
Connected Vehicle

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Agenda

- **Commercial Truck Environment**
- **Telematics in Today's Trucks**
- **Why Be Connected?**
- **OnCommand Connection – Maintenance**
 - Customer
 - Dealer Parts and Service
- **Why More Connectivity? - Future Capabilities**
- **Look Ahead**
 - Technology
 - Challenges

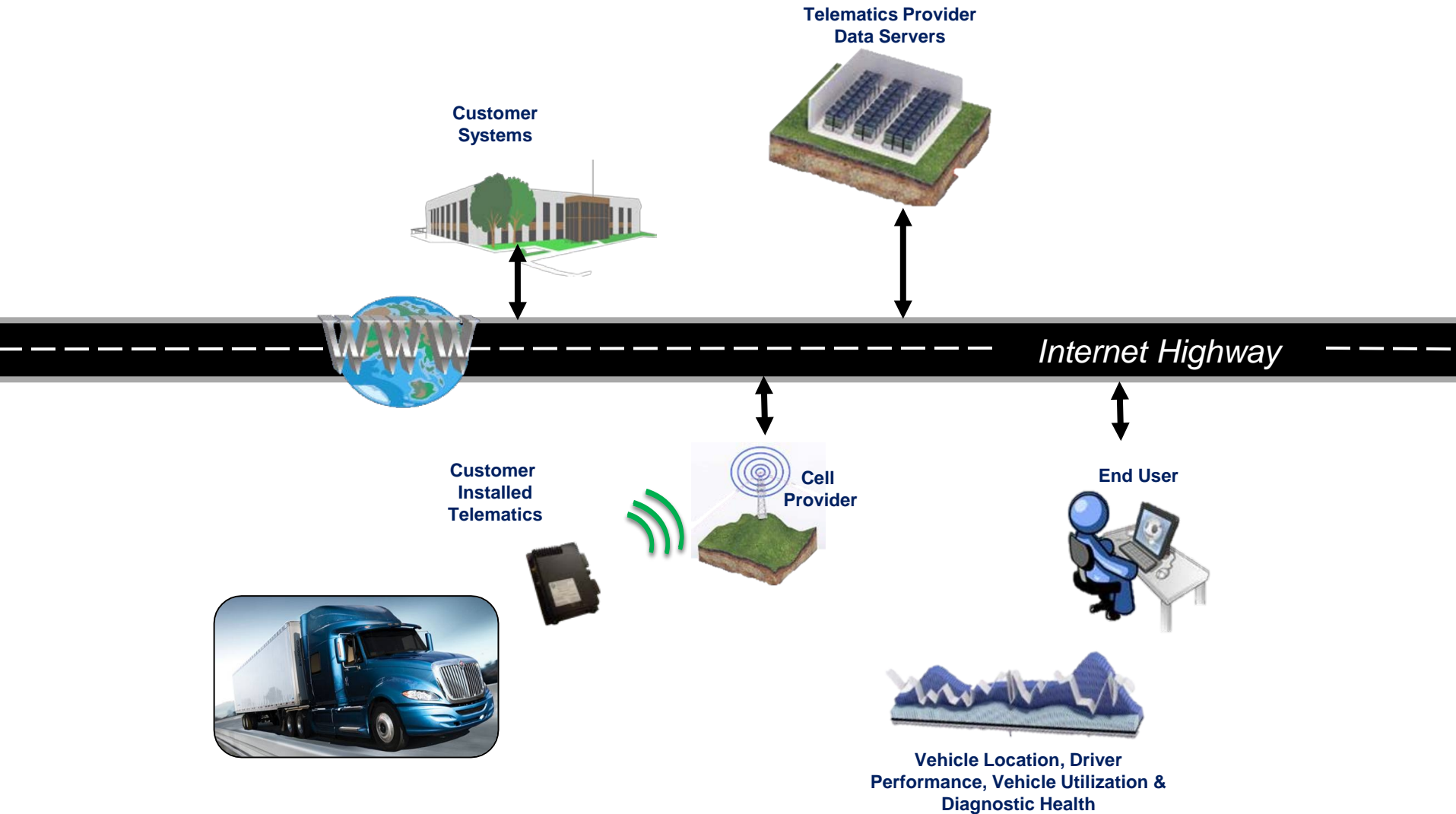
Commercial Truck Environment

- **America NEEDS a healthy, safe trucking environment to fuel the economic recovery. We all RELY on trucking to bring products to our doors.**
- **Trucking must improve its efficiency to be competitive to other modes of transportation**
- **Driver Attrition is at a all time high**
 - **Truck Drivers with CB radios were the social media pioneers**
 - **Social networking (How, where and what to drive?)**
 - **Younger Drivers grow up in a electronic social environment**
- **Increasing federal safety regulations**
 - **Electronic proof of proper breaks and rest**
 - **Electronic Logging Device**
- **Record High Fuel Prices Driving Margin Pressure**
- **GREATER SAFETY!!!!!!**

Commercial Truck Environment

- **Most large fleets have existing partnerships with an established telematics partner.**
- **Telematics Partners provide enhanced Fleet Management**
- **Telematics uses specific vehicle parameters and driver logs/history to manage the customers fleet for optimum efficiency**
 - **Behavior Modification/Coaching**
- **Driver displays are commonly being used**
 - **However, for the most part driver interaction/distraction is made minimal**
- **Telematics works closely with Customer on applications and data entry**

Connected Vehicle - Telematics



TODAY

Why Be Connected?

Let's Focus on the Maintenance Piece

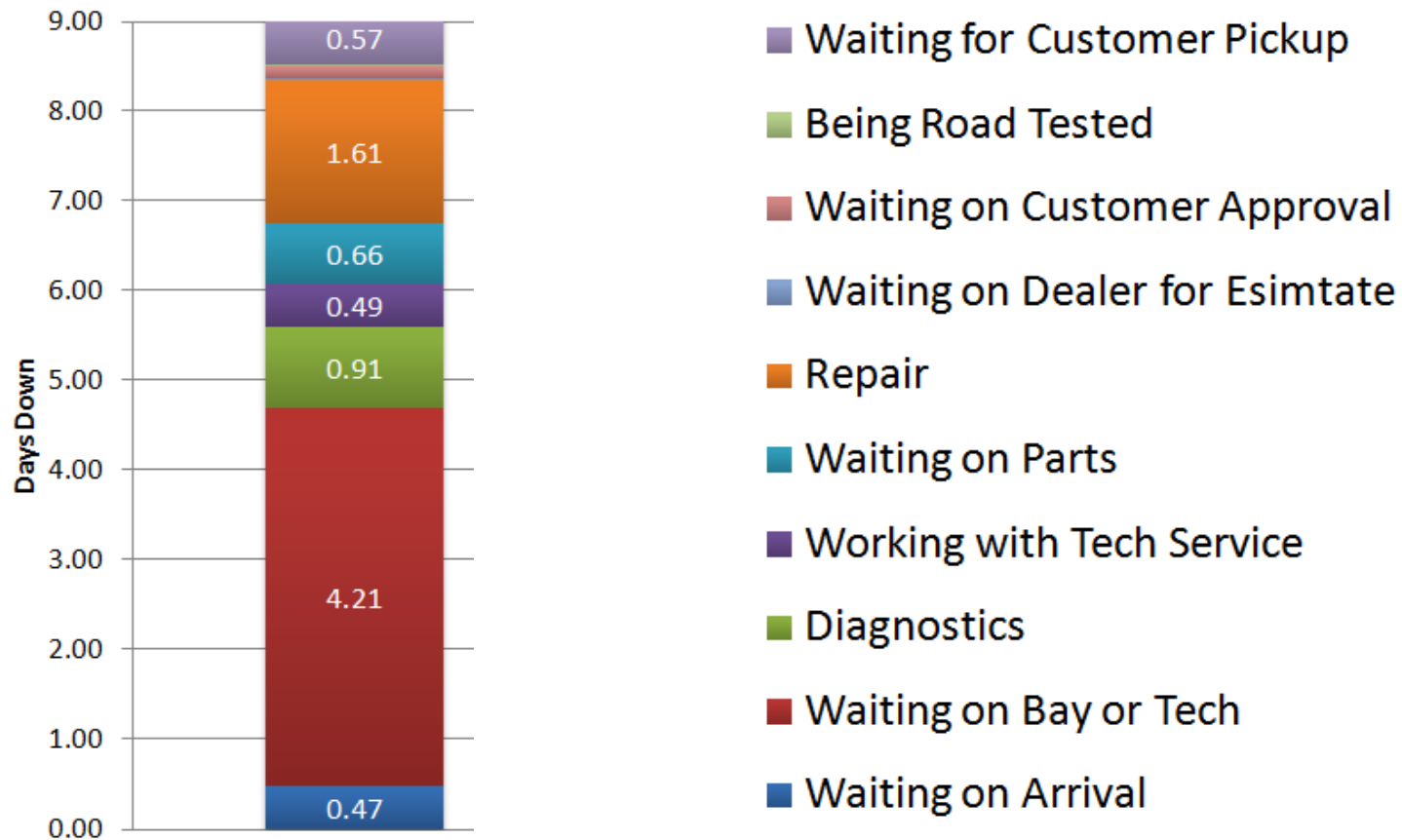
Key Customer Benefits/Capabilities

- Transmit Truck Data (Fault, Location, Speed, etc.)
 - Anything on Vehicle data bus
- Diagnose faults and Identify Severity
- Inform Fleet Managers or Individuals of Vehicle Status
- Increase Uptime and Lower Repair Costs
- Easy to Use

The Capabilities Will Continue to Grow:

- Reduce en-Route Events by Proactively scheduling maintenance and repairs
- Map Tools that plot truck locations, nearest dealers, hotels, towing, etc.
- Generate real-time comprehensive health reports
- Understand fault codes quickly and easily
- Gain Insight with Fault Code Action Plans – Severity and Recommended Solutions

Anatomy of a Breakdown



Connected Vehicle – Phase I



- **OnCommand Connection** – Connection is the **first phase** of Navistar’s comprehensive, connected vehicle strategy by providing Remote Diagnostics monitoring.
- **Remote Diagnostics** – Provides fleets with the ability to view and understand fault codes while the vehicle is in service. This enables better insight and communication between driver, customer’s call center and Dealers to schedule needed repairs and reduce unnecessary service visits.
- **Open Architecture** – OnCommand Connection was designed to utilize our customers preferred telematics provider(s). Most telematics providers already are connected to Navistar servers.
- **All-Makes Ability** – Most customers operate a mixed brand fleet. OnCommand Connection supports the entire fleet.

Customer Benefits

- **EPA & OBD Requirements** – Since Jan 2013, ALL heavy engines have over 500 fault codes each. The increased faults are impacting downtime and repair cost.
- **CSA 2010** – Vehicles prohibited from operating with engine lights on or risk violations.
- **Repair Cost** – When faults are understood and caught early, progressive damage may be avoided.
- **Fleet Productivity** – Understanding faults early can reduce en-route events. Connection can help the fleet make decisions like when and where to have repairs performed.

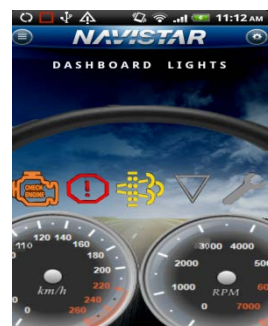
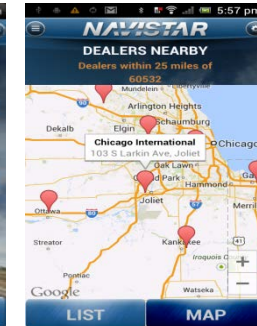
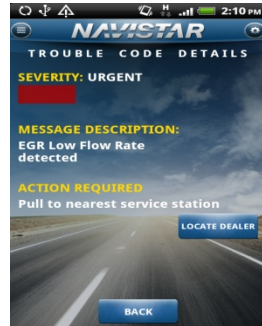
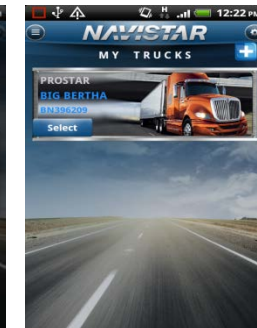
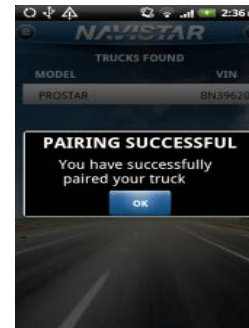
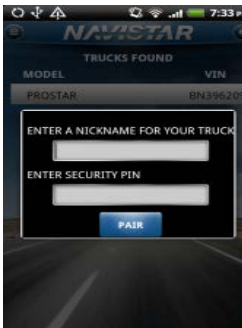
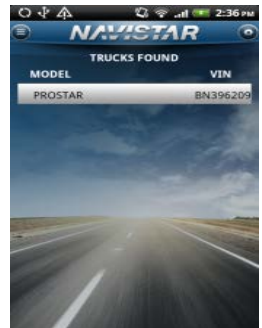
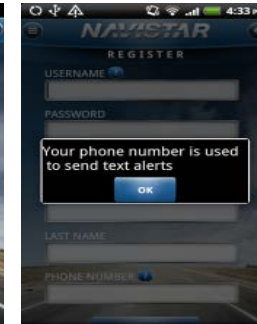
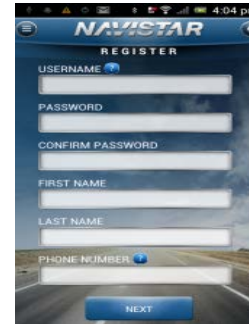
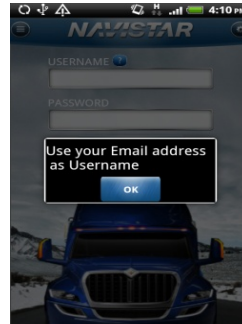
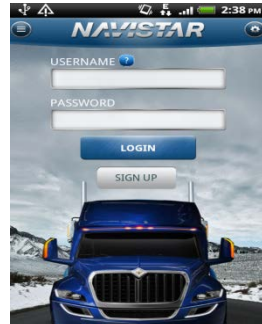
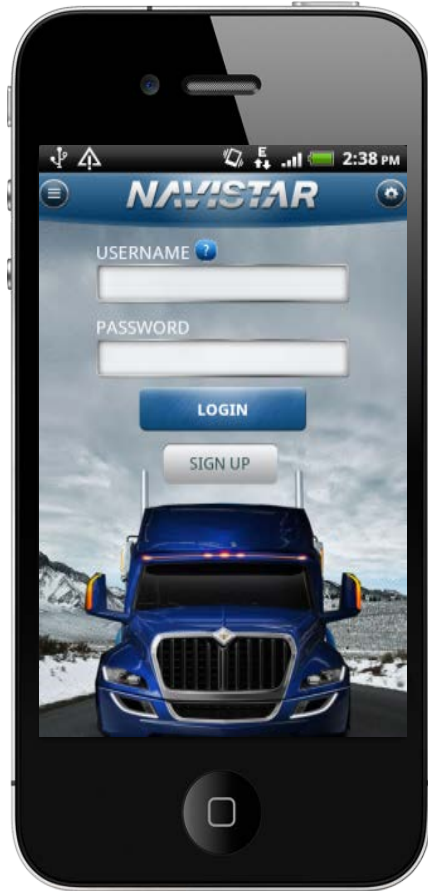
Dealer Parts and Service

- **Visibility** – Integrated into the Service Portal “Health Reports” tab, providing fault visibility while vehicle is still on the road.
- **GPS** – For customers that share this info, you will have the visibility to location of the vehicle in a map view.
- **Diagnostics** – Telematics provides the ability to view the order of the faults, number of occurrences and conditions of fault.
- **Mobile Service** – The ability to view vehicle health and location will help you be more productive during a mobile service call.

Why More Connectivity?

- **Improved End User Experience**
 - **Merging of personal and business activities**
- **Improved Quality**
- **Cost Benefits**
 - **Less Fuel Burned (Adaptive Cruise)**
 - **Hard Braking, shift patterns on specific road conditions, speeding**
- **Efficiency in Operation**
 - **Using electronic logging typically saves 15 minutes of time versus paperwork**
- **Safety**
 - **Driver behaviors and truck statuses are being measured**
 - **Unsafe practices are recorded and therefore quickly identified for coaching or accident avoidance**

Connected Vehicle – Mobile App Solution



What's Over the Horizon - Looking Ahead

- **Seamless Integration of Devices**
 - Multiple Makes, Models, Platforms, Applications
- **Mobile and Cloud based Technology**
 - Mobile devices are becoming increasingly more powerful
 - Constantly transmitting large amounts of data in real time
 -and its affordable
- **Automotive Migration of Features**
 - Advanced Driver Assistance Systems
 - Park Assistance, Rearview cameras, adaptive front lights, Collision Avoidance, Lane Departure, Adaptive Cruise Control, Driver Monitoring
 - Penetration is low, from a “willing to pay for it perspective”
- **Major Challenges**
 - Useful versus Wasteful
 - Customer Interest and Benefit, User Experience (Supply and Demand)
 - Security and Privacy



Questions
