MultiNet
COMMUNICATIONS
FROM PRIMETECH

For floods and fire – Primetech's MultiNet Comms System

Primetech's MultiNet Comms – communications game-changer

Primetech's portable MultiNet Comms system is helping Services improve multi-agency information sharing and command effectiveness, regardless of the nature of developing threats – **Henry Walker** looks at how it is supporting commanders at incident and sector level

On the anniversary of the January 2014 floods, and in light of the recent flooding in Cumbria and Scotland, all emergency services will be well aware of the need to prepare for a robust response to whatever public safety challenges emerge in the New Year.

In January 2014 incident ground assets experienced difficulty deploying into flooded areas for a variety of reasons, yet again reinforcing the need for fast, flexible, self-contained, single and multi-agency communications systems working across all emergency services.

Such systems should be capable of being deployed quickly, be fully portable, and able to provide emergency services with powerful interoperable communications and a dynamically updated Common Operational Picture. This should occur within a very short time from the start of an incident and regardless of location – whether on flooded islands, in remote areas without conventional communications, or at all the many other different types of incidents requiring fire and rescue service involvement.

Once deployed, such systems should be capable of delivering high-speed satellite broadband, accessible by all major emergency and public safety co-responders. This is an essential tool for the delivery of hi-resolution video imagery from around an incident location or locations from a wide variety of cameras, depending on the type of mission, including but not limited to body-worn devices and drones.

Systems should also be capable of delivering secure high capacity incident ground Wifi that supports the sharing of mapping and other command and control system data between ruggedised laptops, tablets and mobiles, to complement live video imagery streams. Integrated incident ground communications systems should also be fully compatible with the current and future Emergency Services Network.

"MultiNet Comms is proving to be the 'Uber of the emergency services world'"

Primetech's Henry Walker with the MultiNet Comms system units and Rapid Response Tactical Vehicle. Both systems are helping change the way emergency services save lives, improve operational efficiency and lower costs

Does such a system exist, or is this too futuristic?

Yes, such a system does exist, and no it is not too futuristic. The future is here, now, and it is called MultiNet Comms, from Primetech. This new high-tech product family is proving to be the Uber of the emergency services world, a seamless cluster of advanced applications, integrated into portable, battery-powered, ruggedised Nanuk cases, that is radically changing the way emergency services save lives, improve operational efficiency and lower costs.

Primetech created the MultiNet Comms family of integrated communications systems to satisfy a widespread need among emergency services for the latest technologies supplied in more portable, flexible and useful formats.

The system allows commanders at incident and sector level (and above) to have a joined-up picture in and around incidents – at domestic, public and commercial buildings, open spaces, and major installations such as oil refineries and airports – without the need to deploy full Incident Command Units.

Resilient Communications Trailer – Bigger, Better, More Powerful

Complementing the MultiNet Comms system is the groundbreaking Resilient Communications Trailer, developed by the Primetech design and engineering team. The original trailer has now been expanded and upgraded, with powerful new capabilities added. The expansion of capabilities was driven by an initial requirement from a client in Norway following the communications problems experienced during the Anders Behring Breivik shootings. The expanded design has now been adopted for UK versions of the trailer.

Increasing in size to carry additional equipment, the trailer now carries the complete MultiNet Comms system, delivering a full suite of communications options in a highly portable

"The MultiNet Comms family satisfies the need for emergency services to have the latest technologies supplied in more portable, flexible and useful formats"

MultiNet Comms is a seamless cluster of advanced applications, including mobile Ka-band satellite broadband, incident ground wi-fi and live-streamed imagery integrated into portable, battery-powered cases

form. The Primetech Resilient Communications Trailer remains a unit that is towable by vehicles of any kind and can be used in locations where conventional Incident Command Units cannot be deployed, such as inland 'islands' during floods. It is able to deliver its powerful combination of features to emergency services operating in improvised command centres, such as office buildings, community centres and school halls.

Key features and benefits

There are a number of key ways in which the MultiNet Comms system works to support emergency service and counter terror agency objectives:

• Battery-powered Ka-band mobile satellite broadband (using easy and quick to deploy iNetVu systems from C-COM, a world leader) in a portable, ruggedised case provides robust access to all live and back office data;
• Live-streamed drone imagery delivers overview coverage of incidents, imagery that can be shared throughout all single and multi-agency command levels;
• Body-worn, tripod and other video imagery, plus internet access for ruggedised tablets and laptops, over 2.4 and 5.8 GHz WiFi via a COFDM mesh nodal network, provides a joined up picture of activities around an incident area;
• Interoperable 3G/4G mobile and radio communications and private cellular networks allow commanders to communicate with each other regardless of devices being carried;
• Rechargeable swappable battery packs allow for deployment over long-duration operations, and there are also mains and vehicle-powered options.

Incident Ground Extender Nodes

These are capable of receiving and transmitting imagery, data, internet access and voice communications from the wide range of devices

including smart phones and ruggedised laptops featuring command and control systems.
• Command teams can add as many Incident Ground Extender Nodes as they need to cover incident ground areas. Battery charge lasts for about 24 hours, and can be supplemented with additional, swappable charged battery packs;
• The system can receive live video feeds from body-worn cameras carried by emergency personnel, delivering on-the-spot coverage to commanders of events occurring in key sectors and operational activities;
• Body-worn monitoring devices allow life signs to be monitored to ensure emergency worker safety;
• Self-forming networks – the Extender Nodes seek out and create networks between Extender Nodes and the Command/Master Node.

Command Master/Primary Nodes

Email, photographs and audio, and live video feeds from body-worn, tripod, UAV and other cameras are transmitted back to the Command Master/Primary Nodes, facilitating multi-agency command HQs at incident ground level. This video, voice and incident information can then be passed on through the multi-agency communications hierarchies;
• The nodes can also be used to receive data from life-signs monitoring equipment worn by emergency personnel, such as USAR personnel, operating in hazardous environments;
• Used by incident commanders and other involved parties to deliver a fully integrated voice, video and data picture of single and multiple incidents;
• Receive feeds from Incident Ground Extender Nodes located around an incident ground;
• The onboard, powerful multi-network router automatically connects to any available data network;
• Military spec encryption allows incident ground data to be securely transferred to the HQ;
• Within the node is a ruggedised computer acting as the site server;
• Additional briefing screens can be added depending on requirements.

Ka-band mobile satellite broadband

This battery powered and fully portable system housed in a waterproof ruggedised case links a powerful C-COM Fly-75 Ka-band mobile satellite broadband dish from the incident ground to the Internet. Not only does it deliver high capacity access to other command centres in the network, but it is able to do this regardless of the state of local communications – an essential requirement for many disaster and emergency operations. Primetech's technical team has years of experience supplying and supporting mobile satellite broadband systems to its clients, and Primetech is the first authorised C-COM Service Centre in Europe.

The Primetech Resilient Communications Trailer now carries the complete MultiNet Comms system, delivering a full suite of communications options in a highly portable form

"The Resilient Communications Trailer offers a joined-up picture in and around incidents without the need to deploy full ICUs"

At the heart of the MultiNet Comms system is battery-powered Ka-band mobile satellite broadband which provides robust, high capacity access to all live and back office data

Drones

Drones integrated with the MultiNet Comms system deliver live-streamed video imagery from above and around incident grounds, giving command teams a major boost to incident monitoring and the ability to share a Common Operational Picture.

3G/4G Private Cellular Network nodes/ Multi-channel patching

These create resilient mobile communications networks around incident grounds. They provide additional backup when cellular networks are compromised by overloading or lack of coverage. Commanders using different communications systems – TETRA, mobile, radio etc – can be patched together using the interoperable intercom system incorporated into the MultiNet Comms system.

Rapid Response Tactical Vehicle

The Primetech Rapid Response Tactical Vehicle system was designed to support faster, more flexible response by fire and rescue services. It comes in a variety of different mission combinations, giving fire services a greater range of cost-effective options for fast flexible response to different types of incidents. Options include the Cobra Cold Cutting system, for rapid fire suppression using high-pressure lance, and the MultiNet Comms portable incident ground communications system.

So what can fire and rescue and other emergency services expect if they include the MultiNet Comms system into their command communications and operational planning? The answer is straightforward – a dynamically updated, live Common Operational Picture, delivered to all relevant command levels and other emergency services through resilient, interoperable and high capacity communications networks.

Interested services are invited to get in touch to participate in the various MultiNet Comms system demonstrations Primetech will be running throughout the UK during 2016. For more information visit www.primetech.co.uk