Interoperability
Specialists

CISTECH
SOLUTIONS

INTEGRATED SERVERLESS VOICE SOLUTION

Not all environments are suited to the deployment of servers. We understand this and have endeavored to create a suite of products that provides capability, whilst still allowing you to integrate with your existing solution.
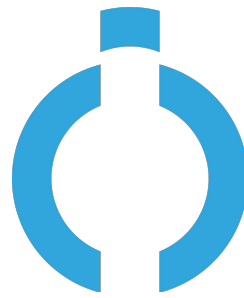
Using a combination of hardware and software engineered to military standards, along with software for Windows and Android platforms, you can communicate and inter-operate at all levels with minimal configuration. View how our devices can provide you with radio integration, mixing and re-streaming, android interoperability and a desktop solution, combining into an integrated deployable serverless voice solution.

GV1-2010   KLAS VOYAGER EMm   OI CONTACT   MaCE

ONE SOLUTION. INFINITE POSSIBILITIES.

RADIO INTEGRATION - GV1-2010

LMR Integration

The GV1 in its most basic configuration provides integration of traditional radio services into IP networks.

Whether this is a single radio network being integrated into an IP system, or multiple radios being integrated for interoperability, the low power and rugged nature of the GV1-2010 ensures that your mission is a success.

Using the GV1, you can communicate directly between next generation radio systems and more traditional radio systems over a number of IP technologies including SIP, Unicast and Multicast.

In some situations, Multicast can be difficult to deploy. The GV1 can be used to relay communications between networks using protocols that are suited to that part of the network. LMR radio voice can be converted to Unicast using the GV1, and then forwarded on to other parts of the network. This Unicast voice can be them converted back to Multicast for delivery to its local network.

All operators on the Multicast network can now communicate out the LMR radio over the Unicast link reducing both equipment bandwidth requirements.
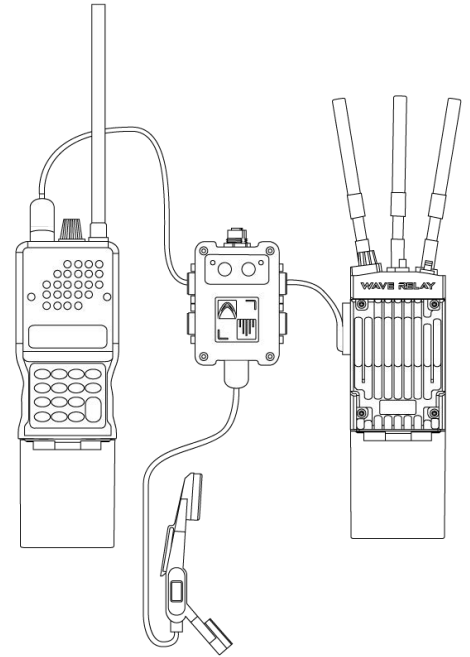
Radio Remote

Often there can be cases where the radio operator cannot be co-located with the transmitter or the radio operator is not authorized to have direct physical access.

The GV1-2010 comes with a standard 6 pin handset interface allowing devices to create a radio remote solution over IP. The voice and PTT functions are transported over the IP network and key up the radio attached to the remote end.

IP Communications can be configured for SIP(Including Secure SIP), Unicast, or Multicast to facilitate more than one radio operator at a time. Using Multicast, we can enable multiple operators to access a single radio simultaneously on a common IP network. This reduces complexity and resources required to enable communications.

Remotes can be configured for bi-directional operation or receive only so that users are able to monitor but not talk out the radio network.

RADIO INTEGRATION - GV1-2010
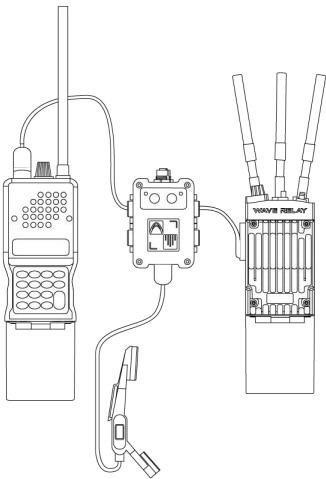
LMR Extension

Traditional LMR radios are often high power, but there is always a limit to how far they can transmit. By leveraging off an IP network, we can extend our traditional radio communications through a function known as LMR Extension.

LMR Extension relays the communications between the traditional radio networks over the IP network using any of the supported IP protocols.
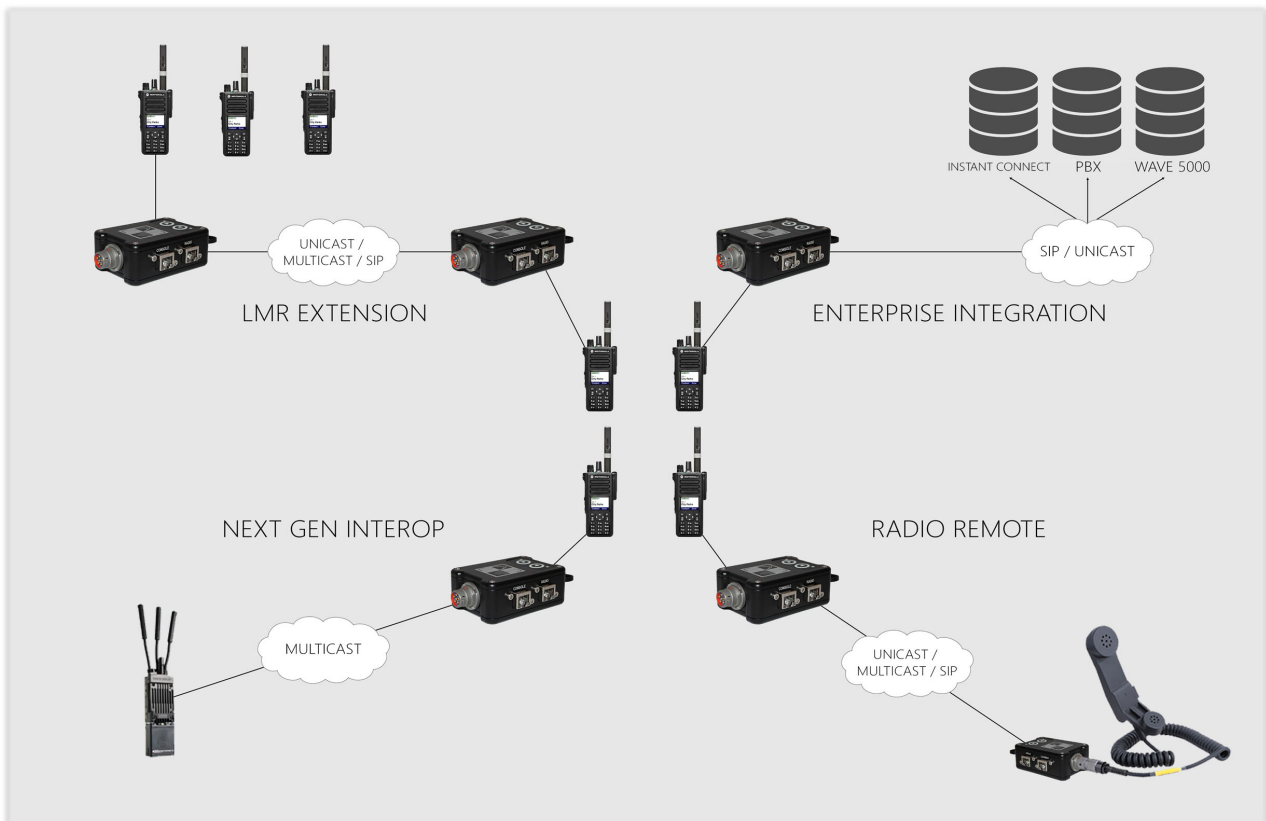
If the attached LMR radios are from different vendors, or are on different channels, we can also use the LMR extension capability as channel integration.
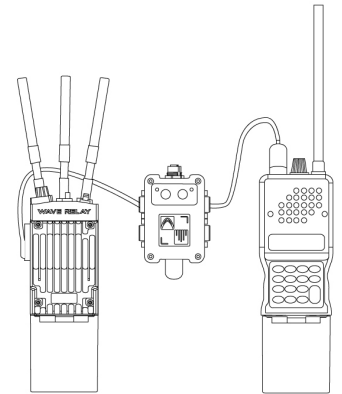
Enterprise Integration

The GV1 has the ability to support auto dial and auto answer SIP call configurations. This allows the radio network to be integrated into a traditional SIP telephony system so that users can dial into a conference on their desk phone and communicate with remote radio operators.

Integration of radios into larger enterprise solutions is a core requirement for most tactical voice solutions. This allows for strategic access using more traditional RoIP console systems such as Instant Connect and Motorola WAVE 5000. The GV1 provides embedded functionality to easily integrate into the enterprise providers, with the added benefit of reducing the number of servers and routers required to be deployed.

INSTANT CONNECT   PBX   WAVE 5000

UNICAST / MULTICAST / SIP

LMR EXTENSION

SIP / UNICAST

ENTERPRISE INTEGRATION

NEXT GEN INTEROP

RADIO REMOTE

MULTICAST

UNICAST / MULTICAST / SIP

IP TRANSCODING - GV1-2010

Multicast - Unicast - Multicast

Not every use case requires a radio or handset to be attached. Two GV1 devices can be configured to join multicast voice networks over a bearer that does not support Multicast voice. Each device subscribes to its local Multicast and converts it for transport over the restrictive network as Unicast. Even the voice codec can be changed to ensure that minimal bandwidth is consumed over the interim network.

Integrated into each device is a number of Digital Signal Processing (DSP) chips designed to convert the voice media between formats and encoding standards. This ensures that you have all the options available to deliver your voice anywhere in any network.

SIP Conferencing

It is possible to use a single GV1 device to connect to multiple Talk Groups on a Multicast network, and then relay them back to a more conventional system such as a PBX server. The GV1 can operate as a hardware media server for the conversion of multiple sessions into a single communications channel and allow the integration of your voice into the smallest package possible.

Extending your Multicast voice networks over Unicast IP backhaul networks generally requires the forward deployment of servers and IT staff. In a typical WAVE solution, this would require the deployment of a Media Server hosted on a Windows operating system, and run on a server platform. The GV1 solution replaces all of that in a single low cost hardware solution, reducing both cost, SWaP and complexity.
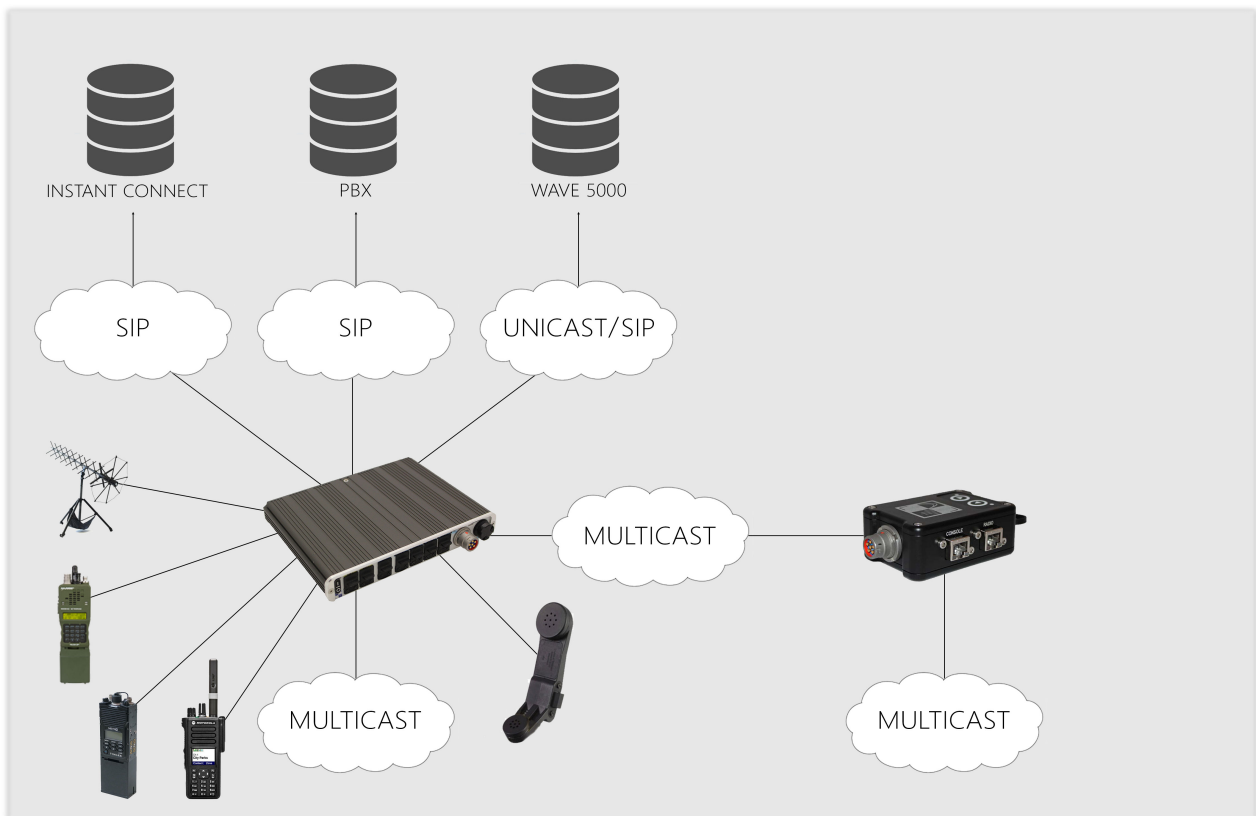
INCREASED CAPACITY - VOYAGER EMm

The Klas Voyager EMm Radio Gateway was a collaboration between CISTECH and Klas Telecom and uses the exact same technology that powers the GV1. This brings all of the capability of the GV1 into a form factor well known for its reliability in field.The Klas Voyager EMm has all of the functionality of the GV1 with the addition of three extra LMR interfaces for extended integration of up to four radios.

The Voyager EMm has all of the functions of the GV1 plus more:

- 4 Ports of LMR
- Handset
- IP Transcoding
- Mixing
- Volume Control
- Radio Selection

The EMm by Klas Telecom, extends capability by allowing for up to four ports of LMR integration in a single chassis. Each of the four ports can be configured to communicate over their own unique IP stream (SIP / Unicast / Multicast), or aggregated together to create a re-trans / re-broadcast solution.
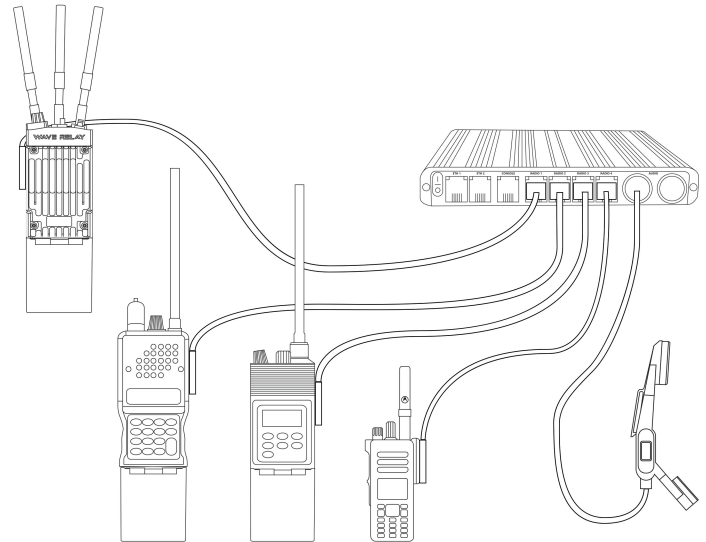
The added handset functionality means that the local operator does not lose the ability to communicate out of the directly attached radios. The handset can also operate as an Engineering Order Wire (EOW) for communications to a central location over an IP network. Control over the handset port selection is performed through the multi function toggle switch which can also adjust the volume for the handset.

Pairing the Klas Voyager EMm with the GV1, you can now convert, re-stream, access, and integrate any number of radios and bearers for a complete serverless RoIP solution. All deployment options can be implemented on either device and enable the smallest, most capable, serverless voice integration solution on the market to date.

Tactical Radio Integration Kit (TRIK)

When the Voyager EMm is integrated into the Voyager TRIK and paired with a serverless voice console, RoIP capabilities can be taken anywhere without complex setup and equipment. The TRIK can be extended over an IP bearer (MPU5) and accessed remotely using the MaCE voice console, which allows direct communications by operators with minimal infrastructure.

The Voyager EMm can still be configured to provide serverless communications solutions whilst integrating back into an Enterprise WAVE 5000 or Instant Connect solution. The benefit of this is that if the link to the server goes down, local operations are not disrupted.
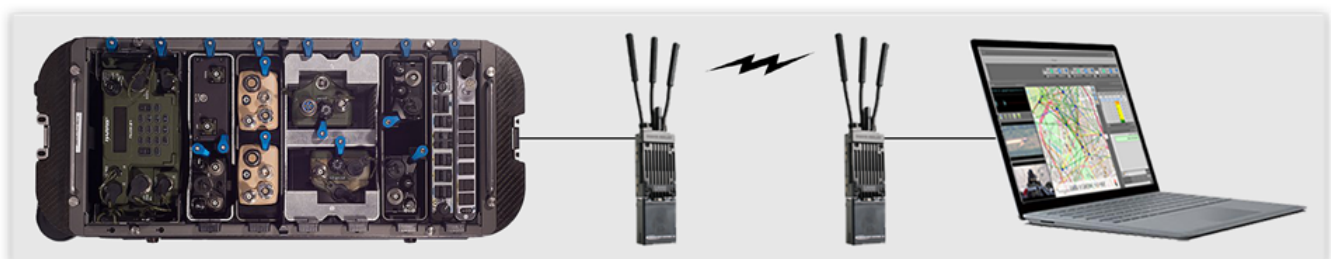
SOFTWARE ACCESS - SERVERLESS SOLUTIONS FOR ANDROID AND WINDOWS

Oi Contact

Oi Contact is designed to provide voice communications from Android End User Devices (EUD) in a manner that does not require a server. Traditionally all EUD voice communications solutions require a server to be implemented in order to control access and to transmit the voice over the network. Oi Contact natively supports multicast allowing direct access to network enabled voice services through a simple app, without a server.

- Instant Replay
- Multicast and Unicast transport
- SIP interface

- Group PTT
- PTT Lock
- Full Duplex Operation

MaCE

MaCE provides a flexible dynamic interface for the visualisation, configuration, and control of operational aspects of your MANET network, all from within a single interface. Key to this solution is the ability of MaCE to access up to 16 Talk Groups of voice communications from a single PC without a server. This enables the operator to access voice networks from the comfort of a windows based PC.

- 16 Multicast TalkGroups
- Instant Replay
- PTT Log

- Recording (optional)
- Group PTT
- Hot Keys

INTEGRATED SOLUTION

Communicate Everywhere

By combining all of these hardware and software elements, we can create a deployable, scalable, serverless voice environment for any situation. Using the GV1 to integrate single LMR radios and transport / transcode your data to where you need it to go, the Klas Voyager EMm to enhance your interoperability, and MaCE and Oi Contact to deliver your voice services anywhere in your network, you can create an environment that will adapt for any scenario.

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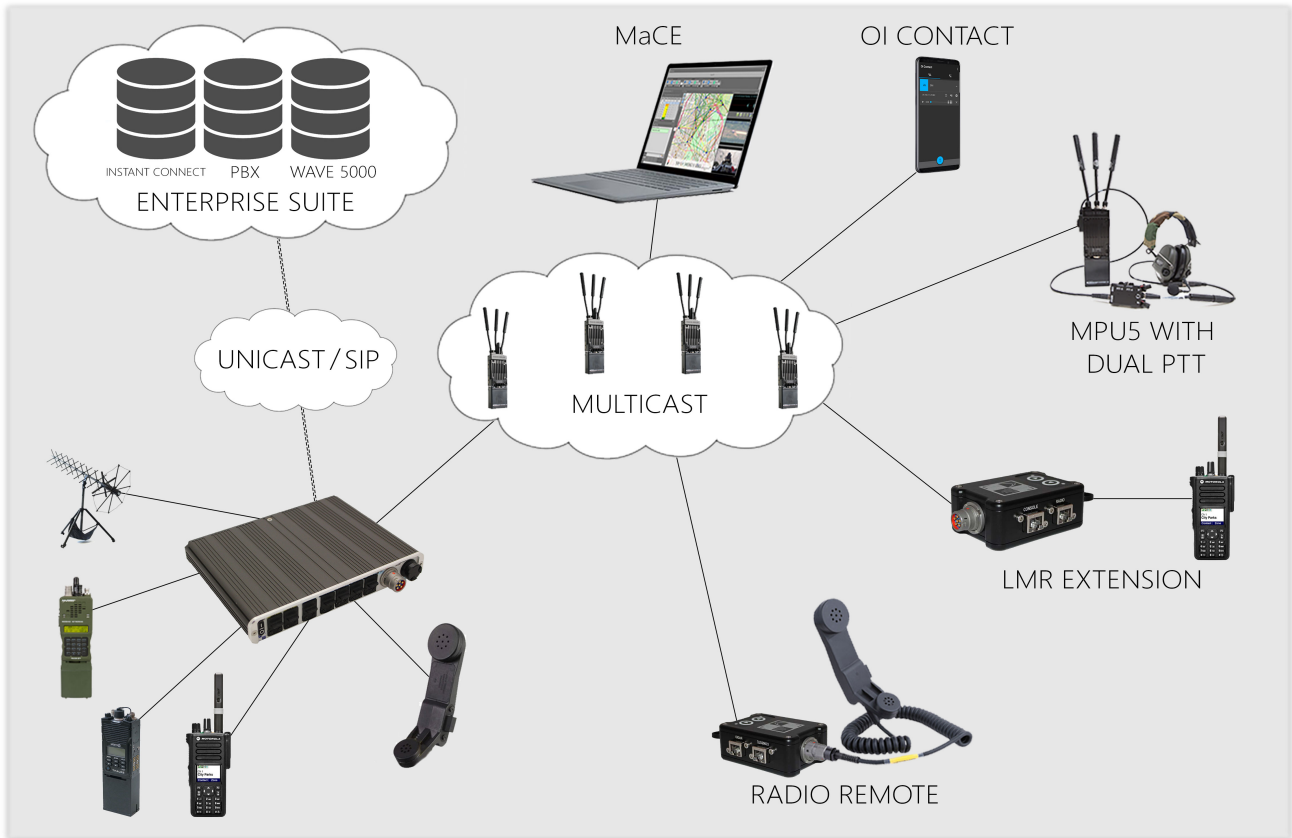
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