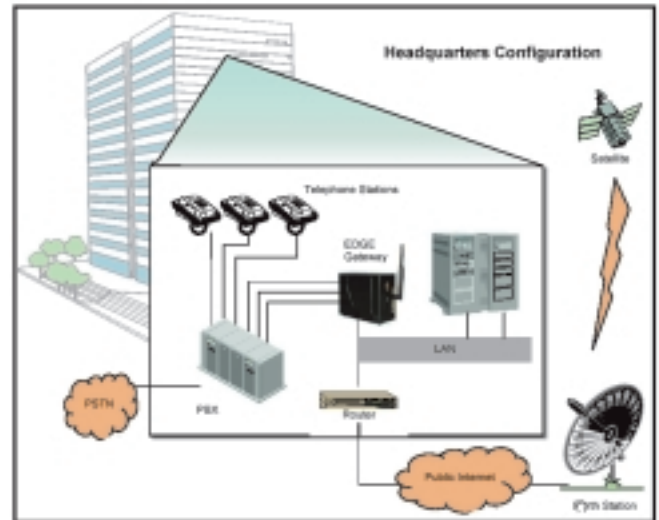


Emergency Preparedness Mobile Communications System (EPMCS) White Paper

PURPOSE

This document discusses the benefit of utilizing the Edge Access EPMCS. The system is comprised of key communications components. The first item is a vehicle mounted mobile satellite system, with the associated hardware and software to drive the satellite dish. The second item is a mobile Internet Service Provider (ISP), which provides two-way communications between the vehicle and your facilities over a secure virtual private network connection via the public Internet. The third and most critical item is a Voice Over Internet Protocol (VoIP) which includes two Universal Access Devices (UAD): one located in the mobile command vehicle and the other at headquarters facility. The VoIP system can be integrated into an existing telephone switch or set up standalone with telephone lines directly from the Telephone Carrier.

Whether you are first responder attending to a disaster, fighting a fire in Montana or embarking on a remote news broadcasting assignment, our Mobile Communications System (MCS) provides an independent, flexible, mobile infrastructure for your vehicle that guarantees critical communications.



Mobile Satellite System and Internet Service Provider

The first item that we will discuss here is the mobile satellite system and associated ISP. The system is comprised of a motorized 48" tall (when deployed) satellite dish. Other components include a satellite dish controller, Satellite Control Unit (SCU) to drive the dish to the deployed and stowed positions, and a set of satellite modems. The system is capable of download speeds around 500Mbps with burst at 1.7Mbps, which is faster than a T1 line. Typical upload speeds are 40 to 90Kbps, two to three times faster than a 56Kbps modem.

The system requires little more than basic computer skills to operate. To deploy and stow the dish it is really as simple as a single mouse click. Once the dish is deployed connection to the ISP for access to your facility for both voice and data are automatic, no user intervention is required.

Possible applications for this capability include remote-dispatch, full-motion video feeds to the vehicle, and many others. Utilizing a Virtual Private Network (VPN) connection back to your headquarters you will have access to all of the data and systems that you do when you are sitting at your desk. This system brings new meaning to the phrase mobile office.

Voice Over Internet Protocol (VOIP) System

The VOIP system is the critical component of the EPMCS Edge Access offering. The system is comprised of two Universal Access Devices (UAD). At a facility or at multiple facilities, there are trunk gateway devices installed for integration into the Public Switched Telephone Network (PSTN) or your existing office telephone system. At the vehicle end, there is a telephone gateway device for integration to on-board telephones or into an on-board telephone system.

Facility - Trunk Gateway

We will discuss the facility end communications first. The options range from eight (8) to one hundred and forty four (144) ports in a single package. This device is called a trunk gateway device. The purpose of this device is to take the voice packets off of the data network and convert it back to voice for delivery to either a telephone system or the PSTN. These devices are not only capable of converting packets from the mobile command vehicle but are quite capable of converting VOIP packets from any other deployed VOIP device incorporated into the corporate data infrastructure.



Vehicle – Telephone Gateway

Regarding the telephone gateway devices, there are options available from four (4) to twenty four (24) ports in a single package. Based on the available upstream bandwidth 30 to 90Kbps, Edge Access recommends a four-port telephone gateway at the vehicle end, which can directly support four analog telephones or can be wired into a telephone system on the vehicle supporting multiple telephone stations and multiple trunks. In applications including a telephone system, satellite telephone lines are integrated directly into the system to derive maximum benefit.

Most Command Vehicles with installed systems currently support two forms of telephone communications. These are hard lines directly from the telephone company as a primary source of telephony, which are usually backed up by cellular lines for redundancy. This configuration is ideal for most situations where telecommunications support infrastructure are intact.

However in natural or man-made disasters, often some or all of the leased telecommunications towers that support all forms of voice communications including but not limited to radio, cellular, and PCS could be destroyed. In the event towers are destroyed and there is no hard wire, radio or cellular communications near the location desired for the mobile command vehicle, the VOIP system will allow the mission to continue as scheduled. The only difference that the user will notice is that they either press a different access code to seize a line. An example would be if they currently dial a 9 to get to the cellular lines, they could dial an 8 to get to the satellite lines. Another configuration that might be desired is to designate certain buttons on each telephone set that are labeled Cell for the Cellular lines and Sat for Satellite lines. This way the user just pushes a line button to dial over the desired service.

Conclusion

With the advent of September 11th, Homeland Security dictates the need for a fully self-contained mobile command post that has the capability to guarantee critical communications between compatible units as well as among differing communities of interest. But even today's mobile command posts are at risk of losing their redundant communications in the event of a major disaster or terrorist attack. Edge Access, Inc.'s EPMCS can eliminate that risk, with its universally adaptable easily integrated and VoIP-enabled integrated access.

The VOIP system is very flexible and can be integrated in accordance with the current usage patterns. The VOIP system is capable of becoming the telephone system for the vehicle and can be configured to use up to four hard wire, cellular, and VOIP lines. It can also serve other VOIP devices wirelessly since it is also an access point for a wireless network. Once installed, the VOIP system will also wirelessly serve IP addresses and manage bandwidth between all wireless devices on the vehicle including but not limited to other VOIP gateways, Personal Digital Assistants (PDA's), and laptop computers. The VOIP system is truly an infinitely flexible, integrated voice and data device, which will simplify the management of both the voice and data environments on the vehicle. In the event you require changes to the environment, no problem, the system is completely configurable from any web browser on the network, this means the vehicle systems or the systems back at your facility.

The telephone gateway device is much more than just a four-port telephony device. As we previously mentioned the device is a wireless access point. It is also a data router, NAT firewall, triple DES encryption device for VPN, web server, and DHCP server. The device will manage both the voice and data network and allow you to prioritize the voice over the data so that your conversations will be crisp and clear.

