# BK InteropONE Radio Gateway Interface Primer
Purpose/Summary

This document is intended to provide a Primer/1,000 ft. overview of requirements to interface BKRplay InteropONE with an LMR radio. There exists a wide number of solutions available, at a minimum the basic requirements are an internet connection, a VPN gateway with IPsec LAN/LAN capabilities, a donor radio, and a suitable Radio/IP gateway (JPS Z2 gateways having been tested by BK Technologies and are the current recommendation). The figure below summarizes the configuration. An unrestricted static-IP address is also recommended, however a DNS service like DynDNS may be suitable in some cases. The gateway 'translates' the radio audio and encapsulates it as SIP traffic which is then passed through a secure IPsec VPN to the InteropONE backend cloud-based server for connection to the InteropONE application running on the end-users' smartphones.
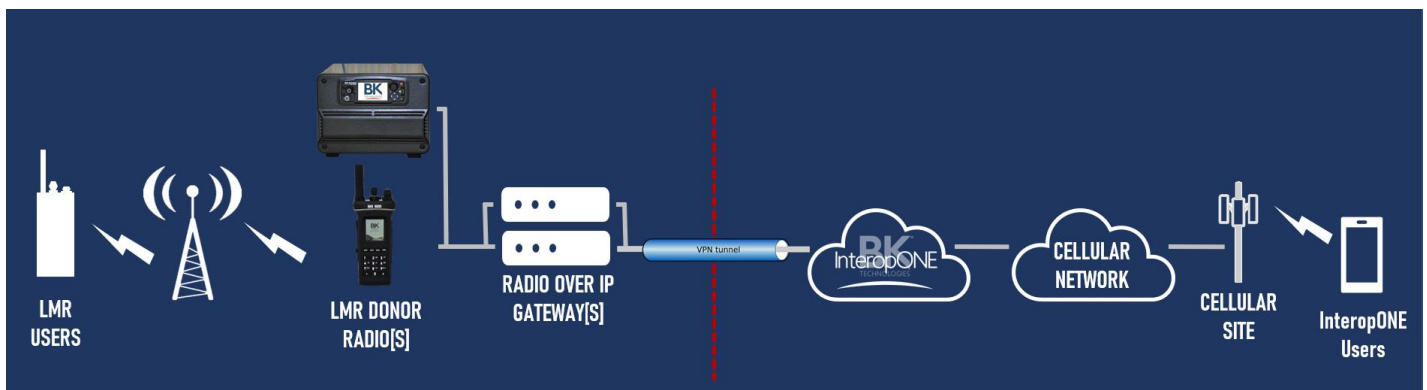
Overall Procedure/Requirements

There will be some coordination with BK IT personnel to establish a secure VPN for which a reliable internet connection will be required. It is also recommended that the radio gateway(s) also be segmented on the user's radio network via VLAN or as a part of its own network or properly segmented dispatch network. This prevents, in the event of larger systems or future expansion, any issues that may arise from broadcast traffic throughout a network and simplifies the IPsec tunnel setup in larger networks. Suitable hardware will be required to establish an IPsec LAN/LAN connection to InteropONE servers. This could be a standalone VPN concentrator or combination router/gateway with VPN capabilities. The user will need to configure their network to accommodate this secure tunnel from the subnet containing the Radio Gateway. Once this is done, contact your BK Sales representative to provide external IP address, subnet information, and to gather IP information for the BK servers and test the VPN connectivity. In most cases this can be via an email including the above information, but in some cases may require a virtual meeting to ensure proper configuration. The radio gateway will need to be configured to provide an SIP interface to BK servers across the VPN once the connectivity is established. From there an InteropONE incident/group will need to be added/modified to connect to the IP radio gateway, which is done in the InteropONE admin portal by enabling the Set Radio Channel Connection for the specific incident/group. Should more specific information/network design assistance be necessary BK technical personnel are available to consult and provide any level of assistance in designing/implementing all network requirements to accommodate the vast variety of differing networks in which this solution can be implemented.