



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 639000024

PAGE
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF
 MICHAEL AUSTIN
 304-558-2402

RFQ COPY
 TYPE NAME/ADDRESS HERE

Gabriela White c/o BSM Wireless Inc
 88005 Overseas Highway, Suite 10-130
 Islamorada, Florida,
 USA 33036-6000

DIVISION OF HIGHWAYS
 CHIEF OF INFORMATION SYSTEMS
 BUILDING 5
 1900 KANAWHA BOULEVARD, EAST
 CHARLESTON, WV
 25305-0430 304-558-0408

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
01/26/2009				

BID OPENING DATE: 02/11/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 6						
BID OPENING DATE AND TIME CHANGED						
FROM: 01/28/09 AT 1:30 P.M.						
TO: 02/11/09 AT 1:30 P.M.						
NO OTHER CHANGES						
0001	11	EA		840-45		
GPS POSITIONING SYSTEMS WITH RECEIVER						
0002	32	EA		840-45		
GPS POSITIONING SYSTEM CONSTANTLY OPERATING STATION						

***** THIS IS THE END OF RFQ 639000024 ***** TOTAL: RECEIVED

2009 FEB -5 A 9:26

PURCHASING DIVISION
 STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Gabriela White* TELEPHONE: 866 768 4771 x220 DATE: Feb 3/09

TITLE: ACCT. EXEC. FEIN: 98042 6594 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



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Gabriela White c/o BSM Wireless Inc
 88005 Overseas Highway, Suite 10-130
 Islamorada, Florida,
 USA 33036-6000

DIVISION OF HIGHWAYS
 PLANNING DIVISION
 BUILDING 5, ROOM A848
 1900 KANAWHA BOULEVARD EAST
 CHARLESTON, WV
 25305-0430

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
01/22/2009				

BID OPENING DATE: **02/04/2009** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		TRACK	850 ⁰⁰	
<p>GPS VEHICLE TRACKING SYSTEM, COVERT TRI-BAND ANTENNA <i>Includes intergrated J1708 engine data module and MDT in cab terminal for messaging.</i> OPEN END CONTRACT</p> <p>TO PROVIDE GPS VEHICLE TRACKING SYSTEMS, COVERT TRI-BAND ANTENNAS, MONTHLY SERVICE PLAN AND ALL SOFTWARE NEEDED FOR WEB-BASED APPLICATION FOR THE PROGRAM PLANNING AND ADMINISTRATION DIVISION OF THE WEST VIRGINIA DIVISION OF HIGHWAYS. PER THE ATTACHED SPECIFICATIONS.</p> <p>PURCHASING CARD ACCEPTANCE: THE STATE OF WEST VIRGINIA CURRENTLY UTILIZES A VISA PURCHASING CARD PROGRAM WHICH IS ISSUED THROUGH A BANK. THE SUCCESSFUL VENDOR MUST ACCEPT THE STATE OF WEST VIRGINIA VISA PURCHASING CARD FOR PAYMENT OF ALL ORDERS PLACED BY ANY STATE AGENCY AS A CONDITION OF AWARD.</p> <p>EXHIBIT 3</p> <p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY</p>						

SIGNATURE: *Gabriela White* TELEPHONE: **866 7684771x220** DATE: **Feb 3/09**

TITLE: **Acct exec** FEIN: **98042 6594** ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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BID OPENING DATE: 02/04/2009		BID OPENING TIME 01:30PM		

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<p>REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p> <p>RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)</p> <p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIED BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF THE CONTRACT,</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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<p>WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN STATE CONTRACT ORDER (FORM NUMBER WV-39) TO THE VENDOR FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL COPY OF THE WV-39 SHALL BE MAILED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT, A SECOND COPY MAILED TO THE PURCHASING DIVISION, AND A THIRD COPY RETAINED BY THE SPENDING UNIT.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.</p> <p>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 04/11/2001</p> <p>EXHIBIT 10</p> <p>REQUISITION NO.:</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p> <p>ADDENDUM NO.'S:</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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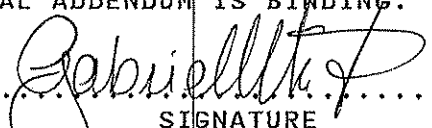
Gabriela White c/o BSM Wireless Inc
 88005 Overseas Highway, Suite 10-130
 Islamorada, Florida,
 USA 33036-6000

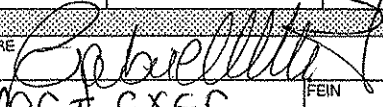
SHIP TO

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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
NO. 1					
NO. 2					
NO. 3					
NO. 4					
NO. 5					
<p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF TH ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p style="text-align: center;">  SIGNATURE BSM Wireless Inc. COMPANY Feb. 3/2009 DATE </p> <p>REV. 11/96</p> <p style="text-align: center;">NOTICE</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE 	TELEPHONE 866 768 4771 x 220	DATE Feb 3/09	
TITLE ACCT EXEC	FEIN 980426594	ADDRESS CHANGES TO BE NOTED ABOVE	

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<p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: 33</p> <p>RFQ. NO.: 639000029</p> <p>BID OPENING DATE: -----</p> <p>BID OPENING TIME: -----</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:</p> <p>----- (905) 265-1288 -----</p> <p>CONTACT PERSON (PLEASE PRINT CLEARLY):</p> <p>----- GABRIELA WHITE -----</p>						

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6

ADDRESS CORRESPONDENCE TO ATTENTION OF
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PROPERTY

RFQ COPY
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 88005 Overseas Highway, Suite 10-130
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***** THIS IS THE END OF RFQ 639000029 ***** TOTAL:						

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West Virginia Department of Transportation

Project

Fleet Management:

This is a project for Fleet Management at WVDOT. The goal of this project is to build the infrastructure needed for developing a safe environment for employees of WVDOT.

Infrastructures are essential for enabling economic productivity, growth, and development. The infrastructure we are building would provide real-time capabilities for the Department to manage all moving and non-moving assets.

This RFQ is for an initial one hundred GPS vehicle tracking systems; covert Tri-band antennas; monthly service plan; and all software needed for web based application. Additional systems may be required.

Delivery must be made to West Virginia Department of Transportation, Program Planning and Administration Division-GTI Section, located at Building 5, Room 851, 1900 Kanawha Boulevard, East, Charleston, West Virginia 25305. Quotation will include F.O.B. destination.

AVL Application Requirements:

- **Web & Client based application accessible through the Internet**
- **Unlimited and secure user access**
- **Quarterly map updates**
- **Links to aerial imagery for vehicle events**
- **Ability to display current weather conditions including Doppler Radar**
- **Two-way messaging**

- **Thousands of locations entered, organized, and mapped**
- **Alerts through email, pagers, and text-phones**
- **Ability to utilize multiple cell carriers (Verizon, AT&T & Sprint)**
- **Minimum of one minute breadcrumb trail for asset movement**
- **Route Playback**
- **On Demand asset polling (no extra chargers for pinging)**
- **Unlimited users**
- **Ability to create geographical sites and geo-fencing**
- **Geo-fence area for Home Sites**
- **Ability to download asset positions and events into Excel**
- **Job site import – assign jobsite by vehicle / Group & Fleet**
- **Configurable Speeding and Stop thresholds**
- **Ability to create asset groups and sub-organizations**
- **Ability to search for assets based on proximity to (Other assets, Job Sites, Home Sites, or Addresses)**
- **Ability to display and report on Asset Congregation**
- **Data Logging, supports message and event storage for up to one week while out of network coverage**
- **In-Vehicle hardware must store / forward positions and events data when outside of wireless coverage**
- **Real-time speeding alerts**
- **Real-time off hour usage alerts**
- **Ability to support driver identification as well as vehicle identification**
- **All data must be stored at the vendor's data center for a period of 12 months**
- **Vendor must utilize at least one redundant data center for back-up processing and data security**
- **Option to download data in MS SQL Database**
- **Driver initiated emergency button, must trigger e-mail alerts to multiple recipients**

Fleet Productivity Reporting Requirements including:

- Run ranking report for safety, measuring acceleration exerted on the vehicle during various maneuvers such as turns, starts, stops and speeds
- Report driver safety scores for each individual driver as a composite score based on factors including turns, speed, stops and starts.
- Stop reports with speed and duration thresholds
- Idle Time reporting
- Capture duration time to detect entry and exit of sites
- Track mileage on engine and run time hours
- All inclusive activity reporting
- Run reports for multiple drivers simultaneously
- Speeding reports containing speed and duration thresholds
- Visitation reports
- Event reporting including ignition on, ignition off, enter geo-site, exit geo-site, start moving, stop moving and speeding information
- Non-work hour asset activity reporting
- User defined upcoming vehicle maintenance reporting
- Drivers hours and mileage reporting
- Work/Home Sites by site and by vehicle

Integration:

- SQL Data feed from Vendor's Data Center allowing for customized reporting including trend analysis
- MSMQ messaging capabilities

Hardware Components

GENERAL SPECIFICATIONS for In Vehicle Display (IVD) and On Board Black Box (OBBB) Input Voltage. 9.0 – 32.0 VDC GPRS. TNC (receptacle) 50 Ω

Current Consumption (Typical)

Transmitting with IVD.	340 mA (1.6 A peak) at 12 VDC
Transmitting without IVD.	270 mA (1.5 A peak) at 12 VDC
Not transmitting with IVD.	160 mA at 12 VDC
Not transmitting without IVD.	90 mA at 12 VDC
Not transmitting sleep mode.	<10 mA at 12 VDC

Inputs & Outputs

Discrete Inputs.	(4) switch closures
Ignition Sense Off.	<0.8 V
Ignition Sense On.	>2.4 V
Pulse Counting Inputs.	(3) minimum pulse width: 500 μ s
Discrete Outputs.	(3) 200 mA low-side drivers
Sensor Power Output.	(1) 150 mA at 11.8 V \pm 1.0 V

Message Formats

Status LEDs .	MSMQ GPS (green), GPRS (amber)
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PHYSICAL SPECIFICATIONS

Assembly . Top: Injection molded plastic with integrated shield

Base: Aluminum

Size. 228 mm x 121 mm x 36 mm (W x D x H)

(8.97" W x 4.76" D x 1.42" H)

Weight . 485 g (1 lb, 1.1 oz.)

Connectors

IVD Port. DB-9 (receptacle)

Serial Port. EIA-232 RJ-45 (receptacle)

Power & Discrete I/O Molex Micro-Fit 3.0 16-pin dual row locking receptacle SIM

Carrier. Antennas GPS.SMA (receptacle) 50 Ω

GPRS Quad Band. TNC (receptacle) 50 Ω

GPS SPECIFICATIONS

Receiver . L1 frequency, C/A code (SPS)

8-channel continuous tracking receiver

Update Rate . Once per second maximum

Accuracy,

Position. < 10 meters (50 % CEP)

Velocity. < 0.5 meter/second

First acquisition

Cold start . < 180 seconds (90 %)

Warm start. < 45 seconds (90 %)

Reacquisition after signal loss . <2 seconds (90 %)

Datum . WGS-84

GPRS SPECIFICATIONS

Global. Internal GSM/GPRS Module, Multislot Class 12

Quad Band GSM 850/900/1800/1900MHz

SIM . 3V

Regulatory Approvals . FCC, PTCRB

ENVIRONMENTAL SPECIFICATIONS

Temperature

Normal Operation. -30 °C to 60 °C (-22 °F to 149 °F)
Non Operating. -40 °C to 85 °C (-40 °F to 185 °F)
Humidity. 5% to 95% RH, non-condensing at +40 °C

Vibration

0.008 g²/Hz . 5 Hz
+3 dB/Octave . 5 Hz to 20 Hz
0.05 g²/Hz . 20 Hz to 100 Hz
-3 dB/Octave . 100 Hz to 800 Hz
0.001 g²/Hz . 800 Hz to 1000 Hz

Shock

Operational. 40 g for 11 ms
Non-Operational. 75 g for 6 ms
Vehicle transients. ETS 301 489-1; section 9.6

Cost Sheet

Item	Estimated Quantity	Description	Unit Price	Amount
1.	100	GPS Vehicle Tracking System	<u>850⁰⁰</u>	<u>85,000⁰⁰</u>
2.	100.	Monthly Service Plan	Month <u>39.95</u>	Year <u>47,940⁰⁰</u>
		Including SQL Data \$2.00		
Based on 100 units /			Month \$ 41.95	50,340 ⁰⁰

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with West Virginia Code, §5A-3-37. (Does not apply to construction contracts). West Virginia Code, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the West Virginia Code. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. Application is made for 5% resident vendor preference for the reason checked: Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: BSM WIRELESS INC Signed: Gabriella Title: Asst EXEC. Date: Feb 3/09

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

VENDOR OWING A DEBT TO THE STATE:

West Virginia Code §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code*. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code* and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the *West Virginia Code* may take place before their work on the public improvement is begun.

ANTITRUST:

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

LICENSING:

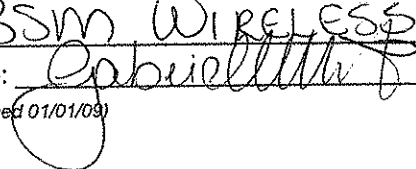
Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY:

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

Vendor's Name: BSM WIRELESS INC

Authorized Signature:  Date: Feb 3/09

SFM2000 Specifications

Revision: 0 Date: Jan. 16, 2009

RF Component:

- 1) GSM Modem (Wavecom) for North America and Europe (850, 900, 1800, 1900)
 - 2-Way SMS
 - GPRS
 - 2-way voice
- Or CDMA (Wavecom) (800, 1900)
 - 2-Way SMS
 - CDMA 1X
 - 2-way voice
- 2) Satellite with daughter board or external (Iridium, Satamatics, Inmarsat)
 - SBD or SMS

Input / Output Component:

- 1) Digital inputs (10)
- 2) Analog Inputs (2)
- 3) Virtual inputs (12) (GPS antenna (3) / battery status (4) / geozone broken (3) / speed(1), status reports, motion sensor (1))
- 4) Digital outputs (8), +12V switched output (1)
- 5) Virtual output (2) (LED's programmable diagnostics/notification)
- 6) ISP programmer (4) / RS232 Debug (2)
- 7) RS232 for MDT (2)
- 8) Audio interface (Mic+,Mic-,Spk+,Spk-)
- 9) SIM card (outside box), SIM card removable internally (option)
- 10) Iridium Modem (satellite) daughter board (internal expansion) (extra Fakra RF conn.)
- 11) 3 Molex Micro-Fit 3.0 connectors (22 position, 6 position, 8 position)
- 12) 2 Fakra RF connectors (for Cell and GPS)

GPS Component (Sirf Star III GPS Receiver):

- 1) 20 channels, continuous tracking receiver
- 2) Sensitivity: Tracking -159 dBm
Acquisition -149dBm
- 3) Accuracy: autonomous <10 meters (2d RMS)
SBAS < 5 meters (2d RMS)
<=25m CEP
- 4) Acquisition:
 - Reacquisition: 0.1 sec
 - Hot Start : 1 sec
 - Cold Start: 37 sec
 - Warm Start : 35 sec
- 5) Update Rate: NMEA @ 1Hz
- 6) 3.3V active antenna (50 ohms)

Power Component:

- 1) Main Power: 0-32 VDC
- 2) External backup battery: 12V @ ?
- 4) DC-DC converter plus regulator provides 4.0V @ 2A for Cell modem
- 5) DC-DC converter provides Main MCU with 3.3v@300mA
- 6) power switch provides GPS receiver with 3.3V@ 150mA separately

Power Saving Mode

1. Full working mode

MCU, GPS, Cell modem, and all the components powered up. The average power consumption in this mode should be under 80mA.

2. Stand-by mode

MCU + Modem is powered on (listen status), GPS is powered off. Command from server, timer and Inputs (with IRQ) can wake up the SFM2000. The average power consumption in this mode should be under 10mA.

3. Sleep mode

MCU is powered on (but MCU is in power down mode), GPS and modem are powered off. Timer and Inputs (with IRQ) can wake up the SFM2000. The power consumption should be under 0.5mA.

4. Deep sleep mode

Only the RTC is working (MCU is in deep power down mode), all components on the main board are powered off. RTC timer and Input (only panic) can wake up the SFM2000. The power consumption should be under 30uA.

MCU and Memory Component:

Main (for basic application)

- 1) ATmega2560 (100 pin 8 bit chip from Atmel @ 7.3728MHz)
- 2) Program flash memory: 256K bytes
- 3) SRAM: 64K bytes
- 4) 4 UART, 2 I2C, 2SPI
- 5) Real Time Clock (internal backup battery support and automatically set and synchronized with GPS clock).
- 6) 2 Mega bytes data flash memory for data storage and OTA capability

Diagnostics:

- 1) System status (debug report and 2 LEDs)
- 2) GPS module: Antenna ok/open/short, GPS data checksum bad etc.
- 3) Modem connection fail, SIM card fail, AT command fail
- 4) Memory: flash failure, RAM failure
- 5) Control: I/O failure, Power Supply Failure, Computational Error
- 6) JTAG diagnostics

Environmental Component:

- 1) Operating Temp: -30C to +80C
- 2) Storage Temp: -40C to +85C
- 3) Humidity: 5% to 95% RH non-condensing
- 4) Vibration: SAE J1455
- 5) Shock: 50g's ½ sine, MIL-STD-202, Method 213B (via J1455)
- 6) Electrical Noise: ISO 7637 3a, 3b, 4 and 5 (load dump) for 12V and 24V
- 7) Electromagnetic Susceptibility: SAE-J1113-41
- 8) Electrostatic Discharge: CE
- 9) Dust: MIL-STD 810C/D/E
- 10) Resistance: SAE in cab location

Regulatory Certifications:

- 1) FCC
- 2) Industry Canada
- 3) Europe Commission (EC)

SFM2000 connector definitions

Connector 1: Molex Micro-Fit 22 position (for basic application)

12. Main Power Input (0-32V +)

1. Ground

19. External Backup Battery Input (+12V)

8. Ground

13. Input 1 (digital+) (Ignition with IRQ)

2. Input 2 (digital+) (PTO sensor with IRQ)

14. Input 3 (digital+) (Panic with IRQ)

3. Input 4 (digital+) (Door with IRQ)

15. Input 5 (digital-) (Door with IRQ)

7. Input 6 (digital-) (Door with IRQ)

20. Input 7 (digital-) (Motion with IRQ)

9. Input 8 (digital-) (User1 with IRQ)

- 22. Input 9 (digital-) (Arm-User2 with IRQ)
- 11. Input 10 (digital-) (Disarm-User3 with IRQ)
- 4. Output 1 (digital-) (Horn)
- 16. Output 2 (digital-) (Piezo)
- 5. Output 3 (digital-) (Starter Disable)
- 17. Output 4 (digital-) (Door Lock)
- 6. Output 5 (digital-) (Door Unlock)
- 18. Output 6 (digital-) (Lights)
- 21. Output 7 (digital-) (VCR/DVR)
- 10. Output 8 (digital-) (User)

Connector 2: Molex Micro-Fit 6 position (MDT/2nd modem, 2 analog inputs, +12 V switched output)

- 1. MDT TXD (or secondary modem)
- 2. MDT RXD (or secondary modem)
- 3. Input 11 (analog)
- 4. Input 12 (analog)
- 5. Output 9 (+12V/1.85A)
- 6. Ground

Connector 3: Molex Micro-Fit 8 position (for ISP programmer & Debug)

- 1. ISP PDO
- 2. ISP VTG
- 3. ISP SCK
- 4. ISP PDI

5. ISP /RESET
6. Ground
7. RS232 Debug TXD
8. RS232 Debug RXD

SFM2000 Hardware Configuration

1. Mini Configuration (SFM2000)

SFM2000 main board with connector1

Function: same as SFM1000

2. Basic Configuration (SFM2100)

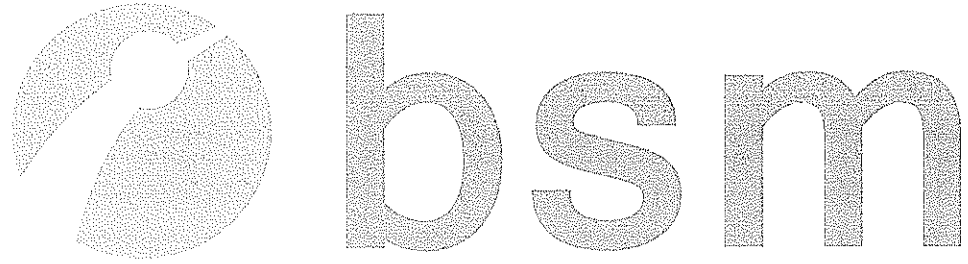
SFM2000 main board with Connectors 1 and connector 2 for MDT

Function: SFM1000 / SFM5000 +MDT

3. Expansion Configuration (SFM2200)

SFM2000 main board With OBDII/J1708 daughter board

Function: SFM2100 + OBDII/J1708+ Keyfob receiver + internal backup battery.



**BSM Wireless provides solutions for
mobile asset tracking
and management**

BSM Wireless Inc.

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F (905) 265-1288

Monday, February 02, 2009

Mr. Michael Austin
West Virginia Department of Administration
Purchasing Division, 2019 Washington Street, East,
Post Office Box 50130, Charleston, WV 25305-0130

Re: BID 639000029, SPENDING UNIT : DIVISION OF HIGHWAYS BID OPENING : 02/04/2009 OPEN-END CONTRACT TO PROVIDE GPS VEHICLE-TRACKING SYSTEMS, COVERT TRI-BAND ANTENNAS FOR THE WEST VIRGINIA DIVISION OF HIGHWAYS

Dear Mr. Austin,

Thank you for the opportunity to respond to this bid, and for BSM Wireless to provide more information on the BSM suite of offerings. Since 1999 BSM Wireless has been designing, manufacturing, building and engineering robust products and software solutions for GPS/AVL and fleet management.

BSM's SentinelFM comprehensive product suite is configurable for all vertical sectors and their mobile assets. These solutions offer proven benefits such as reduction of operational costs, risk mitigation and vehicle misuse. BSM also contributes to "greening" initiatives to protect the environment.

Our engineering team is constantly developing additional functionalities that will improve your performance and maximize the achievement of your goals and objectives. BSM has installed units in an extensive range of light and heavy-duty vehicle types, including: Armored trucks, transport and delivery trucks and trailers, pumper trucks, hydro-vacs, and utility vehicles such a boom trucks and cranes, passenger vehicles, light and medium duty pickup trucks, passenger buses, construction equipment, generators and other heavy-duty vehicles.

We hope you will select BSM Wireless as your Vehicle Application Management provider. Please feel free to contact me at 1 866-768-4771, ext 220 if you have any questions about the product.

Yours truly,

Gabriela White, Senior Account Executive
Tel: 866.768.4771 x 220 Fax: 905.265-1288
Email: gwhite@bsmwireless.com



Requirements Identified by the West Virginia Department of Administration

Web & Client based application accessible through the Internet	Yes	Interface is web-based, available via any Internet connection. Real time viewing of one or all assets, as well as discreet fleets, down to street level, on a single digital map regardless of geographic location. Web browsers that operate with the proposed solution are Internet Explorer/Firefox
Unlimited and secure access	Yes	Unlimited access 24/7 via web browser, with unlimited users
Quarterly map updates	Yes	
Links to aerial imagery for vehicle events		Available shortly via Virtual Earth maps
Ability to display current weather conditions including Doppler Radar	Yes	It is possible to integrate weather conditions about a location if there is free access to this information (web services). If customer has source for weather info (accessible by web services) then we can integrate it.
Two way messaging	Yes	<p>BSM offers the "Messaging Data Terminal". The GPS MDU is separate and inter-connected through the RS-232 serial ports. The MDT can send both canned and free text messages. The device can also receive messages from dispatching center through Internet. The MDT will display received messages on the LCD screen. Several models available based on customer requirements.</p> <p>BSM is currently developing functionality which will support a Windows Mobile device (version 6 or CE 5), via a cradle on dash connected to the RS232 on the BSM unit. Bluetooth functionality can be added via a third party appliance. The unit will handle communication flow with messaging capabilities. Customer will have two options, (a) Full mimic of our existing forms based messaging, or (b) Active X control which will have the ability to be embedded into the customer's third party transport application.</p>
Thousands of locations entered, organized and mapped	Yes	Landmarks: A "Landmark" is a frequently used location which the customer has the ability to assign and rename. Customer can have as many landmarks as needed, organized in the system and mapped on screen as well as a number of reports
Alerts through email, pagers and text phones	Yes	Alerts can be sent based on business rules to email, pager or any SMS text device

Ability to utilize multiple cell carriers (Verizon, AT & T and Sprint)	Partially	Both CDMA and GPRS - Currently BSM is certified with Aeris, Kore Wireless, Bell Mobility, Rogers, Telus, currently in the certification queue with Sprint. BSM offers VPN connections with Aeris, Kore Wireless, Bell Mobility, and Rogers. In operation with the above carriers since 2004, approximately 27,000 units deployed globally, including satellite devices.
Minimum of one minute breadcrumb trail for asset movement	Yes	BSM has the ability to have the reporting interval changed anywhere from 30 second to once per day intervals. Also the ability to automatically change reporting frequency based on a sensor state change (i.e. PTO on/off). BSM also sends other exception based events in real-time, such as Idling, Speeding, or Geo-zone breach.
Route playback	Yes	The historical data is available at any time on a 24/7 basis without limitation. The historical data presents all of the activities, occurrences and routes taken by the individual vehicle, up to 60 days within the application. Data can also be sent to an FTP site for customer's own storage
On Demand asset polling (no extra charges for pinging)	Yes	User can Locate (ping) on demand, in real-time, as needed, one vehicle or many, 24/7, without overages.
Unlimited Users	Yes	No restrictions
Ability to create geographical sites and Geofencing	Yes	Geozones are synchronized and retained on each GPS/AVL unit onboard the vehicle and upon exiting or entering of the zone, the unit immediately emits a notification to the designated individual(s) that a vehicle has moved or breached a geozone.
Geo-fence area for home sites	Yes	Geozones can be created by the user as (electronic borders) as rectangles and/or up to 10 waypoint polygonal shapes, to notify in real time that a vehicle or asset has moved with and/or without authorization, in or out or both.
Ability to download asset portions and events into Excel	Yes	Data can be exported to PDF, MS Word, MS Excel, XML and HTML
Job Site import – assign job site by vehicle/Group & Fleet	Yes	Via "Business to Business" Landmark import functionality
Configurable speeding and stop thresholds	Yes	Customer can set thresholds per device, or entire fleet
Ability to create asset groups and sub-organizations	Yes	Customer can set as many fleets (groups) as required, no restrictions on number of units within a group. Rename, and move assets within groups as needed. A vehicle can reside over multiple fleets
Ability to search for assets based on proximity (Other assets, job sites, home sites or	Yes	Search tool allows user to find via address, intersection, landmark (jobsite), and vehicle description. Shows which vehicles are closest to a place and within proximity of one another.

addresses)		
Ability to display and report in Asset Congregation	Possible	Would require some development
Data Logging, supports message and event storage for up to one week while out of network coverage	Yes	The device stores two months of data.
In-vehicle hardware must store/forward positions and events data when outside of wireless coverage	Yes	The BSM SentinelFM unit captures all GPS data and in the event of poor coverage, these waypoints are automatically sent to the server upon re-entry into good cellular coverage.
Real-time speeding alerts	Yes	Real time speeding alerts sent instantly as the event occurs, with ability to send message to email, pager or SMS device
Real-time off hours usage alerts	Yes	Currently in final stages of development
Ability to support driver identification as well as vehicle identification	Yes	Reports are produced on a driver by driver basis. Optimized for driver behavior management when used with Driver Sign-In
All data must be stored at the vendor's data center for a period of 12 months	Yes	
Vendor must utilize at least one redundant data center for back-up processing and data security	Yes	Primary network infrastructure is in a dedicated State-of-the-art data centre – Q9 Networks (www.q9.com) - that provide a highly secure physical infrastructure, including the latest in biometric authentication, video surveillance, and round-the-clock security officers, while at the same time permitting unannounced 7 x 24 customer access. Q9 data centers are engineered to eliminate any single point of failure, with multiple layers of redundancy in power systems, HVAC, and fire detection and suppression. All systems are monitored 7 x 24 through a Q9 Control Centre as well as BSM's internal monitoring solution. Currently the BSM solution is hosted in Q9's Brampton, Ontario facility.
Option to download data in MS SQL Database	Yes	
Driver initiated emergency button, must trigger email alerts to multiple recipients	Yes	In cab, hardwired Driver Panic Button which will send immediate notification to one, or multiple recipients at any time
Run ranking for report safety, measuring acceleration exerted on	Yes	BSM offers the Fleet Violations Detail Report (OBDII/J1708 required). Provides data on the occurrence of various driving violations including:

<p>the vehicle during various maneuvers as turns, starts, stops and speeds</p>		<p>Speed Violation Harsh Acceleration Harsh Braking Extreme Acceleration Extreme Braking Seat Belt Violation</p> <p>The User can choose which violations and period of time on which to report. A report can be generated for a single vehicle or for an entire fleet.</p>
<p>Report driver safety scores for each individual driver as a composite score based on factors including turns, speed, starts and stops</p>	<p>Yes</p>	<p>Alarms Report: This report summarizes all the exceptions that occurred in the system during the selected period of time. It can be filtered by date/time and generated for a single vehicle or an entire fleet. Also, the Fleet Violations Summary Report (OBDII/J1708 required). This report provides a summary of violations that have occurred for a specified period of time by assigning configurable demerit point values for each type of violation as seen in a Fleet Violations Detail Report. The type of violations to be reported on and the number of demerit points for different types of violations can be specified by the User in the report screen.</p> <p>The report multiplies the number of violation occurrences by the assigned demerit point value to generate a total violation demerit score for each vehicle. The total score is color coded to indicate the severity of the violation demerit score. A report can be generated for a single vehicle or for an entire fleet.</p>
<p>Stop reports with speed and duration thresholds</p>	<p>Yes</p>	<p>Stop & Idling Report: This report lists all the stops including engine idling showing arrival time, street address, departure time and stop duration in the selected period of time. It also totals the number of stops and stop time. This report can be filtered by date/time and generated for a single vehicle or an entire fleet.</p> <p>For speeding, Fleet Violations Summary Report (OBDII/J1708 required). This report provides a summary of violations that have occurred for a specified period of time by assigning configurable demerit point values for each type of violation as seen in a Fleet Violations Detail Report.</p>
<p>Idle time reporting</p>	<p>Yes</p>	<p>Whether "Idle" time refers to vehicles not in use, or engine "idling" time reporting – BSM offers both.</p> <p>Inactivity report shows the number of days/hours which vehicles have been stationary, geographical location (shown by State) of last location and percentage of non active days. Information can be filtered down to a specific hour of a specific day.</p>

		Idling Details Report shows the total engine running time per vehicle, and the percentage and time of stationary vehicle idling for the vehicle. Also shows percentage of PTO use if customer is using a PTO sensor. Report can be run per vehicle or entire fleet, with filters down to a specific hour within a chosen day.
Capture duration time to detect entry and exit of sites	Yes	Real time notifications for arrival and departures through the use of Geozones and Landmarks. Duration of time spent on site down to the second, time of entry and exit are recorded and made available via the web interface
Track mileage on engine and run time hours	Yes	Currently BSM offers the Fleet Maintenance Report for the tracked mileage/engine hours. Provides data on vehicle maintenance including current odometer readings/engine hours, and whether maintenance has been recently performed, is due or is overdue.
All inclusive activity reporting	Yes	Customer can run unlimited reports and access data as often as required
Run reports for multiple drivers simultaneously	Yes	By single unit, or by entire fleet
Speeding reports containing speed and duration thresholds	Yes	For Excessive Speed Alerts, there is the Alarms Report This report summarizes all the security alarms that occurred in the system during the selected period of time. It can be filtered by date/time and generated for a single vehicle or an entire fleet. Also, a Fleet Violations Detail Report will show the duration of time for which the speed occurrence took place.
Visitation reports	Yes	A "Landmark" is a commonly visited location which the customer has the ability to rename. Landmark Activity Report This report provides a summary of total time spent by a vehicle at every landmark, and the number of visits.
Event reporting including ignition on, ignition off, enter a geozone, exit a geozone, start moving, stop moving and speeding information	Yes	BSM offers two reports which have this data, the History Report; this report summarizes all the activities occurred in the system for a particular vehicle during the selected period of time, including IP address updates, sensor triggers, commands, outputs, position updates, scheduled position reports, MDT text messages, speeds and Geo Fence violations. This report can be customized to include/exclude sensor triggers, scheduled GPS coordinates and invalid GPS positions. This report can be filtered by date/time and generated for a single vehicle only. Second, the Trip Summary Report; this report summarizes each trip determined by ignition on/off showing departure address and time, arrival address and time, distance traveled, trip time, idling time and stop time for each trip. It also totals the number of trips, trip time, idling time, stop time, and

		distance traveled in the selected period of time. This report can be filtered by date/time and generated for a single vehicle or an entire fleet.
Non-Work hour asset activity reporting	Yes	Interface will display Historical data which can be filtered for all events, or stops only. Icons are color coded based on the duration of non-activity. Also, there is an Inactivity Report which shows the number of days which vehicles have been stationary.
User defined upcoming vehicle maintenance reporting	Yes	Odometer and Engine Hour recording, which will remind the person(s) selected up to three times via email, that a vehicle is due for maintenance, and ability to add notes for type of service the vehicle requires. User can set schedules as needed
Drivers hours and mileage reporting	Yes	Via Trip Reports and Odometer reading, customer will have total trip time, stop time, idling time and distance driven
Work/home sites, by site and by vehicle	Yes	Via Landmarks
SQL data feed from vendor's data center allowing for customized reporting including trend analysis	Yes	SentinelFM has the option to integrate with any open architecture through SOAP protocols. We have another secure solution to push/pull data in our devices using an internal designed component – Integration service. It allows integration with any back-end applications and moves data to/from BSM devices in the field. Currently integrated to TMW, TransPlus, Freightlogix, PermaTax, Route Optix and a variety of Customer-built custom applications.
MSMQ messaging capabilities	Yes	May require some development depending on what is actually required



BSM Pricing for the West Virginia Department of Administration

Price per unit, all prices in US dollars

One time costs per unit:

Sentinel 2000 Hardware which includes covert tri-band antenna and integrated J1708 engine module:	\$ 450.00
One time Activation fee:	\$ 30.00
MDT in-cab text message terminal:	\$ 350.00
In Cab Driver Panic Button:	\$ 20.00

Recurring Costs (Based on one year service plan, as requested):

Monthly ASP/Airtime per vehicle recurring fee (invoiced per quarter): 30 second automatic real time updates, sent in packets every 2 minutes (historical data will show 30 second breadcrumb trail), while vehicle is active MDT messaging of 250 vehicle messages per month, J1708 data, Full access to all other data, locate as needed, unlimited airtime plan	\$ 39.95
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Monthly per vehicle SQL data feed from vendor's data center (allowing for customized reporting including trend analysis)	\$ 2.00
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Installation Options:

In vehicle installs completed BSM Technicians at customer: (add \$ 25.00 per hour travel time, \$ 0.58 cents per mile)	\$ 150.00
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Recommended best value is:

"Train the Trainer" per day on site at customer's location (self install):	\$ 1,500.00
"Train the Trainer" travel fees to customer site:	\$ 1,500.00

BSM will train a maximum of 8 persons, and provide the necessary support, documentation and installation CD package for each attendee.

(Optional) Additional Development

Per hour rate (software, special reports, etc):	\$ 150.00
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BSM is continually developing new features, and we offer a product that will grow with the business requirements of the organization. Our Account Managers, Project Managers, Training Managers and Customer Care team are there to ensure that all of the customer's needs are looked after on a continual basis.

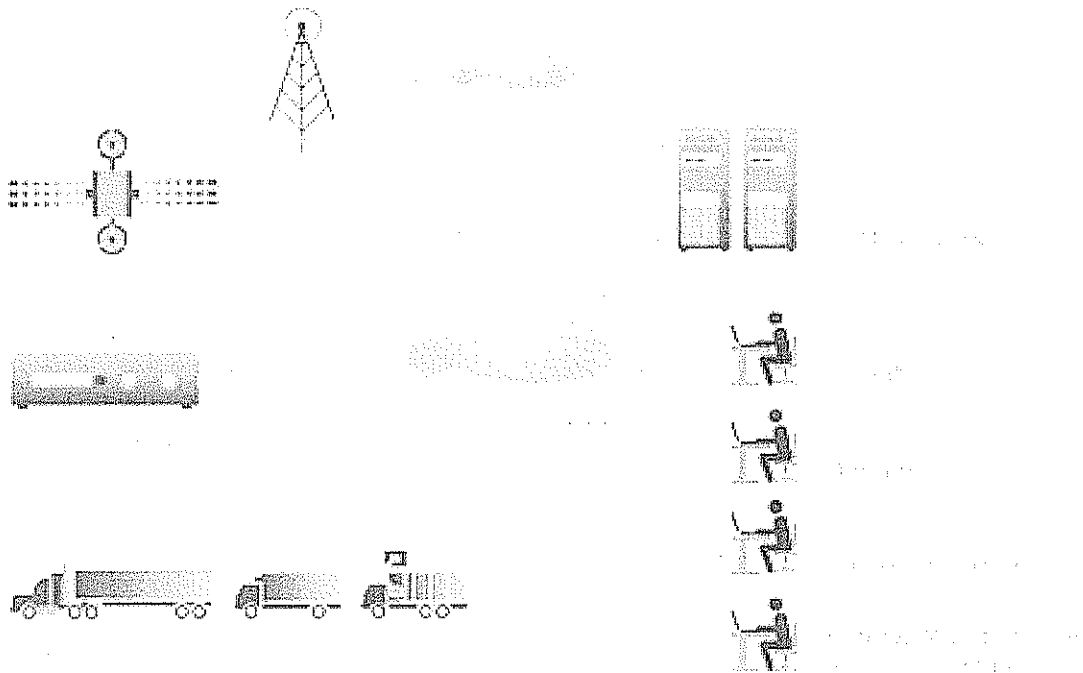
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Sentinel FM - How it works

GPS (Global Positioning System) technology which pinpoints the location of each vehicle;
Wireless communication networks that permit communication between vehicles and the Sentinel FM data servers;
Digital Mapping Systems that provide detailed street-level information and street addresses;
An in-vehicle unit (the "black box") whose microprocessor manages various input sensors and output controls to allow a user to monitor and control the vehicle; an optional MDT (Mobile Data Terminal) unit in the vehicle that allows 2-way text messaging; and, The Internet to give users access to the Sentinel FM software at any time from anywhere, using a standard web browser.





Company Overview

BSM Wireless Inc. (BSM) BSM Wireless Inc. is a subsidiary of a publicly traded company, BSM Technologies Inc. (GPS: TSX Venture), with branch offices in Wisconsin, Ontario, British Columbia; and Antwerp, Belgium. BSM Wireless currently has forty six (46) employees primarily located throughout North America.

As a Global Positioning System (GPS) and Automatic Vehicle Location (AVL) industry pioneer, BSM is identified as a supplier of choice to many, small, medium and enterprise customers, providing cellular/satellite based solutions.

By combining the security features of the “Stinger” Bait Car product and the location tracking and reporting capabilities of the SentinelFM product, an ideal solution results for high-risk transportation, officer safety and other Law Enforcement vehicles. Wireless and satellite communications are continuously available at all times using dual-mode communication networks, allowing seamless switching between supported networks to provide continuous wide area coverage and backup if one form of communication is disrupted.

BSM Wireless offers true seamless switching between multiple footprints, including cellular to cellular (for security and safety), and/or cellular to satellite (safety, least cost routing) in a “single box” solution. BSM works with any cellular provider, and has expanded the commercial offerings with a number of satellite products which includes: Inmarsat and Iridium.

BSM implements systems in other high security markets outside the Law Enforcement sector such as border services, government, health and safety applications in the oil and gas sector, waste and recycling, commercial and service vehicles, and armored vehicles.

With BSM’s acquisition of SecTrack in Antwerp, Belgium, BSM Wireless can now provide solutions globally. SecTrack’s customer base is spread throughout Europe, Asia, Africa and Central and South America.

BSM Wireless recently acquired Netistix, the developer of FleetPulse®, a Wireless Fleet Management, Diagnostic and Performance Management System. The integration of FleetPulse with BSM’s SentinelFM Fleet Management application provides fleet managers with timely engine diagnostic and performance data and actionable program management and decision-support information.

This key information is based on data derived from the vehicle engine control modules (ECMs) via OBD II and J1708 and J1939 standards connectivity, PTO monitoring and GPS tracking to deliver vehicle usage, diagnostic codes, patented fuel consumption data and other fleet operations information.

BSM Wireless and its subsidiaries have over 20,000 total subscribers around the world.



Core Technologies

BSM's solutions are built around three distinct components:

Mobile equipment:

BSM's applications rely on proprietary ruggedized equipment installed in customer vehicles to handle tracking, mobile computing and communication functions. BSM develops this state-of-the-art equipment to retain full control over functionality, reliability and base cost. The equipment is manufactured to the company's stringent quality standards by contract electronic manufacturers, either locally or in Asia, which allows the company to rapidly respond to market demand, maintain flexibility to deliver various configurations of its product line and scale production while maintaining cost leadership. So far, BSM has released two versions of its hardware platform. The more advanced version, called Sentinel 5000, allows for feature options to be added internally and is designed for the more advanced applications requiring complex sensor implementations or interfaces to various operator functions. The most recent version, released in early 2007 and called Sentinel 1000, is designed to achieve a lower market price point through a higher level of electronic integration. The same application functionality as the Sentinel 5000 is supported, with feature options being offered as external modular add-ons. The combination of these two equipment platforms and their versatile configurability allows BSM to "productize" and customize its offering to address the specific requirements of multiple vertical segments.

Both units implement the company's proprietary "Active Box" technology that provides smart power management functions and true real-time vehicle event monitoring to communicate with the various **Sentinel** or **Stinger** application management consoles in real time. BSM's equipment supports the company's powerful "Over-The-Air-Programming" capabilities to upgrade application functionality in already deployed systems without incurring the cost of physically dispatching a technician.

Sentinel^{FM} mobile equipment configurations have been developed to address manned assets such as straight body trucks, tractors, buses and cars, as well as unmanned assets such as trailers, inter-modal chassis, B-train dollies, heavy construction equipment, etc.

BSM's hardware platform in two form factors but with multiple versions of firmware addresses an array of industry vertical markets from consumer anti-theft tracking to a high risk/value cargo. BSM believes that by developing and re-using a robust and configurable underlying service infrastructure for multiple markets, it will achieve the leverage that it necessary to offer a wide range of high-value services while minimizing internal cost.

Communication infrastructure:

On the mobile side of its applications, BSM's equipment is designed to be wireless network and technology agnostic in order to adapt with minimal effort to the ever-changing wireless technologies offered by network operators around the world. The system architecture also supports multi-mode communication capabilities to provide redundancy in high-security applications and to extend service coverage by combining satellite communication with cellular service.

On the back-office side, BSM implements connectivity to the different wireless networks used in its applications in a "carrier-grade", high-availability and highly secure Network Operation Centre (NOC), hosted by Q9 Networks (*See: WWW.Q9.COM, TSX listed TSX: Q*). State-of-the-art facilities at the NOC are designed for mission-critical IT operations. Q9's data centers and network are backed by an industry-leading service level agreement, which guarantees 100 per cent network and power availability. Q9 managed services, including bandwidth, dedicated servers, firewalls, load balancing, virtual private

networking (VPN) and back-up/restore, enable the rapid provisioning and scalability of BSM's infrastructure.

Contrary to many of its competitors, BSM's solutions already support all prominent terrestrial network technologies deployed around the world, including the many versions of GSM and CDMA cellular networks and the leading global satellite communication services offered by Inmarsat and Iridium.

Software Applications:

BSM has developed its suite of applications on the highly scalable and expandable Microsoft .Net framework, implementing universally adopted Web standards and interfaces. The most significant benefits of this approach, not requiring the installation of any software on customers' computer systems (with the exception of the Stinger solution), is the ease and low cost of large scale implementation and the reduced support requirement.

BSM has so far productized several application offerings targeted at different market segments.

Stinger: Bait-Cars for Law Enforcement agencies. The Stinger Bait Car product gained almost immediate recognition as a highly effective method of reducing car theft in a high crime area. When used in concert with an effective promotional and awareness campaign that publicizes the presence of the Bait Car program in a jurisdiction, the Stinger typically reduces car thefts by 20 to 40%, while conviction rates of apprehended car thieves approach 100%. Since its launch, the Stinger has become the proven standard for Law Enforcement bait and covert vehicle applications and has been adopted by over 200 law enforcement agencies across North America, including the RCMP.

Sentinel^{FM}: Fleet Management Systems targeted primarily at commercial fleet operators. The rich suite of functionality of **Sentinel^{FM}** lets fleet operators remain "In-Touch" with their fleets and mobile workforces using real-time tracking, vehicle status monitoring and notification of significant events. It lets them be "In Control" by providing extensive and customizable activity and utilization reports to optimize productivity. Building on BSM's heritage in the security industry, Sentinel also keeps vehicles and workforces "Secure". Alarm/security features significantly reduce the risk of vehicle or cargo theft. Panic alert functions provide extra safeguards for lone workers and those working in high-risk conditions.

Sentinel^{HS}: High-Security Mobile Asset Management Systems targeted at the armored car and other high-value or high-risk mobile asset market.

Using the same mobile equipment platforms and the same communication infrastructure, BSM now offers applications following four different software frameworks in order to target specific market segments, each requiring real-time information to manage and control different mobile applications:

On-site Hosting: Used primarily for the Stinger application sold to law enforcement agencies, the client server application with its web-based management consoles is implemented within the customer's own facilities. In these cases the customers provide the required network bandwidth, services and support for the application.

ASP Hosted: BSM offers its full range of Sentinel-branded web-based applications to fleet operators located anywhere around the world through high-availability servers hosted by Q9 Networks. Since the entire application resides within BSM's control, no additional resources are required by the customer base.

OEM Hosting: Targeting OEMs and large distribution / reseller partners BSM's OEM Hosting capability allows for a 'custom branded' web experience, hosted within our ASP hosting model. This allows for our distribution partners to white-label our offering under their own brand names.

ASP Connected:

BSM developed over the last 12 months a powerful integration capability for third-party applications and devices, which will be marketed under the name **Sentinel^{TPS}**. Third-party applications ranging from dispatch, routing, fuel-tax management, driver log, fleet maintenance, customized reporting, etc., are now able to interact directly with **Sentinel** mobile devices and server applications to provide even more functionality and value to our customers.



SentinelFM:

Overview of Application for Commercial Fleet Management Systems

SentinelFM provides commercial fleet operators with comprehensive fleet location, monitoring, control and messaging functionality, with the added benefit of security. It provides a turn-key high-security fleet management solution for fleet managers who need to more effectively manage and secure their vehicles. SentinelFM system gives fleet managers complete access 24/7 from anywhere in their organization using a standard web browser. Integration into the vehicle's data bus provides complete engine monitoring including fuel consumption, maintenance scheduling and other critical engine functions. A fleet manager can also utilize SentinelFM to manage vehicle security including monitoring vehicles for security breaches or theft, and controlling critical vehicle functions.

Features:

A GPS/AVL solution that can provide accurate and continuous transmission of captured GPS, Telematic data, security, panic and emergency alarm notifications. BSM's SentinelFM solutions can fulfill all requirements to any organization across most vertical market regardless of location, terrain and application requirements. For fleet operations within good cellular coverage areas we recommend BSM's single mode SFM1000 and/or SFM5000. For organizations operating in both urban and remote geographies requiring uninterrupted communications with their assets, BSM offers unique GPS devices for continuous and/or ad hoc tracking and locating with our dual mode (cellular wireless networks with seamless switching to satellite when required) SFM5000 with Iridium. BSM offers a number of GPS device configuration alternatives that can be mixed and implemented within any fleet.

For vehicle diagnostics from onboard computer interfaces (ECM: OBDII and J1708), BSM offers FleetPulse, engine diagnostic products and J1708 & OBDII Lite plus, onboard mobile data terminals (MDT), and other specialized applications, all available with the SFM5000.

- Real time tracking and locating at anytime based on a range of reporting intervals or on an Ad Hoc basis
- Real time viewing of all vehicles and assets as well as discreet fleets, on a single digital map regardless of geographic location
- Locating, tracking and reporting of each vehicle based on 5 minutes up to 15, 30, minute reporting or whatever the requirement
- All configuration setups for vehicles, fleets, sensors, security etc. are available to and customizable by authorized staff only
- Continuous communications between server and onboard GPS/AVL unit to view status, battery voltage level, location, doors, sensors, over the web through SentinelFM user interface
- Ability to "ping" an individual vehicle or the entire fleet at any time 24/7, with no overages
- SentinelFM records and presents the last reported location on a map when requested
- No infrastructure costs i.e. computers, storage, special networking, and no software to load. All that is required is a PC with internet connectivity

- No mapping license fees
- Enhanced assistance with theft prevention and recovery
- The ability to create an unlimited number of discrete fleets based on geography, vehicle type, task or any other class or location
- A vehicle can reside over multiple fleets
- Calculation of a per cost trip, made based on a cost per kilometre/mile
- Roaming Service available throughout North America (carrier dependent)
- Basic Installation includes: battery/power, ground, ignition
- For vehicles that work in areas with less than satisfactory cellular coverage,
- The BSM SentinelFM unit captures all GPS data and in the event of poor coverage, stores up to 20,000 waypoints that are automatically sent to the server upon re-entry into good cellular coverage. The equivalent of two months of data.
- Placing the cursor over vehicle on the interface gives immediate status, speed, direction, date, and time stamp
- GPS locating accuracy to 3 meters
- Real time and historical data visualization for durations of idling, stopping, vehicle and asset utilization thresholds, engine hours
- Reports for identifying running hours and activities in detail and summary reports for specific periods on vehicles and assets
- Access to 5 inputs and 6 outputs user defined digital I/Os inputs/outputs for monitoring door openings, ignition, PTO usage, hood sensors etc.
- Geozones: SentinelFM provides a combination of Geozones (electronic borders) as rectangles and/or up to 10 waypoint polygonal shapes to notify dispatch or other individual that a vehicle or asset has moved with and/or without authorization in or out, or both.
- Geozones are synchronized and retained on each GPS/AVL unit onboard the vehicle and upon exiting or entering of the zone, the SentinelFM unit immediately emits a notification to the designated individual(s) that a vehicle has moved or breached a geozone.
- The ability to set speed limits for fleets. Upon exceeding the limit, the notification can be received on the user interface, cellular phone or PDA.

GPS Data:

- GPS data is collected every second and sent to the NOC for secure storage and access by authorized staff. This data is presented on the digital map at a frequency selected by the customer as an icon on the map screen
- BSM retains data for a period of 60 days. This data is maintained in a very secure NOC location providing backup, disaster recovery and business continuity. All data is under strict security and cannot be breached nor accessed by an unauthorized party
- The historical data is available for playback at any time on a 24/7 basis without limitation. The historical playback presents all of the activities, occurrences and routes taken by the individual vehicle
- When the vehicle enters an area with less than acceptable cell coverage, all data is accumulated by the BSM AVL unit, up to 20,000 way points (approximately 2 months of data) and upon re entry to good cellular communications, sent immediately to the NOC servers and entered into your database for retrieval and report generation. No data is lost
- Landmarks are available for identifying regular site locations, work sites, depot, garages and activity locations
- BSM can provide a SOAP XML interface, for supplying technical staff with captured vehicle GPS data for ease of integration with backend systems

Security:

- SentinelFM offers a secure User ID and password for each authorized user
- Unlimited number of access users at no additional charge per user
- BSM provides a fleet and application system security access hierarchy to preclude unauthorized access or to permit customer access to view only. This can be easily and securely configured by the System Administrator to the following levels: View Only, High Security, Medium Security, Low Security and System Administrator
- Full Acknowledgement of Commands sent from dispatch to the vehicle to prevent unauthorized hacking or illegal access to illegal vehicle commands and data corruption

Maintenance:

- Maintenance screen allows the user to keep a schedule of any repairs and preventative maintenance, with email notification from the SentinelTM interface when the next scheduled interval is near; providing accurate odometer and asset hours of operation (via engine hours)

Reports:

- Full access to robust data reports on vehicle usage:
 - Trip Details Report
 - Trip Summary Report
 - Alarms Report
 - History Report
 - Stop & Idling Report
 - Messages Report
 - Off Hours Operation Report
 - Landmark Activity Report
 - Fleet Maintenance Report
 - Fleet Violations Detail Report
 - Fleet Violations Summary Report
- Available via PDF, MS Word, or Excel
- Unlimited access
- Ability to schedule designated reports to automatically arrive via email
- Driver and Fleet Violation report has been used for notifying and disciplining drivers to prevent accidents, increase safety and reduce excessive wear and tear on brakes, tires and fuel usage
- All vehicles can be equipped with a Seatbelt sensor to report the use and/or non use of seatbelts. The failure to not use a seatbelt is reported and included in the Driver and Fleet Violation
- Summary report with a client determined point systems based on violation and duration of the violation

Available Options:

- **Panic Buttons/Man Down/ Work Alone:** Onboard (internal) Panic Button and Key Fob for External Panic Button
- **PTO sensors:** On/off notifications, with location and date/time stamp
- **Other Sensors:** Door open/close, hood open, etc.
- **J1708/OBDII Connections (engine data):**
 - Odometer Reading
 - Harsh Braking
 - Extreme Braking
 - Harsh Acceleration
 - Extreme Acceleration
 - Malfunction Indicator Lamp (MIL)
 - Diagnostic Trouble Codes (DTC)
 - Fuel Consumption
- **Dual Mode Continuous Communications:**

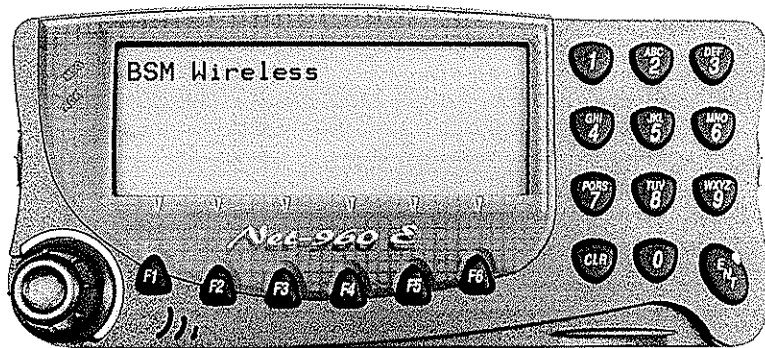
SFM5000 Only: Dual mode offering automatic seamless switchover to satellite to obtain ad hoc/as required tracking capabilities, Update Position, speed violations, panic button use and other exception reporting. The AVL unit continually captures GPS data and will send the data immediately to the server and database for accurate and complete reports. **IRIDIUM:** The same as above except continuous tracking, Mobile Data Terminal functionality, longer message capability, greater coverage area
- **MDT in cab terminal:** For in-cab communication, BSM Wireless offers the “Messaging Data Terminal”. The GPS MDU is separate and inter-connected through the RS-232 serial ports. The BSM Wireless Sentinel “GPS Box” will first establish wireless Internet connection with the service provider. It will also lock the GPS signal to retrieve GPS time and location information. The MDT can then send both canned and free text messages. As soon as the device receives the messages, it will pack the GPS information into the messages and send them together to the SentinelFM AVL unit. The device can also receive messages from dispatching center through Internet. The MDT will display received messages on the LCD screen.
- **Third Party Fleet Management or Dispatch/Routing Integration:** BSM Wireless has the ability to integrate with other Fleet Management Applications. The BSM solution is built but in order to complete integration, a “plug in” would be required (they would need to integrate to the BSM API)



Two Way Text Message Terminal (MDT)

For in-cab communication, BSM Wireless offers the "Messaging Data Terminal". The GPS MDU is separate and inter-connected through the RS-232 serial ports. The BSM Wireless Sentinel "GPS Box" will first establish wireless Internet connection with the service provider. It will also lock the GPS signal to retrieve GPS time and location information.

The MDT can then send both canned and free text messages. As soon as the device receives the messages, it will pack the GPS information into the messages and send them together to the SentinelFM AVL unit. The device can also receive messages from dispatching center through Internet. The MDT will display received messages on the LCD screen.



Display:

240X64 Graphic LCD
LED backlight
Variable font sizes
4 lines of 40 Characters, in a 7X5 standard matrix

Keyboard:

12 Alpha numeric and Numeric keys (cell phone style)
6 Programmable function keys
Special navigation knob
Backlight for all keys (programmable 3 levels + shut off)

Sample Pre-Canned Messages:

1. In Yard
2. In Route
3. Message Received
4. What is my trip number?
5. At Customer
6. Loaded
7. Load Not Ready
8. Almost Empty
9. Drop Done
10. Empty
11. Empty, Need Reload info
12. Who is my Custom Broker?
13. Need Phone Number for Delivery
14. Need Hours for Delivery
15. What is my Delivery Appointment?
16. Need Pick up Number
17. Cleared Customs
18. Waiting at Border
19. Out of Hours
20. Delay - Traffic

The above model shown is the most commonly used and cost effective; note that other models also available. Customer may change any pre-canned messages to their requirements at the time of order.



JBUS/OBDII Engine Data (ECM)

Sentinel real time reporting with the addition of the engine data add-on offers:

- Odometer Reading
- Harsh Braking
- Extreme Braking
- Harsh Acceleration
- Extreme Acceleration

Malfunction Indicator Lamp (MIL)

The MIL status will be part of every standard message.

Typical status for MIL: ON, OFF or N/A

Diagnostic Trouble Codes (DTC)

If the MIL is ON, the next step is to determine the error that caused the MIL to be turned ON which can be achieved by sending GET DTC command from the server

The response to this is Send DTC. Send DTC will contain information like:

DTC in Vehicle: 1

DTC in Msg: 1

DTC: C4504 (Each of these codes have a definition)

DTC Source: OBD2

Fuel Consumption

Fuel Consumption will be displayed in every standard message except for Ignition Off. It displays the amount of fuel consumed for a trip.

Ignition On to Ignition Off is considered as a trip. So for every Ignition On fuel consumption will once again start from scratch.

With every schedule update within a trip the fuel consumption will keep increasing.

SentinelFM Interface images:

Device	Address	Date/Time	Speed	Status	History
1229	6 Lincoln St 1455, Sacramento, CA	12/21/2008 12:21:43	0 mph	Idle	History
1525	Levee Chase Rd., West Sacramento, CA	12/21/2008 12:24:27	1 mph	Idle	History
4721	Farbank Dr, San Antonio, TX	12/21/2008 12:25:23	1 mph	Parked	History
1427	Shirley Charles St 18111, San Leandro, CA	12/21/2008 12:27:24	1 mph	Parked	History
1000	Farbank Dr, Seattle, WA	12/21/2008 12:28:31	1 mph	Parked/Stop	History
1221	116-525 Shaver's Bend Rd., Huntsville, AL	12/21/2008 12:29:03	0 mph	Idle	History
1811	Field St 12121, Huntsville, AL	12/21/2008 12:29:28	0 mph	Idle	History
1011	1-61 Mountains To Stars Dr, New York, NY	12/21/2008 12:31:01	70.2 mph	Moving	History

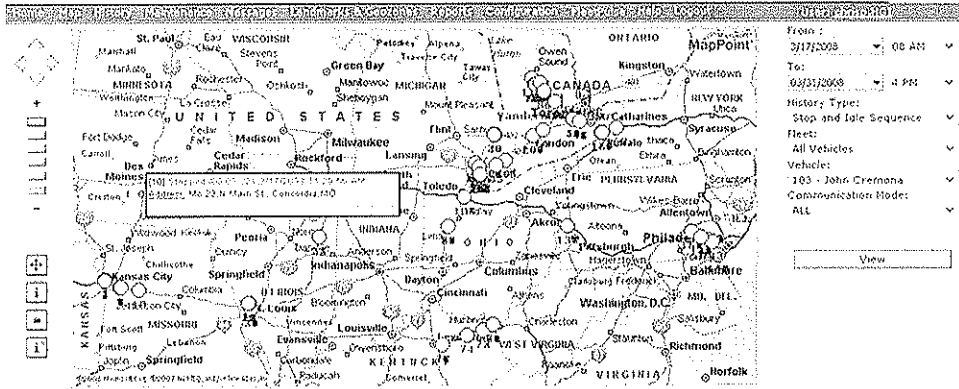
Map Screen:

Includes last reported location and current status; ability to search & sort for vehicles based on different criteria; location update requests as needed; scrolling notifications and messages windows.

Date/Time	Address	Speed	Message	Ack	Map It
3/30/2008 10:17:58 AM	Hwy-401, Macdonald-Cartier Fwy... 64		<< Scheduled Update		Map It
3/30/2008 10:02:58 AM	Hwy-401, Macdonald-Cartier Fwy... 60.3		<< Scheduled Update		Map It
3/30/2008 9:47:53 AM	Hwy-401, Macdonald-Cartier Fwy... 59		<< Scheduled Update		Map It
3/30/2008 9:32:58 AM	S Highbury Ave 3418, London, ON	0	<< Sensor	Ignition On	Map It

History and Vehicle Path:

Shows all events and scheduled updates while vehicle is moving via a bread crumb trail (vehicle path); sensor status changes, street-level map to a specific occurrence.



Visible Rows: 5 | Items per Page: 50

Arrival	Address	Departure	Duration	Status	Map It
3/17/2008 7:11:00	Chlessen Ln 68, Alton, IL	3/17/2008 7:14:40	00:03:15	Idling	Map It
3/17/2008 6:25:00	Chlessen Ln 72, Alton, IL	3/17/2008 7:09:20	00:43:48	Stopped	Map It
3/17/2008 6:02:00	E Broadway St 2939, Alton, IL	3/17/2008 6:23:20	00:21:28	Stopped	Map It
3/17/2008 5:00:00	E Broadway St 2921, Alton, IL	3/17/2008 6:00:10	00:00:15	Stopped	Map It

History Stop and Idle:

Shows all stop durations and idling >3 minutes; numbered stop and idles are indicated in sequence; street-level map to a specific occurrence, including placement of a cursor over a specific plot to show details.

Home | Notification Policy | Services | Maintenance History

Maintenance

Fleets: Delivery - Hamilton | Vehicles: H133 Casey V

Vehicle:

Current Odometer:

Current Engine Hours:

Odometer Based
 Engine Hours Based
[Get New Services](#)
[Get Past Services](#)
[Add New Plan](#)

Service Details

Description	engine service	Email	
Service Type	Engine Hours Based		
Service	Lube and levels oil and filters		
Notification	A Service	Notes	
Schedule Type	Recurring		
Due Value	2215		
Interval	350		
End Value	0 <input type="checkbox"/> Unlimited		

Maintenance:

Indicates services based on odometer and engine hours; allows the user to create specific service records per vehicle and view detailed maintenance history. Users are notified via email once a vehicle is approaching the next service interval.

Text Messages Alarms Scheduled Tasks

From: 3/27/2008 04 AM To: 03/30/2008 5 PM

Fleet: All Vehicles Vehicle: Entire Fleet

Folder List: All

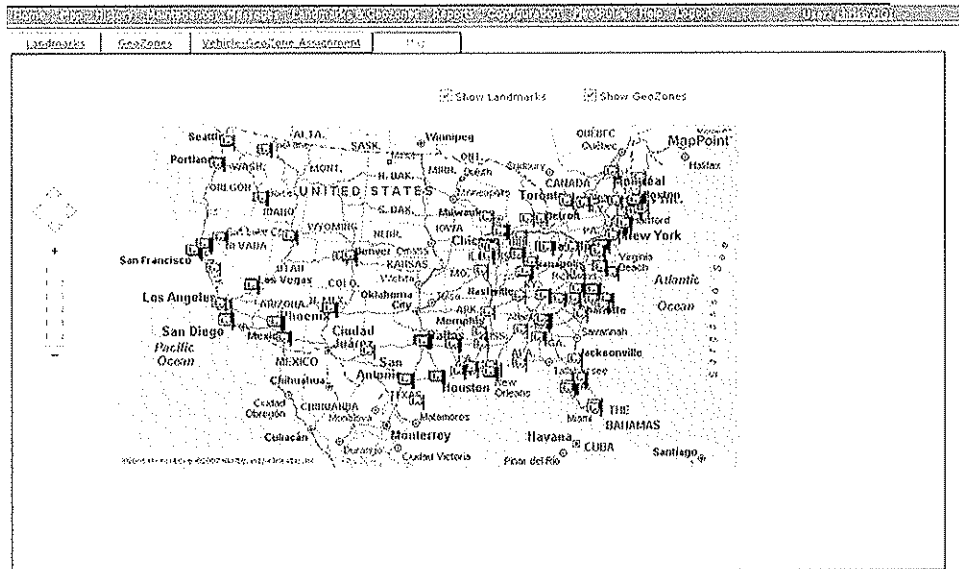
New Text Message View Text Messages Mark as read

Auto Time Refresh

Date/Time	From	To	Direction	Message	Response	Ack	Read
3/27/2008 9:01:02...	Kaety McCarthy	124- Hugh	>>	9229	N/A	Yes	Kaety
3/27/2008 8:58:42...	124- Hugh		<<	4:What is my Trip Number	N/A	N/A	
3/27/2008 8:57:03...	150- Jeff Nelson		<<	LAST STOP	N/A	N/A	
3/27/2008 8:54:43...	Shelley Banks	150- Jeff Nelson	<<	What drop are you on?	N/A	Yes	shell
3/27/2008 8:50:49...	Kaety McCarthy	151-Mike H	>>	pv/#4501257746-del appt mon 11am	N/A	Yes	Kaety
3/27/2008 8:50:05...	Kaety McCarthy	151-Mike H	>>	Please load at brins for allentown, pa. thanks!	N/A	Yes	Kaety
3/27/2008 8:44:54...	151-Mike H		<<	11 Empts, Need Refuel Info	N/A	N/A	
3/27/2008 8:42:07...	Kaety McCarthy	100-Eugene	>>	Ok, thanks	N/A	Yes	Kaety
3/27/2008 8:41:06...	Kaety McCarthy	154 Kevin, NC	>>	Ok, thanks	N/A	Yes	Kaety
3/27/2008 8:27:27...	100-Eugene		<<	5:At Customer	N/A	N/A	
3/27/2008 8:24:30...	154 Kevin, NC		<<	2:En Route	N/A	N/A	
3/27/2008 8:11:23...	Kaety McCarthy	155 - Jacob D.	>>	Ok, thanks	N/A	Yes	Kaety

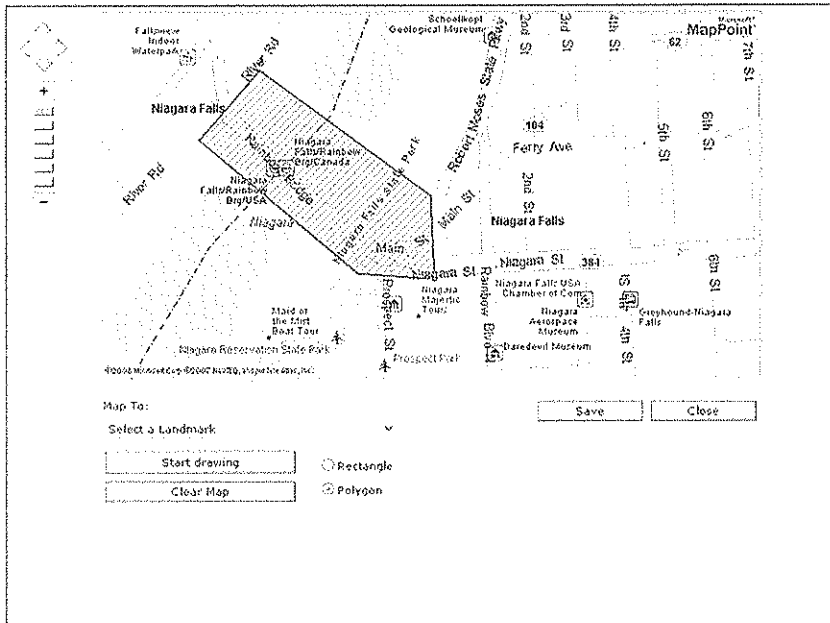
Messages:

User can view messages, with date time stamp between Driver >> Dispatch; view all alarms created from fleets/vehicles; and view all scheduled tasks with the ability to sort and search via any column.



Landmarks:

Landmarks can be set up and moved by the user, and reside on BSM's main server. Landmarks display a location instead of a street address (ideal for frequently visited locations). The user can obtain utilization of a specific set of locations via Landmark Activity report.



Geozones:

Geozones can be drawn as rectangles and multi-point polygons. Users can create Geozones within geozones. Geozones can be synchronized to specific fleet requirements, and can be unique for each vehicle.



Sample Reports

History Report

Date	Address	Speed km/h	Message Type	Message	Ack	Heading
10/3/2008 9:55:05AM	6914 Columbus Rd., Mississauga, ON, L5T	N/A	Idle	Duration: 00:14:32		
10/3/2008 9:40:18AM	6914 Columbus Rd., Mississauga, ON, L5T	N/A	Idle	Duration: 00:00:00		
10/3/2008 9:35:10AM	Rt-4, Brampton, ON, L6T	23	Scheduled			SW
10/3/2008 9:30:32AM	Hwy-407 Etr., Brampton, ON, L6T	105	Scheduled			SW
10/3/2008 9:28:10AM	Hwy-407 Etr., Vaughan, ON, L4L	108	Speed			SW
10/3/2008 9:26:32AM	Hwy-407 Etr., Vaughan, ON, L4L	108	Speed			SW
10/3/2008 9:25:37AM	Hwy-407 Etr., Vaughan, ON, L4L	105	Scheduled			SW
10/3/2008 9:23:39AM	Hwy-409, Vaughan, ON, L4L	112	Speed			S
10/3/2008 9:16:05AM	17 Tereor Dr., Vaughan, ON, L4L	18	Scheduled			S
10/3/2008 9:11:06AM	Woodbridge Office	N/A	Idle	Duration: 00:24:26		
10/3/2008 9:46:57AM	Woodbridge Office	N/A	Idle	Duration: 00:00:00		
10/3/2008 9:45:57AM	Woodbridge Office	19	GeoZone	Woodbridge Office - In		E
10/3/2008 9:38:37AM	Rt-55, Vaughan, ON, L4K	14	Scheduled			NW
10/3/2008 9:31:39AM	Hwy-407 Etr., Vaughan, ON, L4J	106	Scheduled			SW
10/3/2008 9:29:39AM	Hwy-407 Etr., Richmond Hill, ON, L4B	117	Speed			W
10/3/2008 9:26:42AM	Hwy-404, Markham, ON, L3R	93	Scheduled			N
10/3/2008 9:18:35AM	Setlers Rd., Toronto, ON, M2J	N/A	Idle	Duration: 00:57:25		
10/3/2008 9:16:25AM	Setlers Rd., Toronto, ON, M2J	0	Sensor	PTO On		
10/3/2008 7:21:36AM	Setlers Rd., Toronto, ON, M2J	N/A	Idle	Duration: 00:00:00		
10/3/2008 7:20:36AM	Setlers Rd., Toronto, ON, M2J	0	Scheduled			
10/3/2008 7:15:38AM	Setlers Rd., Toronto, ON, M2J	N/A	Idle	Duration: 00:00:57		
10/3/2008 7:07:38AM	Setlers Rd., Toronto, ON, M2J	0	Scheduled			
10/3/2008 7:05:45AM	Setlers Rd., Toronto, ON, M2J	N/A	Idle	Duration: 00:00:00		
10/3/2008 7:02:30AM	Setlers Rd., Toronto, ON, M2J	0	Scheduled			
10/3/2008 6:57:31AM	Setlers Rd., Toronto, ON, M2J	0	Scheduled			
10/3/2008 6:52:33AM	Setlers Rd., Toronto, ON, M2J	N/A	Idle	Duration: 00:00:34		
10/3/2008 6:45:09AM	Setlers Rd., Toronto, ON, M2J	0	Sensor	PTO Off		
10/3/2008 6:43:07AM	Setlers Rd., Toronto, ON, M2J	N/A	Idle	Duration: 00:00:00		

Trip Summary

Departure Time	From	Arrival Time	At	Distance km	Trip Time	Idling Time	Stop Time	Cost \$
9/29/2008 8:20:13AM	Habour Front Dr., Hamilton, ON, L8L	9/29/2008 9:28:06AM	604 Rt-5, Hamilton, ON, L9H	16.76	00:09:46	00:15:50	00:02:42	104.77
9/29/2008 9:30:48AM	604 Rt-5, Hamilton, ON, L9H	9/29/2008 2:54:02PM	Main Yard	202.89	00:25:14	00:51:40	01:44:05	578.25
9/29/2008 4:38:07PM	Main Yard	9/29/2008 4:46:39PM	447 Rt-5, Hamilton, ON, L9H	0.31	00:00:32	00:08:48	00:00:00	0.39
9/29/2008 4:48:47PM	447 Rt-5, Hamilton, ON, L9H	9/29/2008 5:03:00PM	Main Yard	0.26	00:19:12	00:15:42	00:09:09	0.79
9/29/2008 5:17:09PM	Main Yard	9/29/2008 5:25:26PM	447 Rt-5, Hamilton, ON, L9H	0.26	00:03:17	00:03:28	14:11:03	0.79
9/30/2008 9:37:29AM	447 Rt-5, Hamilton, ON, L9H	9/30/2008 9:58:31AM	447 Rt-5, Hamilton, ON, L9H	0.16	00:19:04	00:10:57	01:22:12	0.44
9/30/2008 11:26:45AM	447 Rt-5, Hamilton, ON, L9H	9/30/2008 11:30:16AM	447 Rt-5, Hamilton, ON, L9H	0.01	00:01:31	00:00:00	00:00:53	0.04
9/30/2008 11:31:09AM	447 Rt-5, Hamilton, ON, L9H	9/30/2008 11:31:18AM	447 Rt-5, Hamilton, ON, L9H	0.00	00:00:10	00:00:00	00:00:24	0
9/30/2008 11:31:43AM	447 Rt-5, Hamilton, ON, L9H	9/30/2008 11:38:23AM	Main Yard	0.28	00:06:40	00:05:00	00:04:58	0.73
9/30/2008 11:48:21AM	Main Yard	9/30/2008 11:44:26AM	447 Rt-5, Hamilton, ON, L9H	0.21	00:00:59	00:00:00	00:00:21	0.63
9/30/2008 11:44:41AM	447 Rt-5, Hamilton, ON, L9H	9/30/2008 11:44:52AM	447 Rt-5, Hamilton, ON, L9H	0.00	00:00:11	00:00:00	00:10:27	0.01
9/30/2008 11:56:18AM	447 Rt-5, Hamilton, ON, L9H	9/30/2008 11:56:58AM	Main Yard	0.22	00:01:37	00:00:00	00:11:56	0.63
9/30/2008 12:28:52PM	Main Yard	9/30/2008 12:51:12PM	13 Haw St., Hamilton, ON, L9H	4.06	00:22:40	00:00:00	00:14:25	11.58
9/30/2008 1:05:37PM	13 Haw St., Hamilton, ON, L9H	9/30/2008 1:19:17PM	Rt-399, Hamilton, ON, L9H	6.26	00:13:40	00:00:00	00:04:02	23.34
9/30/2008 1:21:39PM	Rt-399, Hamilton, ON, L9H	9/30/2008 1:28:45PM	4 Station St., Hamilton, ON, L9R	0.70	00:05:24	00:00:00	00:02:41	1.99
9/30/2008 1:31:24PM	4 Station St., Hamilton, ON, L9R	9/30/2008 1:41:19PM	Rt-502, Hamilton, ON, L9R	6.85	00:09:55	00:00:00	00:02:15	18.32
9/30/2008 1:44:54PM	Rt-502, Hamilton, ON, L9R	9/30/2008 1:48:07PM	95 Howard St., Hamilton, ON, L9R	0.08	00:01:33	00:00:00	00:14:53	0.17

Alarms Report

Box	Vehicle	Created	Accepted	Closed	Severity	Street Address	Description	Operator Name
6542	Dually WB	10/2/2008 8:30:39PM			Warning	Woodridge Office	Woodridge Office - In	*****
6584	Freightliner WB	10/2/2008 8:32:46PM			Warning	Woodridge Office	Woodridge Office - In	*****
7601	Dually A	10/2/2008 4:05:47PM			Warning	Aurora Office	Aurora Office - In	*****
6585	Freight WB	10/2/2008 3:53:46PM			Warning	Woodridge Office	Woodridge Office - In	*****
6540	Merl. EXWB	10/2/2008 3:44:06PM			Warning	Woodridge Office	Woodridge Office - In	*****
7603	Dually A	10/2/2008 3:42:36PM			Warning	Hwy-403, Bradford West Gwillimbury, ON, L5E	Speed (65 mph / 105 km/h)	*****
7605	Dually A	10/2/2008 3:18:16PM			Warning	Hwy-406, Bradford West Gwillimbury, ON, L5E	Speed (74 mph / 119 km/h)	*****
7603	Dually A	10/2/2008 3:11:42PM			Warning	Hwy-406, Bradford, ON, L6C	Speed (66 mph / 106 km/h)	*****
7605	Dually A	10/2/2008 3:04:07PM			Warning	Hwy-406, Barrie, ON, L4N	Speed (65 mph / 105 km/h)	*****
7605	Dually A	10/2/2008 3:03:56PM			Warning	Hwy-406, Barrie, ON, L4N	Speed (66 mph / 106 km/h)	*****
6542	Dually WB	10/2/2008 3:00:16PM			Warning	Hwy-406, Toronto, ON, M9L	Speed (69 mph / 111 km/h)	*****
7605	Dually A	10/2/2008 2:58:46PM			Warning	3567 Hwy-11, Gravenhurst, ON, P6C	Speed (65 mph / 105 km/h)	*****
7605	Dually A	10/2/2008 2:51:48PM			Warning	Hwy-11, Brantford, ON, N1L	Speed (68 mph / 109 km/h)	*****
6542	Dually WB	10/2/2008 2:28:35PM			Warning	Woodridge Office	Woodridge Office - In	*****
6584	Freightliner WB	10/2/2008 2:28:19PM			Warning	Woodridge Office	Woodridge Office - In	*****
6584	Freightliner WB	10/2/2008 2:16:39PM			Warning	Hwy-406, Toronto, ON, M9N	Speed (66 mph / 106 km/h)	*****

Idling and PTO Usage Summary

Vehicle	Hours	Idling (%)	Idling Hours	PTO Hours	Idling Hours (Adjusted by PTO)
435	02:29:00	90	02:14:28		
445	02:40:00	48	01:17:35		
380	02:20:00	98	02:17:31		
354	02:32:00	63	01:35:53		
313	02:53:00	100	02:52:39		
505	02:33:00	65	01:39:49		
141	01:39:00	110	01:48:27		
320	01:57:00	33	00:38:38		
370	00:43:00	58	00:25:07		
404	02:59:00	101	03:01:07		
307	02:58:00	75	02:13:30		
308	01:55:00	33	00:38:22		
499	00:51:00	171	01:27:10		
542	02:21:00	98	02:18:44	02:10:00	00:08:44



Report Descriptions

One of the strengths of the BSM Sentinel FM solution is the robust, integrated reporting engine. Sentinel FM calculates comprehensive reports with vehicle location and usage information. All reports are available in a variety of formats for export, or directly viewing on screen. Reports can be viewed on-demand, or easily scheduled in advance.

Examples of available reports:

Trip Details Report

This report provides details about vehicle trips in a specified period of time. Each trip is determined by ignition on/off showing trip start, trip end, vehicle position info and any sensors that have been triggered. This report can be customized to include/exclude street address, sensor triggers, scheduled position reports, idling time, stored position and trip summary. It can also be filtered by date/time and generated for a single vehicle or an entire fleet.

Trip Summary Report

This report summarizes each trip determined by ignition on/off showing departure address and time, arrival address and time, distance traveled, trip time, idling time and stop time for each trip. It also totals the number of trips, trip time, idling time, stop time, and distance traveled in the selected period of time. This report can be filtered by date/time and generated for a single vehicle or an entire fleet.

Alarms Report

This report summarizes all the security alarms that occurred in the system during the selected period of time. It can be filtered by date/time and generated for a single vehicle or an entire fleet.

History Report

This report summarizes all the activities occurred in the system for a particular vehicle during the selected period of time, including IP address updates, sensor triggers, commands, outputs, position updates, scheduled position reports, MDT text messages and Geo Fence violations. This report can be customized to include/exclude sensor triggers, scheduled GPS coordinates and invalid GPS positions. This report can be filtered by date/time and generated for a single vehicle only.

Stop & Idling Report

This report lists all the stops including idling showing arrival time, street address, departure time and stop duration in the selected period of time. It also totals the number of stops and stop time. This report can be filtered by date/time and generated for a single vehicle or an entire fleet.

Inactivity Report

This report shows the number of days/hours which vehicles have been stationary, geographical location (shown by State) of last location and percentage of non active days. Information can be filtered down to a specific hour of a specific day.

Messages Report

This report provides list of text messages sent and received by the system in the selected period of time, including From, To, direction of a message, message text and responses. It can be filtered by date/time and generated for a single vehicle or an entire fleet. MDT In-cab terminal required.

Off Hours Operation Report

This report lists all the vehicles that were used after hours.

Landmark Activity Report

This report provides a summary of total time spent by a vehicle at every landmark, and number of visits.

Fleet Maintenance Report

Provides a report on vehicle maintenance including current odometer readings, and whether maintenance has been recently performed, is due or is overdue.

Fleet Violations Detail Report (OBDII/J1708 required)

Provides a report on the occurrence of various driving violations including:

- Speed Violation
- Harsh Acceleration
- Harsh Braking
- Extreme Acceleration
- Extreme Braking
- Seat Belt Violation

The User can choose which violations and period of time on which to report. A report can be generated for a single vehicle or for an entire fleet.

Fleet Violations Summary Report (OBDII/J1708 required)

This report provides a summary of violations that have occurred for a specified period of time by assigning configurable demerit point values for each type of violation as seen in a Fleet Violations Detail Report. The type of violations to be reported on and the number of demerit points for different types of violations can be specified by the User in the report screen.

The report multiplies the number of violation occurrences by the assigned demerit point value to generate a total violation demerit score for each vehicle. The total score is color coded to indicate the severity of the violation demerit score. A report can be generated for a single vehicle or for an entire fleet.

Idling Details Report

This report summarizes the total number of hours that a vehicle ignition is on, the number of hours the vehicle ignition is on and engine is idling (no vehicle movement) and the percentage of time the vehicle is idling (idling time divided by total ignition on time). Also shows percentage of PTO use if customer is using a PTO sensor. Report can be run per vehicle or entire fleet, with filters down to a specific hour within a chosen day.

Idling Summary Report

A summary report on Engine Idling details created for a fleet of vehicles for a selected period. The report displays the total number of hours for the entire fleet when vehicle ignition is on, total number of hours when vehicle ignition is on and engine is idling (no vehicle movement), the percentage of time all vehicles are idling (idling time divided by total ignition on time) and the average idling time per vehicle.

Geozone Summary Report

This report itemizes each time a selected vehicle or vehicles entered and left a specified Geozone area and the duration of time spent in the Geozone area during a time period selected by the User. The report also summarizes the total duration of time spent by each selected vehicle in the Geozone area.

Driver Trip Summary/Details/Violation Reports

These reports are similar to the standard Trip Summary, Details and Violation reports, but are produced on a driver by driver basis. Optimized for driver behavior management when used with Driver Sign-In (optional)

