



Kodiak Broadband Push-to-Talk

Redefining PTT Communications

The Kodiak Broadband Push-to-Talk (PTT) solution sets the standard for instantaneous 1-to-many and 1-to-1 voice communications over LTE, 3G, and Wi-Fi networks.

Kodiak Broadband PTT is the ideal solution for mobile workforce communications, useful as a legacy carrier PTT replacement, for 2-way radio augmentation (including P25, TETRA, DMR, and analog) or replacement, and for PTT-enablement of third-party productivity applications. The broad selection of compatible devices and accessories lets it fit perfectly into the many industries with mobile workforces.

Based on the Open Mobile Alliance's (OMA) Push-to-Talk over Cellular (PoC) v2.0 standard and tightly integrated into carriers' cellular networks, Kodiak Broadband PTT has redefined PTT communications and become the industry's benchmark for performance, reliability, and features. It has the largest subscriber base of standards-compliant broadband PTT service in the world.



Transforming PTT to a Broadband, Standards-Based Solution

Kodiak has transformed PTT technology from narrowband to broadband and from proprietary to a standards-based solution. Kodiak Broadband PTT delivers instantaneous 1-to-many and 1-to-1 voice communications cost-effectively over 4G/LTE, 3G, and Wi-Fi networks, and it is based upon the Open Mobile Alliance's (OMA) Push-to-Talk over Cellular (PoC) v2.0 standard. Kodiak Broadband PTT features a carrier-grade, carrier-integrated resilient platform.

Why is broadband important for PTT? Legacy narrowband two-way radios operate on isolated 2G-/1G-equivalent networks. Two-way radio systems from different vendors are incompatible. Another legacy PTT solution - now obsolete iDEN - is based on 2G technology, and it is proprietary. In addition, private 2-way radio networks have significant coverage constraints and poor support for mobile data applications, if at all, among other limitations.

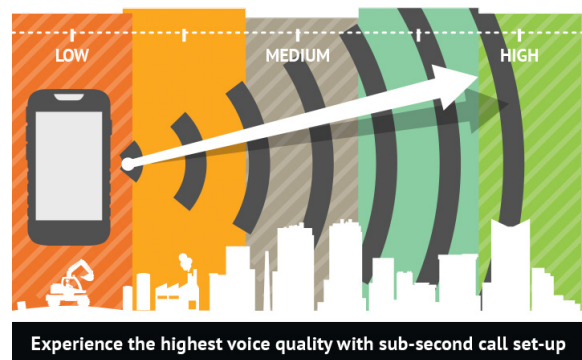
Standards compliance is critical to the future of PTT. OMA PoC v2.0 is the foundation of OMA's Push to Communicate for Public Safety (PCPS) standard, which provides a commercial-ready baseline to 3GPP's MCPTT standard for mission-critical communications.

With Kodiak Broadband PTT, organizations such as government, public safety, transportation, energy, security, field service, manufacturing, construction, hospitality, and health care can experience the following key benefits for their mobile worker communications:

- Ubiquitous nationwide wide-area coverage, leveraging the latest commercial carrier networks
- Effective in-building coverage through Wi-Fi
- PTT and mobile broadband data applications on a single device, enabling simplified, efficient, and

cost-effective voice + data communications

- Augmentation of an existing 2-way radio system to improve coverage, reserve or expand capacity, allow more workers to use PTT, and reduce costs
- Future-proof PTT investment and industrywide ecosystem support due to compliance with industry standards
- Carrier-integrated reliability, providing users with a PTT platform tightly integrated with the carrier's network and daily operations



Superior Performance and Advanced Features

The carrier-integrated Kodiak Broadband PTT solution delivers an enhanced user experience with superior performance and advanced features:

- **Sub-second call set-up** - Delivers instant voice communication with a group or an individual.
- **Dynamic QoS via the Rx interface** - Allows high-priority users to obtain dynamic dedicated LTE network resources when they make a PTT call over an LTE network.
- **RAN optimization** - Ensures performance and reliability of the carrier-integrated solution.
- **High voice quality** - Uses wideband AMR codec that provides average MOS scores much higher than 2-way radio.
- **Encrypted voice calling and signaling** - Protects PTT users from unauthorized call interception or monitoring.
- **Real-time presence** - Presence status includes Available, Do Not Disturb (DND), and Offline.
- **Late-join/re-join functionality** - Allows a user to easily join or re-join a group call after it is started.

- **Support for both pre-defined and ad-hoc group calling** – Users can select from a list of talk groups (channels on a 2-way radio) or select multiple contacts and initiate a group call on demand.
- **Call preemption via supervisory override** – Allows a designated supervisor to take over the PTT floor at any time.
- **PTT/cellular interaction** – Enables users to place a PTT call on hold to answer an incoming cellular call.
- **Broadcast calling** – Initiates a preemptive one-way call to a large group of people at the same time.
- **Talk group scanning with priority** – Allows a PTT user to select up to 16 talk groups for monitoring, with three that can be set as prioritized groups.
- **Alerts** – Provides the convenience of a quick alert to request a call back or display a missed call.



Broadest Choice of Client Devices and Accessories

With the industry’s broadest PTT ecosystem and partnership with multiple leading device manufacturers, Kodiak makes it possible for organizations to choose client devices and accessories that make the most sense for their specific needs and budget available. The devices offered are all tested and certified, ensuring compatibility and optimized performance.

Smartphones and tablets:

Use PTT and access critical data to enhance operational efficiency with a broad range of standard or ruggedized smart devices at a variety of price points. Primary device operating systems supported include iOS and Android.

Specialty Devices:

Whether it’s a highly ruggedized handset with a dedicated PTT button or an intrinsically safe (IS) device with an embedded PTT client, users can choose the right tool for their job in a demanding environment.

Low-cost Feature Phones:

Kodiak Broadband PTT supports low-cost PTT handsets for field communications, fleet management, or other use cases requiring high-quality devices that are reliable and cost-effective as well.

Accessories:

Kodiak Broadband PTT comes with a wide range of compatible wired and wireless accessories for supported devices, including standard, rugged, and IS versions of remote speaker microphones (RSMs), headsets, ear pieces, lapel mics, hands-free car kits, and dispatch support devices.



Two-way Radio Interoperability

The Kodiak Broadband PTT solution supports interoperability with 2-way radio systems so that organizations can augment 2-way radio communication with broadband PTT or transition to broadband PTT over time, with the benefit of seamless communications between users carrying a radio and broadband PTT subscribers.

Interoperability with 2-way radio system is achieved through multiple interfaces, including ISSI, CSSI, and RoIP. This allows LMR integration through interoperability gateways and through dispatch consoles, to extend complex command and control communications to all users of PTT.

Benefits of Interoperable Broadband PTT for 2-way Radio Augmentation

Use PTT outside 2-way radio coverage area	✓
Expand PTT system capacity quickly and cost-effectively	✓
Preserve 2-way radio system resources	✓
Allow personnel without a radio to use PTT while at work	✓
Allow off-duty personnel to stay connected with PTT when necessary	✓
Allow PTT users to carry a single device for both PTT and mobile data	✓
Allow private 1:1 PTT calls	✓
Subsidized devices with periodic free/low-cost device upgrades (depending on carrier plans available)	✓
Low monthly fee for PTT service	✓



AES 256-based Encryption with FIPS 140-2 Compliance

Kodiak Broadband PTT offers security through voice and signaling encryption, using the Advanced Encryption Standard (AES) 256 to protect PTT users from unauthorized call interception and monitoring. With patented call set-up performance, encrypted PTT calls are just as fast and clear as non-encrypted PTT communications.

Complying with FIPS (The Federal Information Processing Standards) 140-2 Level 1 specifications, with FIPS validation, Kodiak Broadband PTT provides end users with assurance that communication security meets strict requirements established by the United States National Institute of Standards and Technology (NIST).



Efficient Contact and Group Management

The Kodiak Broadband PTT solution allows organization administrators to centrally manage contacts and groups through a powerful, web-based tool. With this tool, an administrator can easily assign or update contacts and groups for PTT users wherever they may be – in real time and over the air – eliminating the need for users to manually create and manage a PTT address book – saving both time and money for businesses of any size. Key features include:

- Manage a master list of all PTT subscribers within the organization and external PTT contacts
- Assign and update PTT contacts and groups, which are synchronized with user devices wirelessly, in real time
- Enable creation of new contacts and groups or changes to an existing address book for each PTT user anytime, in real time
- Assign and manage supervisors and dispatchers for call preemption
- View corporate hierarchy (view subscribers from the master list in a hierarchical structure)

If an organization has no more than 50 PTT users, it will benefit from auto pairing, which allows a subscriber's device to be automatically loaded with up to 50 PTT contacts within the same organization and a group that consists of all those contacts.

With the auto pairing feature, subscribers can start making PTT calls right after PTT service is provisioned and activated, without the need to learn how to add contacts/groups manually to the PTT client.

Kodiak Broadband PTT supports a large address book per client device:

- **1,300 contacts** - up to 1,000 contacts centrally managed by an administrator and 300 contacts managed by the user.
- **130 groups** - up to 100 groups managed by an administrator and 30 groups managed by the user.
- **250 group members** - up to 250 pre-defined group members. The broadcast calling feature supports 500 group members.



Push-to-Talk User Interface

Regardless of the PTT device used, the Kodiak PTT client app on that device sets the standard for capabilities and convenience. Kodiak offers two interface options:

- **Standard User Interface** - View and manage PTT contacts, talk groups, and favorites. View contact presence status, call history and alerts. Set personal presence (available/offline/DND). Initiate calls from any of these views. Push to talk from the device display, from an accessory, or from a dedicated PTT button on a specialty device.
- **Radio-style User Interface** - View and call PTT channels (groups) on a simple display. Make private 1-to-1 calls to PTT contacts and view call-me alerts. Set priority talk group scanning or single-channel selection for monitoring. Set personal presence (available/offline). Push to talk from the device display, from an accessory, or from a dedicated PTT button on a specialty device.

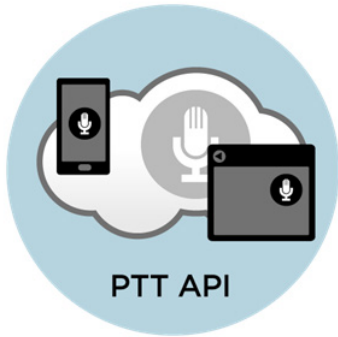


Integrated Dispatch Console

Kodiak Broadband PTT integrated dispatch console is a full-featured dispatch tool that easily lets a dispatcher communicate with their organization's contacts and talk groups and monitor group communications. This Windows-based dispatch console includes GPS-based location mapping, call recording, and PTT user status (presence). Key features include:

- PTT calling by the dispatcher
- Dispatcher override for PTT calls
- Real-time presence
- Instant call-me alert
- Group monitoring
- GPS-based location mapping
- Call recording
- History and logging
- Support for multiple dispatchers
- Compatible with many dispatch accessories

A unique capability of the integrated dispatch console is that it provides two installation options: system-wide installation that allows any dispatcher to use any console station available or user-based installation that assigns a specific console station to a particular dispatcher. The availability of these two options supports different use cases, depending on end customers' needs.



API for Application Integration

The Kodiak Application Programming Interface (API) makes it possible for third-party developers or integrators to add fast and easy broadband PTT voice communication to their applications, for data and PTT voice in a unified user interface.

Organizations will find that these unified workforce management and productivity applications increase productivity by providing PTT within existing workflows. This flawless integration into existing applications builds upon a low initial investment to maximize returns by adding value and efficiency.

The following broadband PTT functions are available through the Kodiak Broadband PTT API:

- **PTT Services:** Make and receive one-to-one calls, pre-defined group calls, and ad-hoc group calls.
- **Presence:** Find PTT users' presence information (Available, Off-line, or Do Not Disturb) instantly with real-time updates.
- **Instant Alert:** Send or retrieve call-me alerts and missed-call alerts with real-time notifications.
- **Remote Client:** Integrate all Kodiak PTT services into a single platform.

Key Differentiators from Over-the-Top PTT

Kodiak Broadband PTT sets itself apart from over-the-top PTT applications in the following key aspects.

Carrier Integration:

Kodiak Broadband PTT is tightly integrated into carriers' networks and daily operations to ensure reliability/ QoS, optimized performance, and convenient support. It undergoes extensive carrier testing and monitoring to ensure compliance with strict carrier-grade service level agreement requirements.

Standards Compliance:

Built upon industry standards, Kodiak Broadband PTT allows end customers to leverage industrywide ecosystem support and future technology advancements driven by new standards.

Performance and Features:

Kodiak broadband PTT features a carrier-grade platform that is highly resilient, instead of delivering PTT over a consumer-grade server. In addition, Kodiak offers the industry's benchmark advanced features.

Ready to Get Started?

To learn more about Kodiak Broadband PTT, please visit kodiakptt.com.