Kodiak Broadband PTT for Transportation

An Application Brief

Overview of U.S. Transportation Industry

The transportation industry manages the movement of people and goods and includes air, rail, road, water, cable and pipeline. According to the U.S. Bureau of Transportation, the transportation industry is organized in the general subcategories of truck, rail, water, pipeline and other modes (including air) with trucking owning the majority share. School buses are also part of transportation. The trucking industry that takes up almost 70% of the overall U.S. transportation industry involves the transport and distribution of commercial and industrial goods using commercial trucks, usually semi-trucks, box trucks, or dump trucks.

Based on data from the US Department of Transportation and the American Trucking Associations (ATA), the U.S. transportation industry has the following key characteristics:

- $1.4 trillion transportation industry revenue
- 746,142 interstate carriers
- 19,299 airports
- 12.7 million transportation-related labor force
- 5.77 million automobiles in fleets
- 6.5 million trucks in fleets
- 135,000 taxis

Key Communication Challenges for Transportation

Since trucking was deregulated in the 1980's, this very profitable industry has become ferociously competitive and highly streamlined. An industry adage says that just five days of unscheduled downtime can turn a profitable truck into a barely breakeven truck. This need for constant efficiency combined with new safety regulations and the fluctuating price of fuel requires trucking companies to closely monitor how they use their assets.

From an operational standpoint, some of the key challenges facing the transportation industry relating to communications and equipment include:

- Compliance with regulations regarding use of communications equipment and hours of service
- Fleet utilization – difficulties with optimizing scheduling, route lengths, fuel usage and delivery
- Tracking asset inventory and performance with in vehicle diagnostics
- Route optimization for drivers
- Difficulties keeping dispatchers and field workers continuously connected
- High operational expenses – fuel costs, on-going vehicle maintenance and insurance premiums

- Theft, shrinkage and inventory damage
- Poor real-time visibility to customer orders and shipment status.

Overall Challenges	Communication Challenges
- Line-side up time and production yield - Employee productivity - Work order management - Process management - Quality control - Asset maintenance and management - Inventory management - Operating profit	- Reaching the right employee or group any time - Mobile access to real-time data - Application integration on the same device - System interoperability - Communication cost control

Fragmented Voice/Data Communications in Transportation

Transportation companies depend on various communications systems/services and productivity applications, including GPS navigation, telematics, work order management, asset tracking, etc., to efficiently complete deliveries and quickly free up assets for other tasks. The use of different devices running on disparate networks can add complication into the overall process of completing one job and moving quickly to the next, making it difficult to increase efficiency and reduce costs.

Fragmented Voice/Data Communications in Transportation		
	Supported	**Not Supported**
Two-way radio	- Instant mobile voice communication - Limited messaging	- Computing - Broadband data
Regular cell phone (with regular services)	- Cellular voice - Messaging - Mobile data and others	- Instant voice - Group call
GPS Device	- GPS Enabled Navigation - Route Optimization	- Voice communication - Computing/data applications
Tablet	Mobile computing/data	Voice communication

Organizations within the transportation industry face the problem of having to deploy different devices for different applications difficult to integrate for mobile access. In this situation, capital

and operational costs of providing and managing fragmented voice/data communications are very high, and some employees have to carry multiple devices in order to do their job. For example, a driver may need to use GPS for navigation to deliver cargo, a tablet to review the customer order and accept a signature, an LMR radio or cell phone to communicate job completion, and a work order management application run over a dashboard-based computer to receive the next job. Use of these disparate tools is inefficient and adds complication to the daily workflow for drivers and administrators.

The rise in government regulations and the need to do more with fewer resources in today's economy makes drivers' job much more demanding than before. However, the existing fragmentation of voice/data communications in the transportation industry cannot meet the industry's needs effectively or efficiently.

Kodiak Broadband PTT for Transportation

To solve the problems outlined above, the transportation industry needs a new, high-performance mobile solution that can integrate instant voice, broadband data, productivity applications, and business processes on a single device. This solution should be able to meet the diverse needs of the workforce, preserve existing investments, reduce communication costs, and increase operational efficiency. Broadband Push-to-Talk (PTT) solution from Kodiak, a Motorola Solutions Company, represents the industry standard of such a solution.

- **Standards based**. The Kodiak PTT platform complies with the industry's OMA PoC standards, which represent the commercial-ready baseline of 3GPP's MCPTT standard. New features based on the MCPTT standard are being implemented.

- **Communication over the latest cellular networks and W-Fi.** Cellular networks supported include 4G LTE, 4G HSPA+, and 3G, providing ubiquitous wide area coverage. Support for Wi-Fi ensures effective in-building coverage and a fall-back wireless network where Wi-Fi is available.

- **Dynamic creation and update of contact list and group list.** Kodiak Broadband PTT comes with a powerful Web-based corporate administrator tool that allows a PTT address book to be created or updated on the fly and synched to individual users' devices wirelessly, in real time.

- **Broad device choices, including the latest smartphones, feature phones, tablets, and specialty devices.** Smartphone/tablet operating systems supported by Kodiak Broadband PTT include Android and iOS. Ruggedized specialty handsets with a dedicated PTT button are available. In addition, Kodiak Broadband PTT comes with numerous accessories, including car kits for drivers.

- **Multiple application modes**. Kodiak Broadband PTT offers two application modes: PTT radio mode, which provides a single and easy-to-use screen that emulates experience with traditional radio, and a standard mode, which offers full client functionality interactions.

- **Multiple PTT calling types, with call override.** Users can make 1:1 private calls, pre-defined group calls, ad hoc group calls, and broadcast calls. The supervisory override feature allows a supervisor or any other designated person to take over the voice channel at any time, which is essential during emergency situations.

- **Voice and signaling encryption**. Kodiak-powered PTT provides security through voice and signaling encryption, using the Advanced Encryption Standard (AES) 256 standard to protect PTT users from unauthorized call interception and monitoring.

- **Secure multimedia messaging and location tracking features**. Kodiak Broadband PTT supports secure multimedia messaging (with text, picture, video, file, and recorded voice), location mapping on device, and geo-fencing, all of which enhance effectiveness of mobile communications. Users now can access different means of mobile communication through a single application.

- **Interoperability between two-way radio and cellular networks.** The interoperability capability allows continued use of an existing two-way radio system and expansion of coverage or capacity cost-effectively, with seamless interoperability between PTT devices operating on different networks.

- **Integrated dispatch.** Kodiak offers an integrated dispatch application, which can be PC-based or Web-based. The application supports PTT communications, location tracking, group monitoring, voice recording, etc.

- **Significant cost savings.** Kodiak Broadband PTT, through its carrier partners, provides two pricing options: a low-cost PTT-only plan or a small nominal fee on top of an existing cellular voice/data plan, giving end customers significant cost savings.

Kodiak Broadband PTT delivers numerous benefits, including:

- Minimizing the need to manage multiple communication services
- Eliminating the need for employees to carry multiple devices
- Optimizing network coverage both inside and outside the premise
- Leveraging the latest and greatest mobile technologies
- Continuing use of existing two-way radios
- Reducing communication costs

Key Use Cases for Kodiak Broadband PTT

Kodiak Broadband PTT provides not only the traditional core capabilities of LMR but also integration of PTT with mobile broadband data, delivered through the most advanced and diverse wireless networks to the broadest choice of devices. With Kodiak Broadband PTT, employees can reach the right group or person at any time and have real-time access to mobile data relevant to their role or functions, all on a single device.

	What PTT Voice Is Used For	Typical Device	Non-PTT Voice Application
Executive/Director	• Project Planning • Emergency situations • Status updates • Discrete communications	• Smartphone	• Messaging • Mobile data & productivity apps
Transportation Coordinator	• Transportation Planning • Assigning Tasks • Status reporting • Driver and delivery monitoring	• Smartphone	• Messaging • Mobile data & productivity apps
Operations Manager	• Assigning tasks • Status reporting	• Smartphone	• Messaging • Mobile data & productivity apps
Driver	• Receiving work orders • General communications • Emergency situations • Status reporting	• Smartphone	• Messaging • Navigation • Mobile data
Service Manager	• Receiving work orders • Task Assignments • Status reporting	• Smartphone	• Messaging • Mobile data & productivity apps
Shop Mechanic/ Parts Manager	• Alerts/inspections • Communication with mobile workers • Assigning tasks • Status reporting	• Smartphone • Feature phone • Tablet	• Messaging • Mobile data & productivity apps
Dispatcher	• Communication with mobile workers/drivers • Assigning tasks • Emergency situations • Status reporting	• PC	• Messaging • Mobile data

Summary

Kodiak Broadband PTT is an ideal carrier-integrated mobile communication solution. It allows users to access instant voice and mobile broadband data services on a single device, with ubiquitous network coverage. For more information, visit Kodiakptt.com.