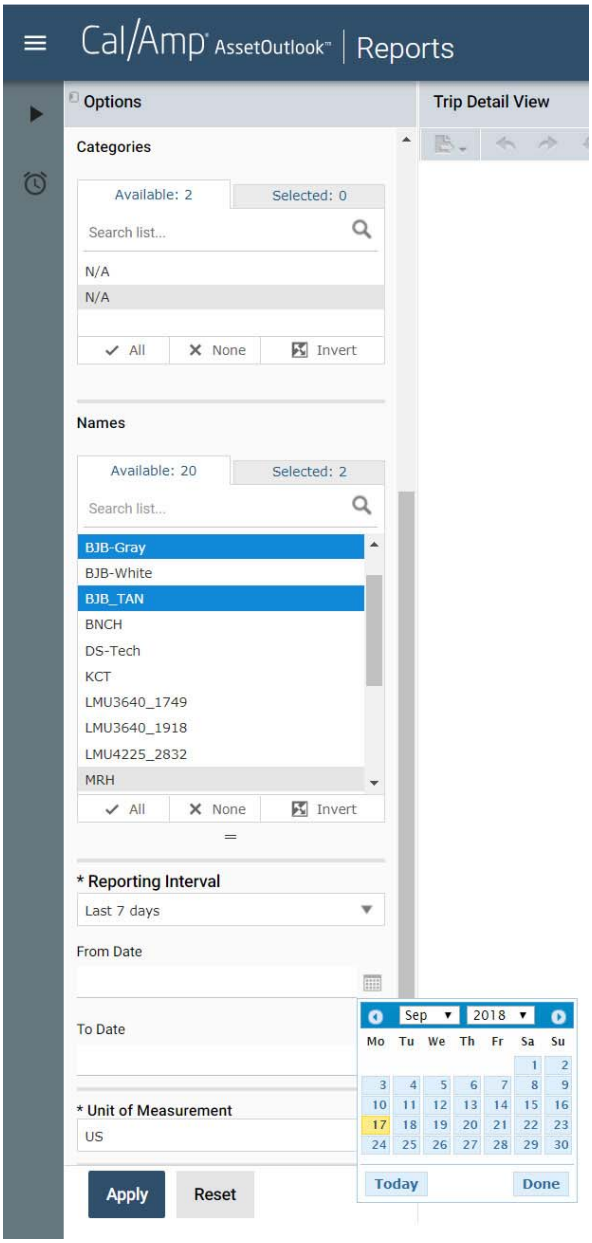
The CalAmp iOn Telematics system allows you to see a historical breadcrumb and replay of any portion of a vehicle, or group of vehicles, activity history. Controls let you play, pause, rewind, and fast forward the replay allowing you to watch the vehicles' movement and behavior including location, device activities, alerts, status changes, events, etc. Each breadcrumb icon represents a vehicle position/event and all its underlying data including address, direction, speed, and status. Breadcrumb icons can represent various statuses and events, such as ignition off/on, or a device is activated (broom, plow, armature, PTO, etc.).



Reporting Functions

The Report Generation module can generate both extensive tabular and detailed graphical map-based reports using archived vehicle location and status data. Reports may be produced for selected vehicles (or groups of vehicles) according to time, location, and status criteria. The **Map-based report** displays allow users to visually display or re-trace a vehicle's route and status, and include the same map manipulation and query functionality as the real-time vehicle tracking displays. **Tabular reports** display unit location and activity in configurable, sortable, and filterable tables. Reports can be configured, saved, scheduled, etc. Such reports may be exported into virtually any format including .CSV and MS Excel files as well as scheduled and sent to any recipients.





Reports

CalAmp iOn Telematics provides a highly customizable and flexible report module for generating reports to help you monitor asset operations and performance. The CalAmp iOn Telematics system comes with a suite of standard graphical and tabular reports that cover all the main vehicle activities that one would expect from an industry leading AVL system. After you generate a report, you can customize the look and feel, save, and schedule. You may want to filter or remove columns from the report, change the sort order or highlight actionable data. Once finalized, you may opt to display report data directly within CalAmp iOn Telematics or export to standard file formats such as PDF, Excel, or CSV.

We have spent years working with hundreds of fleet customers to refine our report offerings to encompass the most useful and important reports.

Some of the data in our standard reports are:

- Vehicle Activity
- Driver Performance
- Travel & Stop
- Over Speed
- Harsh braking/acceleration
- Geo-fences
- Idle Reports
- Vehicle Usage (Mileage, Idle Time & Engine Hours)
- Vehicle Inactivity
- Sensor Reports (armatures, PTO, broom, plows, etc.)
- Diagnostic Trouble Codes (if equipped)

See Attached Report List

Asset Usage Reports

- **Asset Daily View**
  Basic utilization and usage data for selected assets for each day
- **Asset Summary View**
  Basic utilization and usage data for selected assets over a date range
- **Idle Detail Report**
  Details and duration of each idle event that occurred for assets over a date range
- **Idle Summary Report**
  Summary of all idle events over a date range for assets/operators
- **Maintenance Management Interface**
  Generate data for integration with maintenance management software
- **Vehicle Daily View**
  Basic vehicle usage data for selected vehicles for each day
- **Vehicle Metrics Analytics View Report**
  In-depth vehicle usage data for export to user pivot software
- **Vehicle Metrics Detail Report**
  In-depth vehicle usage data for each day
- **Vehicle Metrics Summary Report**
  In-depth vehicle usage data over a date range
- **Vehicle Summary View**
  Basic vehicle usage data over a date range

Dashboard Charts

- **Asset KPI Ranking**
  Asset KPI bar chart
- **Asset KPI Trend**
  Asset KPI trend line
- **Asset Utilization Range**
  Asset Utilization pie chart
- **Asset Utilization Trend**
  Asset Utilization grouped bar chart

Engine Diagnostic Reports

- **J1939 DTC View**
  DTC alerts for J1939 assets
- **J1939 Fault Lamp View**
  Fault lamp status for J1939 assets
- **OBD-II DTC View**
  DTC alerts for OBD-II assets
- **OBD-II MIL View**
  MIL status for OBD-II assets

Exception Reports

- **Alert Notifications Report**
  Overview of alert notifications received
- **Device Communication**
  Device details and communication status
- **Device Input Report**
  Device input event details
- **Device Installation Report**
  Installation/configuration details for devices and their associated assets
- **Driver Vehicle History Report**
  History of operator assignment to assets over a date range
- **Invalid Keyfob Report**
  Displays usage of unregistered key fobs over a date range
- **Posted Speed Violation Detail View**
  Details of each posted speed violation that occurred
- **Posted Speed Violation Summary View**
  Summary of all posted speed violations over a date range for assets/operators
- **Tag Inventory Report**
  Associations and status of iOn tags
- **Towing Report**
  Towing Report
- **Unauthorized Usage Detail**
  Details of asset usage events outside of scheduled hours
- **Unauthorized Usage Summary**
  Summary of asset events and usage outside of scheduled hours
- **User Login Detail Report**
  Each user login attempt by iOn users
- **User Login Summary Report**
  User login count and latest login for iOn users

Geofence Reports

- **Geofence Detail Report**
  Usage data for assets that passed through a geofence
- **Geofence Equipment Count Report**
  Snapshot of number of assets located in geofences by asset category/type
- **Geofence Event Report**
  Details of each geofence event
- **Jobsite/Landmark Summary Report**
  Usage data for assets that passed through a geofence over a date range and shown on a day-by-day basis

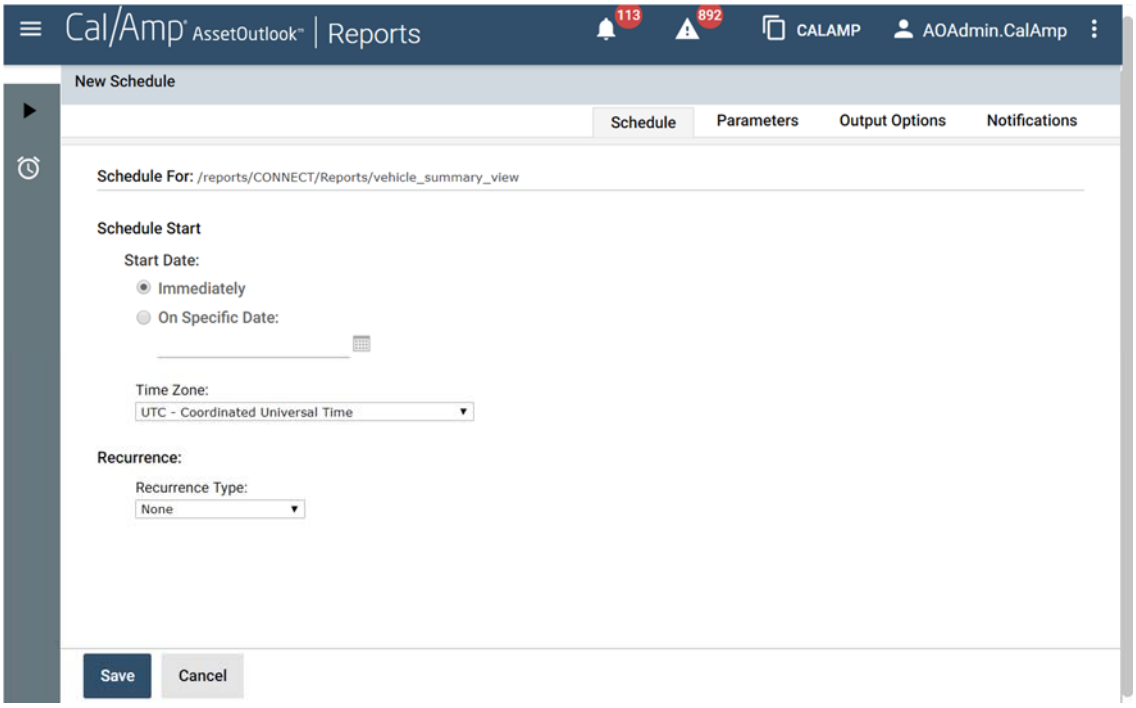
Maintenance Reports

- **Maintenance History Report**
  Record of logged maintenance
- **Periodic Scheduled Maint Due Report**
  Record of upcoming scheduled maintenance

Trip, Stop, Location Reports

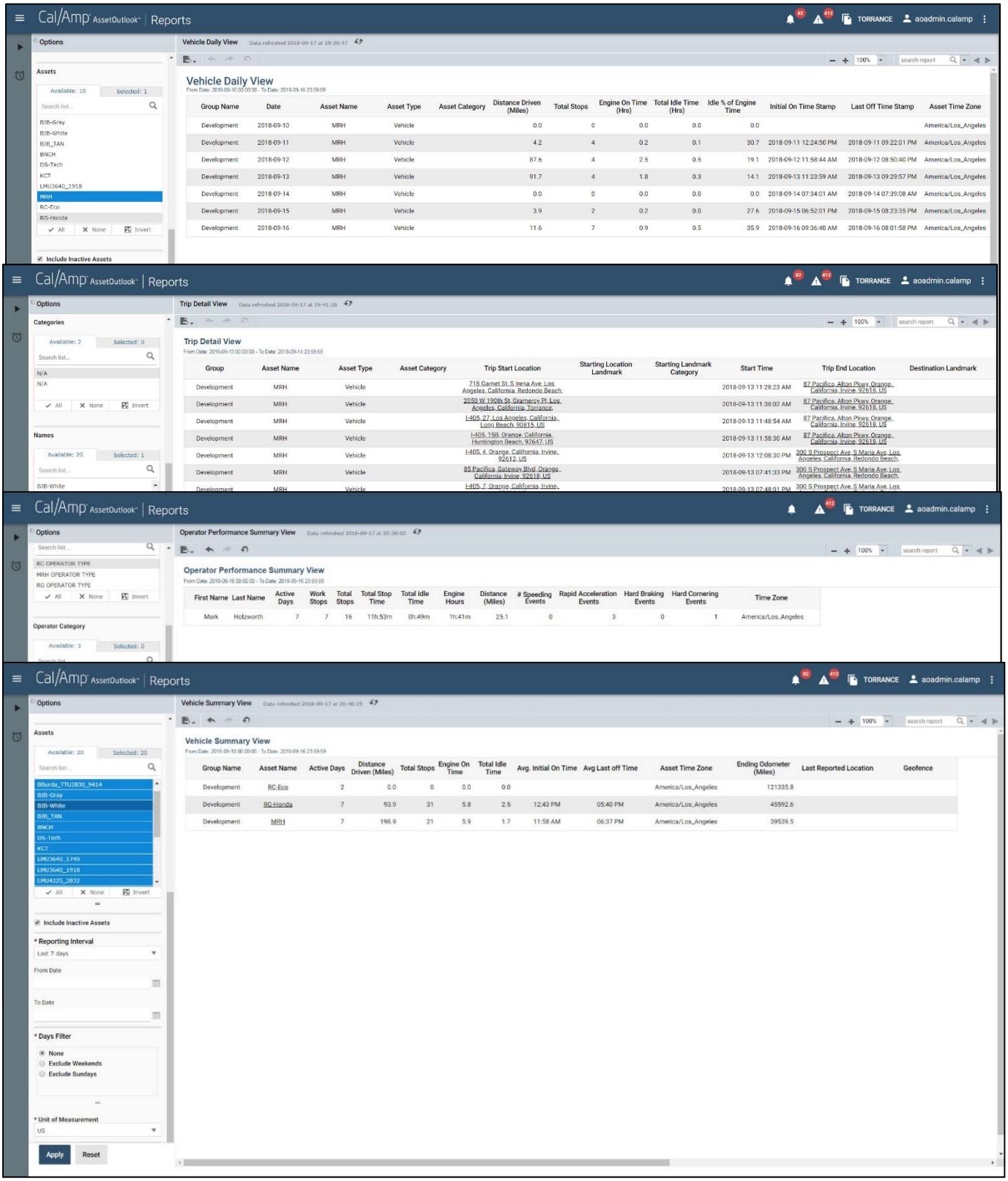
- **Asset History Report**
  Details of each event that occurred for assets over a date range
- **Driver Scorecard Detail Report**
  Driver Scorecard Detail Report over a date range
- **Driver Scorecard Summary Report**
  Driver Scorecard Summary Report over a date range
- **Fuel Efficiency Detail View**
  Fuel efficiency over a date range by asset
- **Fuel Efficiency Summary View**
  Fuel efficiency over a date range by group
- **Input Usage Detail**
  Details for each instance of input usage over a date range
- **Input Usage Summary**
  Input usage data aggregated over a date range
- **Location Activity Asset List**
  Vehicles that have been to a location during a date range
- **Location Activity Event Details**
  Events that occurred in a location during a date range
- **Operator Performance Detail View**
  Operator performance metrics for each day
- **Operator Performance Summary View**
  Operator performance metrics over a date range
- **State Mileage Detail View**
  Distance traveled in each state by asset
- **State Mileage State Summary View**
  Distance traveled in each state for all assets in group
- **State Mileage Vehicle Summary Report**
  Distance traveled by each asset by state over a date range
- **Stop Detail View**
  Data for each stop event by assets/operators/routes
- **Stop Summary View**
  Stop event data for each asset/operator/route over a date range
- **Trip Detail View**
  Data for each trip by assets/operators

Scheduled Reports



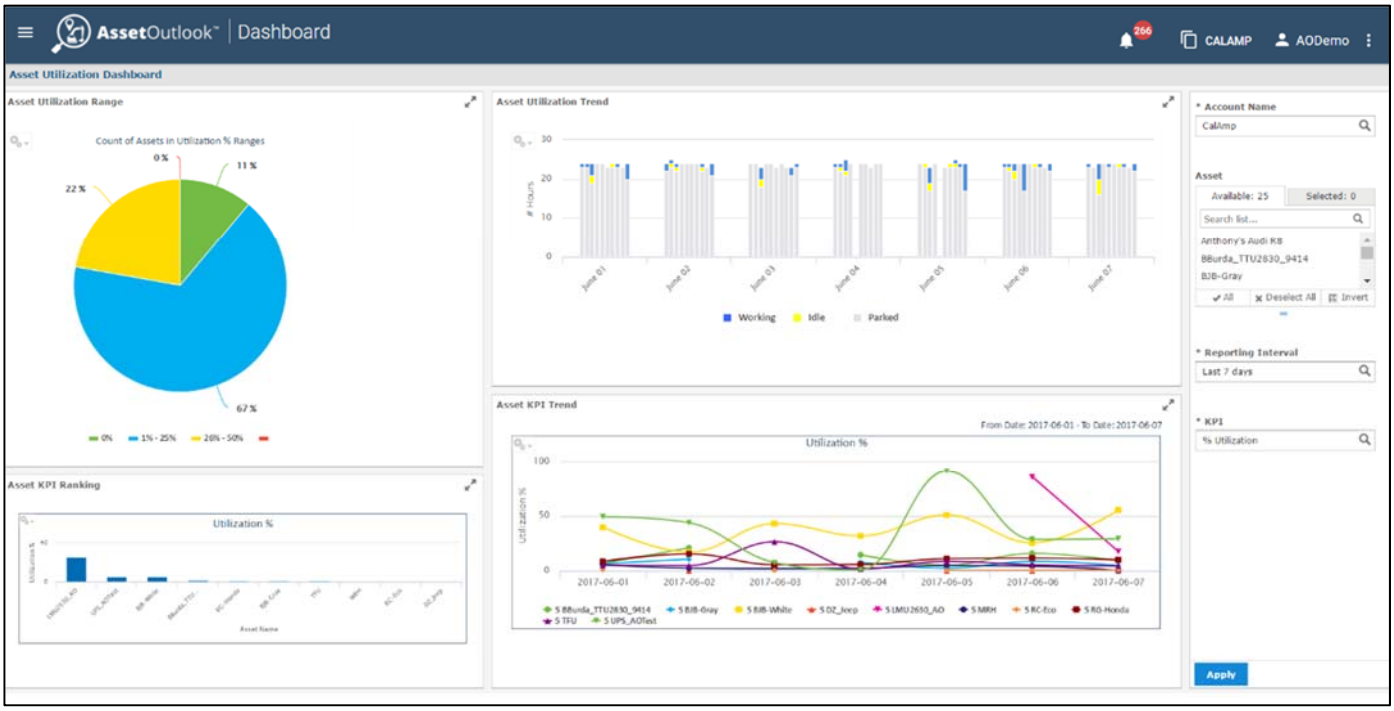
Scheduling a report to automatically generate enables you to receive the results of your report via email without having to log into CalAmp iOn Telematics and manually generate the report itself.

Report Examples



Dashboard

CalAmp iOn Telematics's Dashboard provides a quick view into the real-time status and trending of the utilization of your assets. The Dashboard presents Asset Utilization Range, Asset Utilization Trend, Asset Key Performance Indicator Ranking and Asset Key Performance Indicator Trend. The various dashboard charts can be configured to display data based on the user-defined criteria and updates automatically.

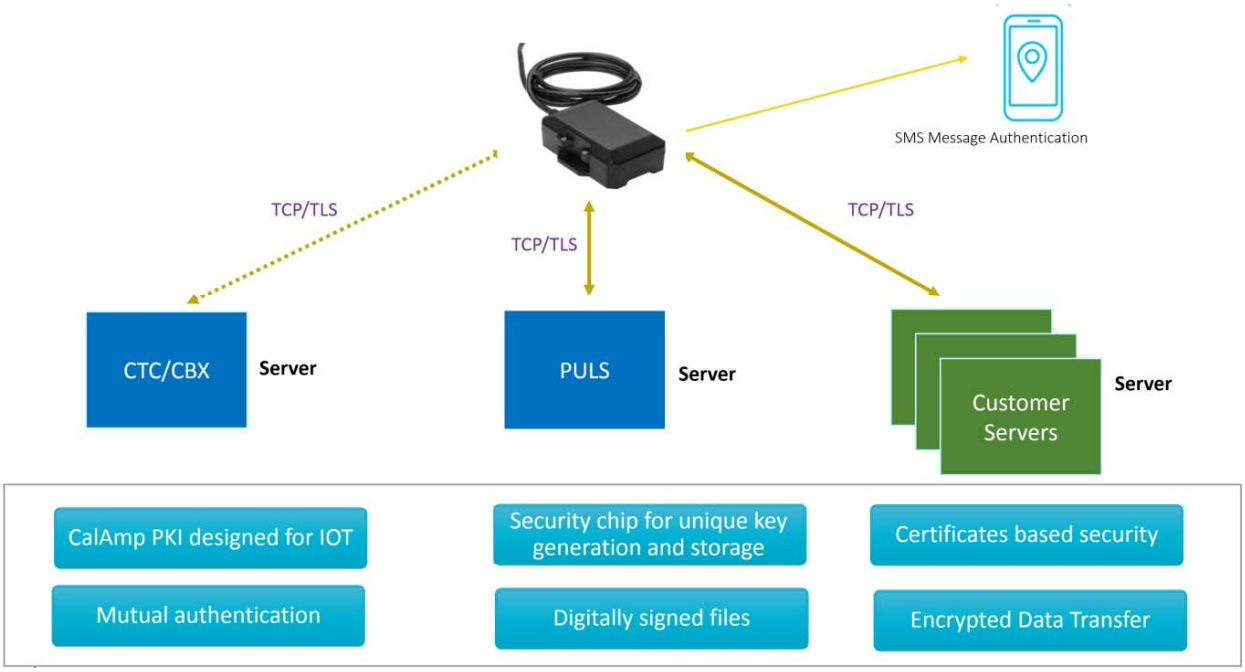


CalAmp System Security

Security Strategy

The enterprise security program provides robust and comprehensive IT and Solution security

CalAmp Security Features



CalAmp LMU Mobile Units

CalAmp is a world leader in the design and manufacturing of GPS vehicle tracking hardware, supplying approximately 60% of the market in the United States. Other vendors resell our devices, but we are the original engineering manufacturer of these devices, approximately 2 million per year!



The recommended CalAmp LMU Mobile Unit includes a dual-mode GPS and RF antenna (internal or external) and associated cabling (if necessary).

Each CalAmp LMU Mobile Unit contains a 50 channel GPS receiver (or greater), wireless communications, and optional multiple external data and sensor ports. To ensure reliability and availability of the entire system, the critical mobile units are built to exacting military standards to resist vibration, climate, and electromagnetic interference. First-quality components, extensive RF/EMI shielding, and specialty power conditioning circuits protect the GPS receiver and micro-controller in the "computer hostile" vehicular environment.

Each CalAmp LMU will be equipped with a state-of-the-art 50 channel, WAAS enabled, all-in-view GPS receiver. This GPS receiver delivers superior performance and field-proven reliability and provides for fast signal reacquisition, position accuracy, and the filtering of spurious and erroneous data. The GPS accuracy is approximately 2 meters (7 feet) CEP. C**alAmp can offer multiple types of LMU mobile units with similar functionality that may support different wireless technologies as well as quantities and types of inputs/outputs.**

The CalAmp LMU product line offers a wide variety of the newest state-of-the-art AVL devices for various customer needs. The CalAmp LMU mobile GPS devices can be equipped with a variety of networks, options, serial ports and sensors that integrate to virtually any devices and external status signals, such as ignition on/off, door open/shut, lights, plow, engine diagnostics, data terminal, ID readers, etc.

Some of the options that are available with CalAmp iOn Telematics hardware are:

- Different wireless carriers.
- Various wireless networks: 3G, 4G/LTE, and Wi-Fi hotspots
- Engine Diagnostics (Light Duty OBD-II or Heavy Duty JBus)
- Driver ID Readers (RFID, magnetic stripe cards, or iButton)
- Emergency Panic Buttons (dash mounted or wireless handheld buttons)
- Inputs/Outputs (sensors, serial ports, USB ports, Ethernet ports, Wi-Fi hot spot)

Alternatively, our full feature in-vehicle Wi-Fi routers offer secure high-speed connectivity in the mobile environment in addition to vehicle tracking and telematics.

Interface to Devices and Sensors

The CalAmp LMU Mobile Unit is optionally capable of interfacing to a wide variety of in-vehicle peripherals and various sensor systems. The CalAmp LMU Mobile Unit serves as a mobile gateway, paying particular attention to supporting a variety of devices and inputs. The CalAmp LMU Mobile Unit will be connected to the on-board vehicle power and optionally to any sensor signals as desired such as:

- Ignition on/off
- Siren/Light Bar/Flashers
- PTO
- RF ID, Card Swipe Reader, iButton Driver ID
- Vehicle Engine Diagnostics
- Door open/closed
- Lights on/off
- Boom/crane
- Plows/spreader controllers
- Brooms/sweepers
- Armature/device up/down
- Landmarking

Panic Button Options

The CalAmp LMU Mobile Unit can be equipped with an emergency panic button configuration that is a dashboard-mounted button that sends a priority signal over-the-air to the dispatch interface or real-time alert.

CalAmp can also offer a wireless handheld panic button that can be activated up to 300 feet from the vehicle.

Antennas, Cables, and Connectors

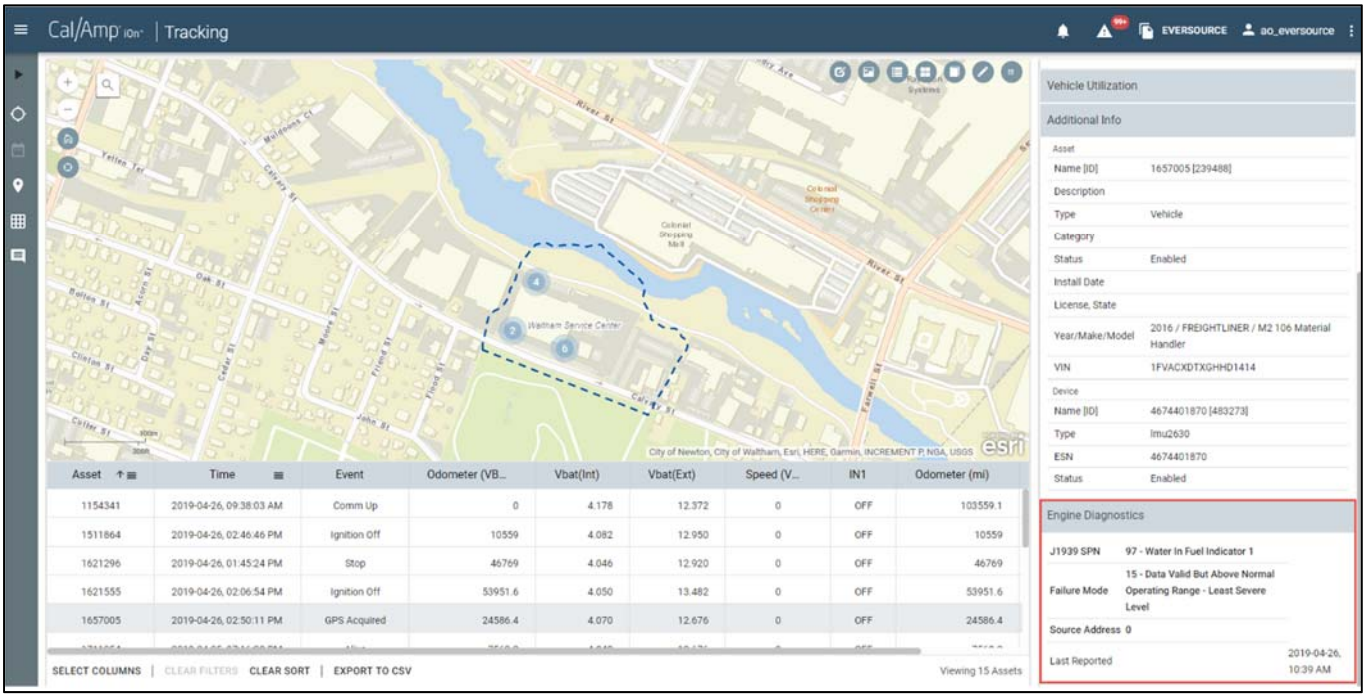
Typically the CalAmp LMU units can be configured with internal antenna, foregoing the need for unnecessary cables, connectors, and installation. The high gain antenna increases the ability for the GPS to receive weak signals under trees or canopy, while it's very small design presents little or no profile for tampering or inadvertent damage. If necessary, the CalAmp LMU Mobile Unit comes with all bracketing, cabling, and connectors required for full installation. CalAmp configures the system so it cannot be easily disabled by the driver and/or user.

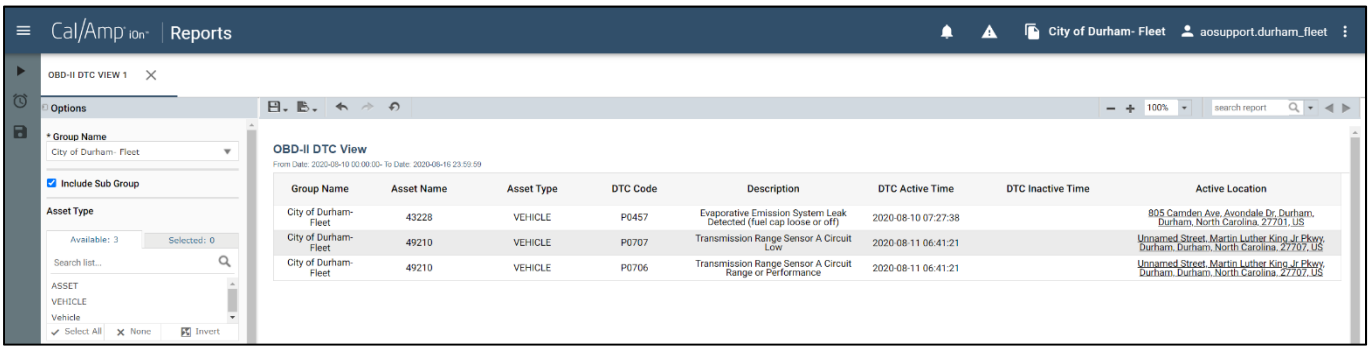
Back-Up Tamper Alert Battery

Our CalAmp LMU devices come equipped with a small back-up battery that can alert the system immediately if power has been cut to the unit. The priority over the air message can be configured to notify specific users (via text, e-mail, or software) that power has been cut to the unit and its current position.

Engine Diagnostic Interfaces

As an option, an interface to engine diagnostics can be added to the CalAmp LMU Mobile Unit giving you real-time access to engine trouble codes and other available vehicle information for either light duty (OBD-II) or heavy duty (JBus) vehicle types. The LMU with optional diagnostic interface is capable of capturing all basic (and non-proprietary) diagnostic data that is made available on each specific vehicle. Diagnostic data and trouble codes are far from standard, so certain data may/may not be available on every vehicle depending on make/model/year. This is a universal issue for all AVL providers.
Diagnostic data available from the diagnostic interface varies greatly depending on the specific vehicle make, model, and year. Standard Diagnostic Trouble Codes (DTC), and odometer are typically available from most vehicles but it is not absolutely guaranteed. The availability of data for such things as Fuel Economy and seat belt usage varies greatly and is not available on some vehicle types.





Remote Configurability

Each LMU device employs CalAmp's advanced industry leading on-board alert engine, (PEG™) (Programmable Event Generator) to monitor external conditions and support exception-based rules to meet your application requirements. PEG monitors the vehicle environment and responds instantaneously to pre-defined threshold combinations related to time, date, motion, location geozone, input and other event combinations. These custom behaviors can be programmed by CalAmp before shipment, or over-the-air once the unit has been fielded.

Automated Device Maintenance

Our LMU device leverages CalAmp's management and maintenance system, PULS™ (Programming, Updates, and Logistics System), for over-the-air configuration parameters, PEG rules and firmware. This out-of-the-box hands free configuration and automatic post-installation upgrades can monitor unit health status across the customers' fleets to identify issues before they become expensive problems.

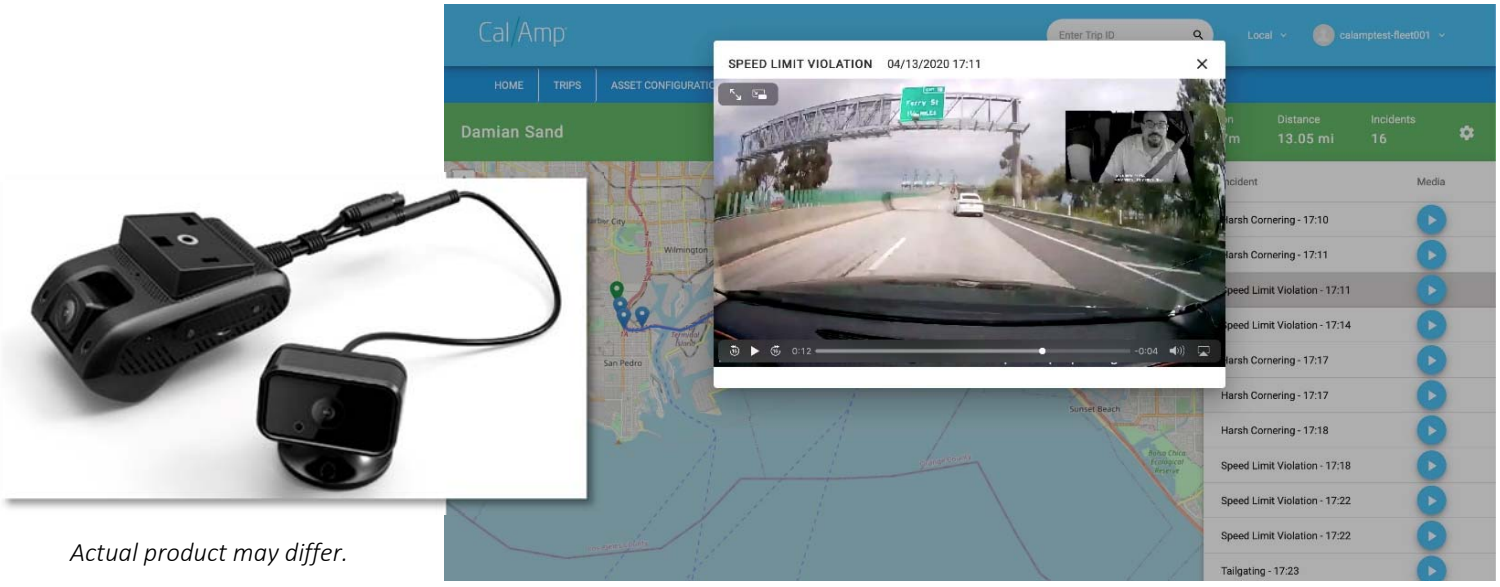
Harsh Driving Behavior Detection

The LMU devices are equipped with an accelerometer that can detect various types of movement anomalies such as harsh acceleration, harsh braking, as well as movement when the vehicle is not on. All of these exception events can be set to alert or appear in a report or dashboard. We have also developed highly advanced crash detection function as described in the following section on **automated instant crash notification.**

CalAmp iOn Vision- Intelligent On-Board Camera System

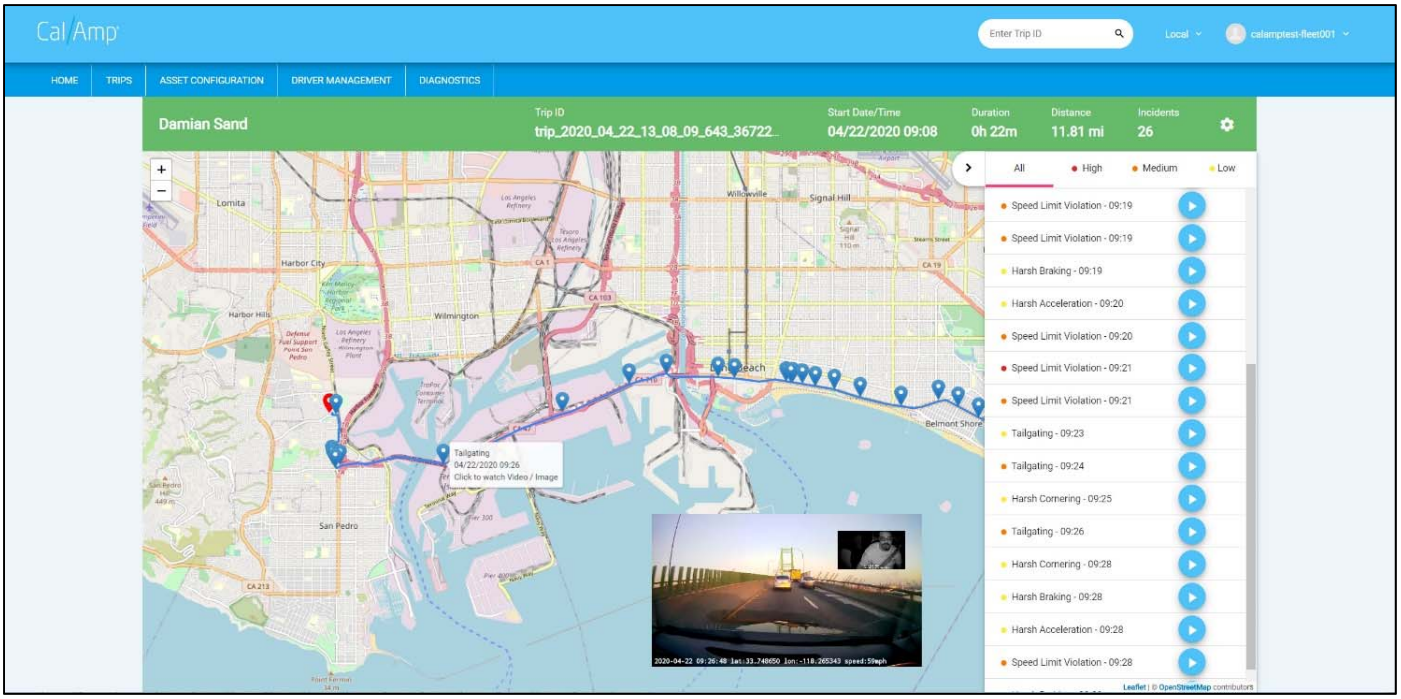
CalAmp iOn Vision is a comprehensive video telematics solution that provides fleet operators and service providers with actionable and deterministic video insights to help mitigate liabilities and improve fleet safety. The optional solution features dual cameras along with a CalAmp Wi-Fi-enabled telematics edge device and video server, enabling accurate assessment of driver behavior to improve driving efficiency and fleet safety under ever-changing road conditions. CalAmp iOn Vision helps identify and reduce risk factors that often cause collisions by monitoring speed, stop sign violations, tailgating, harsh braking and rapid acceleration. Moreover, iOn Vision, coupled with CrashBoxx™, CalAmp's award-winning crash detection technology, enables fleet operators to capture video evidence of critical collision events to facilitate investigations and claims processing.

CalAmp iOn Vision utilizes artificial intelligence (AI) at the edge and in the cloud to process both road-facing and driver-based video to provide the full context of each vehicular event. In addition, customers can easily configure and modify their telematics engine with cloud-hosted video clips and driver analytics. These functions can also be directly integrated with any enterprise software application via an API, allowing all data insights to be viewable through one web portal. This expanded suite of value added services enable fleet operators and telematics service providers to innovate and expand their mobile IoT solutions as business needs evolve.



Actual product may differ.

CalAmp iOn Vision utilizes artificial intelligence (AI) at the edge and in the cloud to process both road-facing and driver-based video to provide the full context of each vehicular event. In addition, customers can easily configure and modify their telematics engine with cloud-hosted video clips and driver analytics. These functions can also be directly integrated with any enterprise software application via an API, allowing all data insights to be viewable through one web portal. This expanded suite of value added services enable fleet operators and telematics service providers to innovate and expand their mobile IoT solutions as business needs evolve.



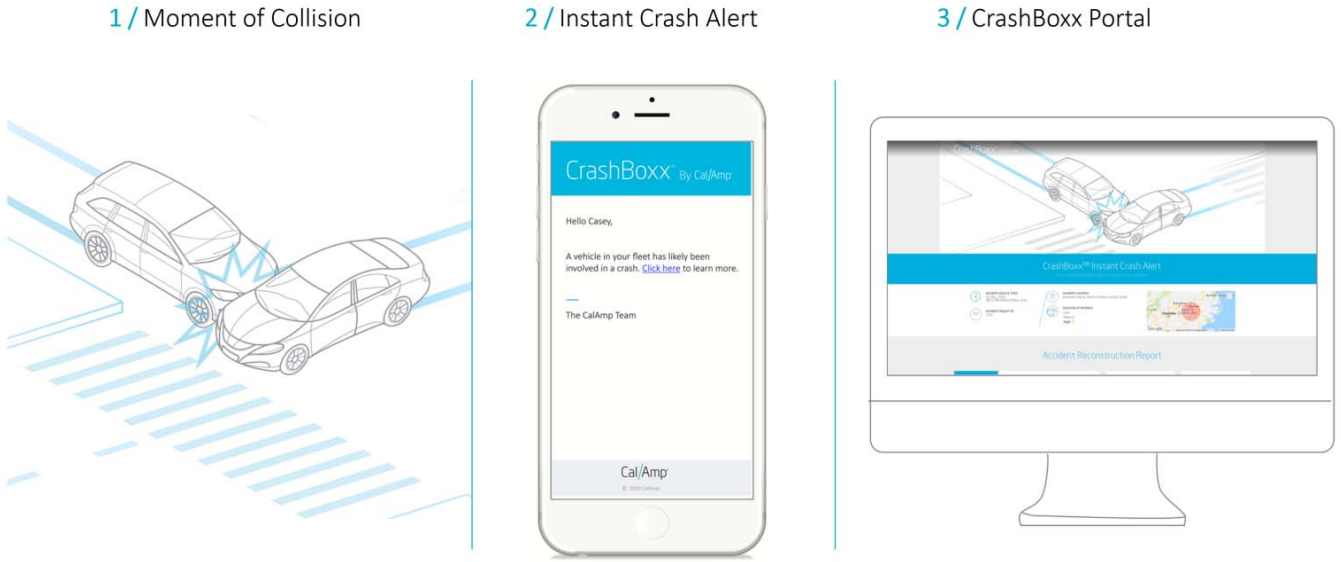
Automated Instant Crash Notification: Crashboxx

CalAmp is pleased to offer our **optional** new automated instant crash notification system that can provide instant notifications for crash events as well as a rich offering of advanced reports and functions.

Our proprietary technology constantly monitors vehicle activity measurements and using powerful algorithms in the device and, more importantly on the server side, is able to provide alerts for likely crash events, and accurately filtering out the false positive alerts. Alerts can be sent via SMS and to mobile devices such as smartphones and tablets.

Advanced features include:

- Accident Recreation Reports
- Instant damage and repair estimates



Accident Reconstruction and Physical Damage Reports

These optional advanced reports will provide vehicle accelerations, speed before and after the crash, angle of impact on the vehicle and details on which components of the vehicle are likely damaged and in need of repair or replacement. An example Accident Reconstruction Report from a crash is shown below:

CalAmp iOn Telematics Driver ID Solutions

CalAmp offers a variety of optional Driver ID solutions including readers that are potentially compatible with existing customer ID cards such as **RFID** and **magnetic stripe** cards. We can also provide a stand-alone ID solutions using iButton or RFID reader and sticker technology.

A Driver ID solution allows the CalAmp iOn Telematics system to assign a driver to a vehicle for various reporting and administrative functions, most importantly, to see who was driving a specific vehicle at any given time.

Attaching to the main GPS Unit via cable, the ID readers can be mounted anywhere on the dashboard for easy access for the driver. To capture maximum driver compliance, we can have an annoying buzzer activated with ignition that requires an ID swipe to turn off the buzzer noise, thereby encouraging the driver to login to the vehicle.

CalAmp can provide an RFID reader system that can read RFID tag stickers, or is compatible or with your organization's existing ID cards, eliminating the need for managing a separate ID just for driver login.

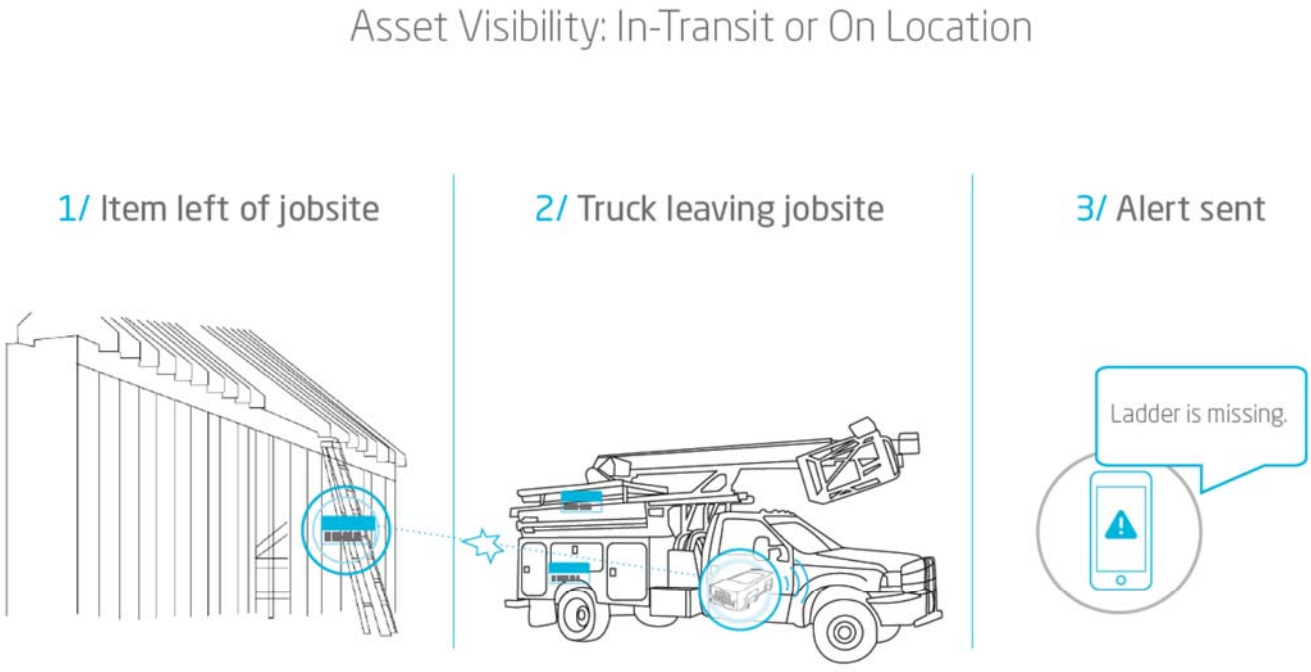
In addition CalAmp can offer an **iButton key fob solution** for unique stand-alone driver identification with a key fob and reader.

Example Dash-Mounted RFID Reader

Example iButton Reader

Example RFID Sticker

CalAmp iOn Telematics Integrated Asset Management (Tools On A Truck Option)



Integrated Vehicle Telematics with Asset Management

CalAmp iOn includes a cost-effective solution to ensure that valuable assets leave a construction site, rental yard or other location with their assigned service vehicle.

A CalAmp iOn Tag™ smart sensor can be affixed to any asset and paired with a CalAmp LMU telematics device installed on a vehicle. When an iOn Tag-enabled piece of equipment has broken the paired connection with the LMU, the fleet manager or driver will receive a real-time alert notification that the asset, such as a power tool, small generator or ladder, has been left behind.

CalAmp LMU-3040 (Plug and Play OBD-II Unit)

LMU-3040™ Technical Specifications

Cellular/Network

North American Variant I	
LTE Cat 1	1900 (B2)/AWS 1700 (B4)/850 (B5)/700 (B12) MHz
HSPA/UMTS	850 (V)/1900 (II) MHz
North American Variant II	
LTE Cat 1	AWS 1700 (B4)/700 (B13) MHz

Data Support

SMS, UDP Packet Data, TCP, TLS, CalAmp Telematics Cloud API

Satellite Location (GNSS)

Constellation Support	Hybrid GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS)
Channels	55 Channel
Tracking Sensitivity	-167 dBm
Acquisition Sensitivity	-157 dBm (hot start) -148 dBm (cold start)
Location Accuracy	~2.0m CEP Open Sky (GPS SBAS 24 hours static)
Location Update Rate	Up to 5 Hz
AGPS Location assistance capable	

Comprehensive I/O

OBD-II Interface	J1850 PWM, J1850 VPW, ISO-9141-2, ISO-14230 KWP 2000, ISO-15765 CAN, SW-CAN
Serial Port	USB serial interface
Bluetooth	Bluetooth Low Energy (BLE)
Status LEDs	Programmable dual color (OBD, cellular, GPS)
Buzzer	Integrated buzzer for audible alert applications
Sensors	Gyroscope: Triple-axis, tilt, yaw, roll detection Accelerometer: Triple-axis, impact, motion sense

Certifications

Industry Certifications	FCC, IC, PTCRB, Applicable Carriers

Device Management

PULS™	Monitor, manage, upgrade firmware, configure and troubleshoot devices remotely

Embedded Intelligence Engine

PEG™	Update device functionality or develop new on the edge applications
Geo-Fences	32 built-in
Buffered Messages	20,000

Electrical

Operating Voltage	12-24 VDC Vehicle Systems 9-30 VDC (start-up, operating) 7-32 VDC (momentary)
Power Consumption	Typical 500 uA @ 12V (deep sleep) Typical 2 mA @ 12V (sleep on active network) Typical 70 mA @ 12V (active tracking with GPS and cell enabled)

Battery Pack

Battery Capacity	180 mAH
Battery Technology	Lithium-Ion
Charging Temperature	0° to +45° C
Certifications	IEEE 1725-2011, UL 1624, UN 38.3

Environmental

Temperature	-30° to +60° C (connected to primary power) -10° to +60° C (operating on internal battery) -20° to +25° C ≤ 6 months (long term storage)
Humidity	95% RH @ 50° C non-condensing
Shock and Vibration	U.S. Military Standards 202G, 810F SAEJ1455
ESD	IEC 61000-4-2 (4KV Test)

Physical/Design

Dimensions	1.88 x 2.50 x 1.14" (48 x 63.25 x 29 mm)
Weight	2.54 oz. (72 g)

OBD Data Extraction

Detection	Automatic detection of vehicle interface services
Extraction	Transmission of standard OBD-II codes, plus manufacturer specific codes which are made available by the embedded OBD firmware stack
Scripts	Download of vehicle specific diagnostic scripts dependent on vehicle model variant

Connectors/SIM Access

GPS Antenna	Internal
Cellular Antenna	Internal
SIM Access	Internal (4FF SIM)
BLE Antenna	Internal

Product Options

OBD-II extender cable

Specifications Subject to Change

CalAmp LMU-3640 (Advanced Fleet Tracking Unit)

LMU-3640™ Technical Specifications

Cellular/Network

North American Variant I	
LTE Cat 1	1900 (B2)/AWS 1700 (B4)/850 (B5)/700 (B12) MHz
HSPA/UMTS	850 (V)/1900 (II) MHz
North American Variant II	
LTE Cat 1	AWS 1700 (B4)/700 (B13) MHz
Global Variant	
HSPA/UMTS	800 (VI)/850 (V)/900 (VIII)/1800 (III)/1900 (II) MHz
GSM/GPRS	850/900/1800/1900 MHz

Data Support

SMS, UDP Packet Data, TCP, CalAmp Telematics Cloud API

Satellite Location (GNSS)

Constellation Support	Hybrid GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS)
Channels	55 Channel
Tracking Sensitivity	-162 dBm
Acquisition Sensitivity	-156 dBm (hot start) -148 dBm (cold start)
Location Accuracy	~2.0m CEP Open Sky (SBAS 24 hours static)
Location Update Rate	Up to 4 Hz
AGPS Location assistance capable	

Comprehensive I/O

Ignition Input	1 (fixed bias)
Digital Inputs	4 (high/low bias selectable 0-30 VDC)
Digital Outputs	3 (open collector relay 150mA)
Analog Inputs	2 external ADC inputs
Accelerometer	Built in, triple-axis (driver behavior, impact detection, motion sensing, tilt detection)
1-Wire® Interface	1 (driver ID/temperature sense)
Power Output	1 switched VIN
Status LEDs	4 (GPS, cellular, VBUS, LAN)
Serial Interface	2 TTL ports
Integrated Buzzer	Programmable audible alert
External ADC Inputs	2 (reference voltage - 3.3V)

Certifications

Industry Certifications	FCC, IC, PTCRB, RoHS

Device Management

PULS™	Monitor, manage, upgrade firmware, configure and troubleshoot devices remotely

Electrical

Operating Voltage	12/24 VDC Vehicle Systems 9-30 VDC (start-up, operating) 7-32 VDC (momentary)
Power Consumption	Typical 450uA @ 12V (deep sleep) Typical 15mA @ 12V (radio-active sleep) Typical 100mA @ 12V (active tracking w/GPS and cell enabled)

Battery Pack

Battery Capacity	Up to 1000 mAh
Battery Technology	Lithium-Ion
Charging Temperature	0° to +45° C

Environmental

Temperature	-30° to +60° C (connected to primary power) -10° to +60° C (operating on internal battery) -20° to +25° C ≤ 6 months (long term storage with battery)
Humidity	95% RH @ 50° C non-condensing
Shock and Vibration	U.S. Military Standards 202G, SAEJ1455
ESD	SAE J1113-13 (4 KV Limit)

Physical/Design

Dimensions	5.7 x 2.1 x 1.3" (145 x 53 x 33 mm)
Weight	5 oz. (142 g) (w/ 1000mAh battery)

Connectors/SIM Access

Vehicle BUS I/F	16-Pin 3mm Pitch
Power, I/O	24-Pin 3mm Pitch
SIM Access	Internal (2FF SIM)

Interface Standards

Bluetooth	Classic Bluetooth v2.1+EDR and BLE v4.0
Heavy Duty Truck Data	J1939, J1708
Light Duty Vehicle Data	J1850 PWM, J1850 VPW, SW-CAN ISO 9141-2, KWP 2000, ISO 15765 CAN

Product Options

RS-232 on Aux 2

I/O wiring harness

200mAh Lithium-Ion backup battery

Wi-Fi 802.11 a/g/b/n client mode

Specifications Subject to Change

CalAmp TTU-2830 Mobile Unit (Multi-Use Tracker)

- Weatherproof and has full tracking capabilities.
- Can be standalone, hardwired, or connected to intermittent power source.
- 500 message cycles on fully charged rechargeable battery pack
- 6 months with single message cycle per day on fully charged battery pack

TTU-2830™ Technical Specifications

Cellular/Network

North American Variant I	
LTE Cat 1	1900 (B2)/AWS 1700 (B4)/850 (B5)/700 (B12) MHz
HSPA/UMTS	850 (V)/1900 (II) MHz
North American Variant II	
LTE Cat 1	AWS 1700 (B4)/700 (B13) MHz
Global Variant I	
HSPA/UMTS	800 (VI)/850 (V)/900 (VIII)/1800 (III)/1900 (II) MHz
GSM/GPRS	850/900/1800/1900 MHz
Global Variant II	
GSM/GPRS	850/900/1800/1900 MHz

Data Support

SMS, UDP Packet Data, TCP, CalAmp Telematics Cloud API

Satellite Location (GNSS)

Constellation Support	Hybrid GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS)
Channels	55 Channel
Tracking Sensitivity	-167 dBm
Acquisition Sensitivity	-156 dBm (hot start) -148 dBm (cold start)
Location Accuracy	~2.0m CEP Open Sky (SBAS 24 hours static)
Location Update Rate	Up to 4 Hz
Anti-Jamming	
AGPS Location assistance capable	

Comprehensive I/O

Ignition Inputs	1 fixed bias
Digital Inputs	2 (high/low bias selectable 0-30 VDC)
Digital Outputs	3 (open collector relay 150mA)
Analog Inputs	1 external ADC input
Accelerometer	Built in, triple-axis (driver behavior, impact detection, motion sensing, tilt detection)
Serial Interface	1 TTL port
1-Wire® Interface	1 (driver ID/temperature sense)
Status LEDs	2 (GPS and cellular)

Electrical

Operating Voltage	12/24 VDC Vehicle Systems 9-30 VDC (start-up, operating) 7-32 VDC (momentary)
Power Consumption	Typical 400uA @ 12V (deep sleep) Typical 15mA @ 12V (radio-active sleep) Typical 60mA @ 12V (active tracking w/GPS and cell enabled)

Battery Pack

Battery Capacity	Up to 5200 mAh
Battery Technology	Lithium-Ion
Charging Temperature	0° to +45° C

Environmental

Temperature	-30° to +60° C (connected to primary power) -20° to +60° C (operating on internal battery) -20° to +25° C (storage > 3 months)
Humidity	95% RH @ 50° C non-condensing
Shock and Vibration	U.S. Military Standards 202G, SAEJ1455
ESD	SAE J1113-13 (4 KV Limit)
Ingress Protection Rating	IP66

Physical/Design

Dimensions	4.5 x 3.2 x 1.6" (114 x 80 x 39mm)
Weight	8.11 oz. (230g)

Connectors/SIM Access

Power, I/O	12 wire captive harness
SIM Access	Internal (2FF SIM)

Device Management

PULS™	Monitor, manage, upgrade firmware, configure and troubleshoot devices remotely

Embedded Intelligence Engine

PEG™	Update device functionality or develop new on the edge applications

Specifications Subject to Change

APPENDIX -Project Management & Personnel

The CalAmp project manager will serve as the liaison for CalAmp during the implementation process and through the duration of the system. The project manager will serve as the point of contact for all technical and support issues.

Implementation

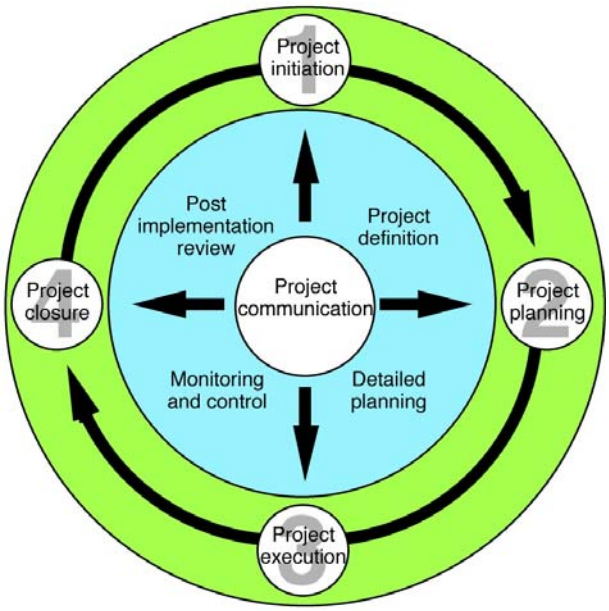
The Project Manager will schedule periodic calls/meetings to monitor the initial implementation and installation process. Communication is key in our implementations so we will be using a variety of methods including e-mail and telephone, as well as in person meetings when appropriate. Scheduling and planning utilizing PMBOK principals, an industry standard project management tool as well as applications such as Microsoft Project and JIRA other related applications.

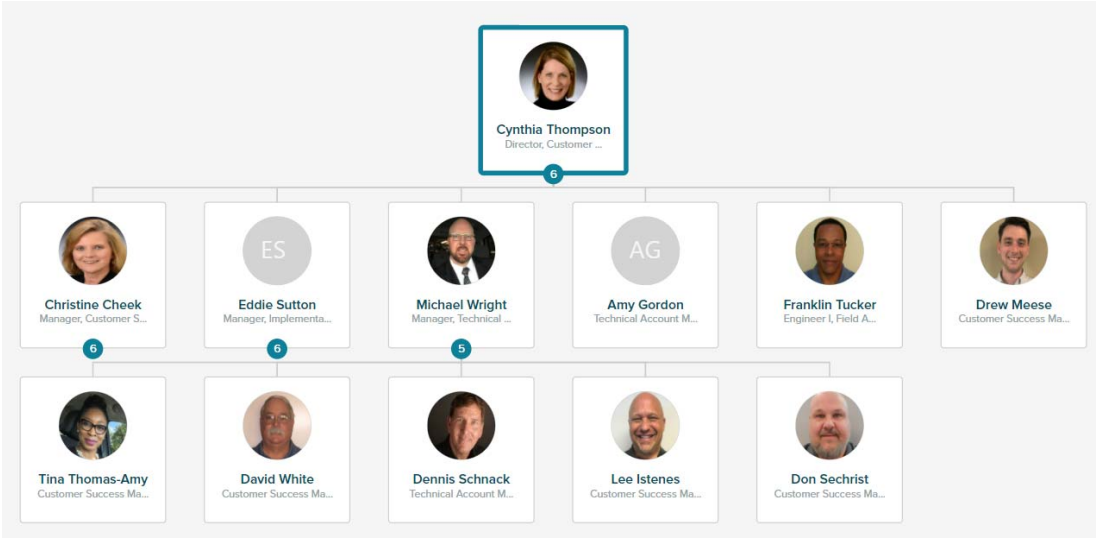
Project Initiation
Introductions
Kick Off Meeting

Project Planning
Design Review
Define Roles and Responsibilities
Expectations

Project Execution
Scheduled Communication
Status Updates
Resolving Issues
Developing Options
Following Up

Project Closure
Acceptance Testing
Final Review





Donald Sechrist- Technical Account Manager

TECHNICAL ACCOUNT MANAGER – CALAMP

- Technical Account Manager
  - Monitor device activity and work with customer to meet all GPS needs.
  - Act as a liaison between internal departments, external installation companies and assigned customer base.
  - Document and resolve customer concerns and requests.
  - Identify challenges for customer and CalAmp and develop strategies to resolve issues.
  - Monitor order requests and work with sales team to meet customer needs.
  - Provide training and guidance to customer on various software platforms by utilizing internal training channels and work history.
  - Support the direction of the company by learning and implementing new processes and software platforms.

- Sr. Implementation Coordinator
  - Responsible for building installation and service tickets for over 130 customers.
  - Dispatched and scheduled daily installation and service tickets with seven national Installation contractors.
  - Assisted in daily deactivation activities for national accounts.
  - Assisted in the editing of the training manuals for the Implementation Department.
  - Developed new reporting and KPI structure for a major customer.
  - Implemented a new scheduling process for use with major customers.
  - Involved in several major projects as the department lead

FLEET MANAGER – CHARTER COMMUNICATIONS, DALLAS, TX

Began in fleet department in Cincinnati as Fleet Asset Supervisor with 8,000 vehicles across 17 states and quickly promoted and transferred to Texas as Fleet Manager with 3,800 vehicles in

- Reduced monthly repair spend from $1.8M to $1.2M.
- Analyzed internal customer needs and initiated solutions to meet those needs and predict future needs.
- Reduced overall vehicle downtime across the state from 9.7 days to 3.1 days on average.
- Increased main informational database integrity from 35% to over 96% accurate.
- Installed GPS tracking systems in over 97% of company assets to deter theft and provide more efficient technician routing and increased productivity for our primary internal customer group.
- Trained internal customers on use of telematics software solution.
- Identified and terminated several theft issues in first year in Texas and worked with Security, HR, Legal and Senior leadership to remove involved parties.
- Ensured our fleet met DOT and TxDOT regulations.

Personnel subject to change.

Implementation Time Line

CalAmp will determine an appropriate implementation schedule for each specific project and customer. Here is a typical schedule to implement the system as outlined below. Some key milestones follow. (This is an example subject to change. A detailed and accurate project work plan cannot feasibly be created without conferring with the customer to determine specific configurations, preferences, processes, priorities, resources, etc.)

AVL System System Implementation Schedule

ID	%	Task Name	Start	Finish	Duration	Predeces	Resource Names
1	**0%**	**AVL Project Completion**	**Tue 5/1/12**	**Thu 8/23/12**	**83 days**		
2	0%	Receipt of Order	Tue 5/1/12	Tue 5/1/12	1 day		Customer
3	**0%**	**Design Review**	**Wed 5/2/12**	**Tue 5/22/12**	**15 days**	**2**	
4	0%	Develop Design Review	Wed 5/2/12	Tue 5/15/12	10 days		RSI/Customer
5	0%	Submit Design Review	Wed 5/16/12	Tue 5/22/12	5 days	4	RSI
6	0%	Design Review Acceptance	Tue 5/22/12	Tue 5/22/12	0 days	5	Customer Project Team
7	**0%**	**Base Station System Install/Config**	**Wed 5/2/12**	**Tue 5/22/12**	**15 days**		
8	0%	GIS Map Data	Wed 5/2/12	Tue 5/8/12	5 days		Customer GIS Department
9	0%	Server Software Installation	Wed 5/9/12	Tue 5/22/12	10 days	8	RSI
10	0%	Base Station System Completed	Tue 5/22/12	Tue 5/22/12	0 days	9	RSI
11	**0%**	**Shipping Phase**	**Wed 5/2/12**	**Mon 6/18/12**	**34 days**		
12	**0%**	**System Delivery**	**Wed 5/2/12**	**Mon 6/18/12**	**34 days**		
13	**0%**	**Mobile Unit Build Procurement**	**Wed 5/2/12**	**Mon 6/11/12**	**29 days**		
14	0%	Mobile Units	Wed 5/2/12	Mon 6/4/12	24 days	2	RSI
15	**0%**	**Testing**	**Tue 6/5/12**	**Mon 6/11/12**	**5 days**		
16	0%	Mobile Units	Tue 6/5/12	Mon 6/11/12	5 days	14	RSI
17	**0%**	**Shipping**	**Tue 6/12/12**	**Mon 6/18/12**	**5 days**		
18	0%	Mobile Units	Tue 6/12/12	Mon 6/18/12	5 days	16	RSI
19	0%	50% System Payment Milestone	Mon 6/18/12	Mon 6/18/12	0 days	18	Customer
20	**0%**	**System Completion**	**Tue 6/19/12**	**Mon 7/9/12**	**15 days**		
21	0%	Training (Installation)	Tue 6/19/12	Thu 6/21/12	3 days	17	RSI
22	0%	Configuration	Fri 6/22/12	Thu 6/28/12	5 days	21	
23	0%	Complete ATP	Fri 6/29/12	Mon 7/9/12	7 days	21,22	
24	0%	25% Payment Milestone	Mon 7/9/12	Mon 7/9/12	0 days	23	Customer
25	**0%**	**User Training**	**Tue 7/10/12**	**Mon 7/23/12**	**10 days**		
26	0%	Develop User Training Plan	Tue 7/10/12	Mon 7/16/12	5 days	23	RSI PM
27	0%	Complete User Training	Tue 7/17/12	Mon 7/23/12	5 days	26	RSI PM / Customer Users
28	0%	25% Payment Milestone	Mon 7/23/12	Mon 7/23/12	0 days	25	Customer
29							
30	0%	Mobile Unit Installation	Fri 6/22/12	Thu 8/23/12	45 days	21	Customer Installation Team

Training

CalAmp Training Methodology

CalAmp will provide live training sessions on the entire AVL system sufficient to ensure complete understanding and operations proficiency by the desired client staff and administrative personnel. The client will receive training to be provided to the entire staff exposed to the system, with an intensive "train-the-trainer" approach for selected personnel in order to maximize long-term worker productivity. The training sessions shall be held at locations specified by the client for administrative, driver, dispatch, executive, maintenance, and all other relevant parties. All materials and manuals will be provided in both printed and electronic format.

Training Program Overview

CalAmp and the other team members will work with the customer's team to define the required courses and a reasonable number of attendees/course duration during the implementation phase of the project.

Training Program

The CalAmp iOn Telematics Training Program is designed to indoctrinate all employees in the use of the CalAmp iOn Telematics System.

All training will be specific, where appropriate, to the CalAmp iOn Telematics system, and will include practical user instruction, hands-on sessions using CalAmp iOn Telematics specific equipment and data, and vendor observation of live operations following system startup. The training sessions will be presented over the course of the project, and will enable customer personnel to assume the responsibility of the system upon Substantial Completion.

In concert with the customer Project Manager, CalAmp will develop and conduct a one-time operational overview of the entire CalAmp iOn Telematics operating system, which will provide Management with a practical, working knowledge of the CalAmp iOn Telematics system and its operational, customer, and functional capabilities.

The development of the Training and Orientation Program and the scheduling of the actual training sessions will take into consideration customer staff availability due to shift assignments and logistics. CalAmp iOn Telematics will coordinate with the customer Project Manager to ensure that personnel are available when the Training Programs are to be conducted. Furthermore, it is assumed that all attendees will be familiar with the basic concepts of the Windows Operating System, knowledge that is essential in order to be able to take full advantage of the courses offered. A workable understanding of Windows will be a pre-requisite for all attendees.

Advanced Training

During the installation and testing process there will be a need for certain customer personnel (drivers, dispatchers and supervisors) to become familiar with some of the fundamental aspects of the system so they can participate in the testing process and in the evaluation of the software and system's performance. For this reason, a number of courses will be provided in advance of the Regular Training program. The content of the courses will focus on familiarizing select customer staff with the basic functionality and operational features of the system, together with 'hands-on' training in the use of the hardware to the extent necessary to support the initial Testing. CalAmp will provide Advance Training as necessary to support initial testing and integration.

The customer's Project Manager will designate the specific individuals who will participate in this training when CalAmp indicates it is time to begin the Advance Training Course.

CalAmp will supply the specified manuals and documentation in both hard and soft copy.

Installation

If desired, CalAmp can be responsible for the installation of all equipment furnished under this contract. CalAmp can perform the installation and provide local support. CalAmp will require the client's cooperation and assistance in coordinating vehicle access and availability.

All work will be executed in the manner best calculated, according to local conditions, to promote rapidity and accuracy; to secure safety to life, personnel and property; to assure safe and continuous operation of the existing dispatch, computer, and daily operations; and, to reduce to a minimum any interference with the public and with other contractors in or about the property.

Management and Installation

The installation team manages all aspects of the installation of these units by working closely with client representatives. Together, the installation team and client will identify vehicles and schedule installations on a on a non-intrusive basis. Installation of CalAmp LMU Mobile hardware units will be verified by inspections. Typically, we perform a physical checkout of the installation, which includes ensuring proper form, fit, security, and location of the unit. In addition, a communications check is performed to ensure that the modem is operational.

Operational Checkout

Upon completion of a small subset of the entire installation, we will perform a complete operational checkout of the hardware and firmware. This checkout will ensure bi-directional communication between the CalAmp LMU Mobile hardware unit and CalAmp iOn Telematics hosted servers and verify the accuracy of receive/transmit (RX/TX) event data shared between the CalAmp LMU Mobile hardware units and The CalAmp iOn Telematics hosted servers. Upon successful completion of this test, the units and vehicles are tagged as "ready for integration."

Warranty

As an expression of confidence in our products to continue meeting the high standard of reliability and performance that our customers have come to expect, CalAmp products are covered by the following warranty.

CalAmp warrants all products against defects in materials and workmanship for the duration of the active service contract. During the warranty period CalAmp provides the warranty service. CalAmp will, at its option, either repair or replace products which prove to be defective. The Customer shall prepay shipping charges for products returned to CalAmp for warranty service and CalAmp shall pay for return of products to Customer. However, the Customer shall pay all shipping charges, duties, and taxes for products returned to CalAmp from outside the United States. This warranty shall not apply to damage resulting from:

- Improper or inadequate maintenance by the Customer
- Customer-supplied interfacing
- Unauthorized modification or misuse
- Operation outside of the product environmental specifications
- Improper installation, where applicable

No other warranty is expressed or implied. CalAmp specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. Remedies provided herein are Customer's sole and exclusive remedies. CalAmp shall not be liable for any direct, indirect, special incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

Service Response Plan

1. Customer Onboarding support (If installation by CalAmp is not previously arranged)

1.1. Customer is responsible for the physical installation of the devices in their fleet assets.

1.2. Telephone support will be provided by CalAmp during the installation process.

2. Customer Support Services

2.1. CalAmp will provide level 2 and 3 helpdesk support, accepting calls and/or email ticket requests from the CUSTOMER Level 1 helpdesk

2.2. Features:

24 x 7 x 365 availability via telephone and e-mail to case.

CalAmp support is US based.

Customer Care representatives are fully trained on the function, analysis, and troubleshooting of Telemetric devices.

CalAmp's customer support systems supports email acknowledgement.

3. Technical Support Process

CalAmp anticipates supporting technical issues through a front end gathering process provided by CUSTOMER. CalAmp expects CUSTOMER to identify and outline the problem, attempted resolution, provide any pertinent technical information, and submit the customer information prior to transferring the case to CalAmp. CalAmp will provide support personnel to find resolution through help guidance, problem solving, and debugging of issues. CalAmp will manage its customer service and escalate problems internally to drive the targeted Service Level Responses identified below. Should CalAmp participate in issue resolution around other aspects of the total CUSTOMER solution, CalAmp will use our internal process for escalation but will transfer the case responsibility and case closure to the appropriate solution provider outside CalAmp and the Service Level Response times may not be applicable.

How to contact CalAmp - Technical Support Specialists

Telephone # - (877) 684 - 2040

Email to Case – techspecialists@calamp.com

3.1. Process

3.1.1. With an outline of the nature of the problem and any pertinent technical information the front end gathering process provided by CUSTOMER should contact CalAmp's Technical Support to start the resolution process. This communication can be through a direct telephone call or emails which will auto generate a case in CalAmp's CRM Tool.

3.1.2. Email To Case - Upon receiving the email CalAmp's CRM will send an auto response with the Case #. The CalAmp tech specialist will start working the problem and provide a return response to the sender within 2 hours depending on the nature of the problem and work load. If the problem will take longer than two hours contact will be made with an estimated resolution time.

3.1.3. Telephone - Should the Support personnel want to contact CalAmp's Technical Support Specialists by telephone the number is a hunt line that routes to the first available specialist. If there is high call volume, the call will be routed to voicemail. The Support personnel then have the option of leaving a voicemail with the support person's name and direct phone number.

3.1.4. Regardless of the method to reach CalAmp's Technical Support the response time for an 80% case closure is less than 4 hours.

4. CalAmp Escalation Process

4.1. CalAmp's Case Management process is defined to resolve customer issues or concerns. It is the desire to resolve all customer issues at the lowest level possible in the escalation process, but should an issue or concern not get resolved the process will move the case higher in the organization for support and awareness. All cases entering CalAmp's CRM case management system will enter as a level 1 case for resolution. Cases will escalate accordingly to higher tier support personnel to obtain resolution. Should any case become stale CalAmp's case escalation process will automatically move the case to the next support level. If an issue or concern has been made reproducible in some operating environment it can be requested to move to a level 4 immediately. CalAmp's Technical Support shall formally notify Engineering of a new Level 4 issue by immediate e-mail distribution to Eng.

4.2. In addition to the four-level escalation process, CalAmp identities' cases into four priority classifications. They are: Cosmetic, Minor, Major, and Critical. Appropriate actions for cases identified as Cosmetic, Minor, Major, and Critical will be taken as listed below.

4.3. CalAmp has established response guidelines based upon the severity of the issue. Under these guidelines, problems are first assigned a "Priority Classification", and then resolution efforts are made commensurate with the severity of the problem. Priorities may be reviewed and adjusted as circumstances warrant. CalAmp defines Priority levels in accordance with the following criteria:

System Performance Support

Requirements		Service Levels		
Priority Level	Severity Definition	Milestone	L2 & L3 Combined Response Time	L4 Response Timeframe
Loss of SaaS Enviorment	A problem resulting in complete loss of service, business impacted or halted (Urgent Situation). Response immediate; Technical Support is to assist until resolution has been achieved.	Acknowledged	15 Min	15 Minutes
		Initial Assessment	NA	1 Hour
		Resolve/Transferred	NA	Emergency Response Hourly Reporting Immediate Patch
Critical	A production-inhibiting problem that causes partial loss of service, business impacted however can continue in a restricted fashion.	Acknowledged	15 Min	1 Hour
		Initial Assessment	NA	4 Hours
		Resolve/Transferred	NA	Continuous Response Daily Reporting Patch Fix
Major	A problem that causes some operational inconvenience and only minimal impact to business, productivity or revenue. Defined by multiple units or across the entire application but there is a work around.	Acknowledged	2 Hours	4 Hour
		Initial Assessment	1 Hour	24 Hours
		Resolve/Transferred	24 Hours	Assigned Response Weekly Reporting Unscheduled Patch or Next Release
Minor	A question about a specific usage or feature of the product, or a problem that affects an individual user but there is an alternative.	Acknowledged	2 Hours	24 Hour
		Initial Assessment	1 hour	48 Hours
		Resolve/Transferred	48 Hours	Assigned Response Weekly Reporting Scheduled Maintenance or Next Release
Cosmetic	A question about a specific usage or feature of the product, or a problem that has no affect on an individual user but there is some acknowledged issue about it.	Acknolwedged	2 Hours	Identified to be fixed in next release

5. CalAmp SLR's

CalAmp manages it call center to the following targeted SLRs:

CalAmp's Call Center SLRs			
Call Center	**Definition**	**Response time**	**Target**
Inbound response time	Inbound telephone inquires or "email to case" will be opened and acknowledged back to the customer	2 Hours or less	80% of all cases
Telephone answer time	Time on hold prior to being pickup up by a live agent	20 seconds or less	60% of all calls
	Time on hold prior to being pickup up by a live agent	2 minutes or less	85% of all calls
Case resolution	Time from Case origination to closure	3.5 hours	80% of all cases

6. Standard RMA Support

RMA requests will come from the CUSTOMER Technical Project Manager to CalAmp via email.

CalAmp Quality Management is based on our ISO Management system (ISO-9001: 2008) and deploys resources to maintain the integrity of the processes. These systems influence Supplier Controls, Receiving Inspection, Product Audits, Failure Analysis, RMAs, Training, MRB, Material Segregation, Equipment Calibration, Internal System Audits, the CAR system, and the like. Should any customer have items that need to be returned they can simply contact our Technical Services department or send an Email which will automatically generate a request for Return Authorization Number (RMA).Upon contacting CalAmp we will immediately provide the customer with an RMA. At that time CalAmp will process the RMA and generate the corresponding actions required. CalAmp will initialize the return of Product to our customers upon acceptance of the RMA. Replacement units will be sent out to the customer, updated in our database and managed within CalAmp's back end systems. Upon receipt of the returned customer product CalAmp's depot repair center team will provide board and component level failure analysis via conventional electronics troubleshooting techniques and equipment. RMA's can be processed by contacting customer service.