

## ETWT Report on PDA / EDA devices.

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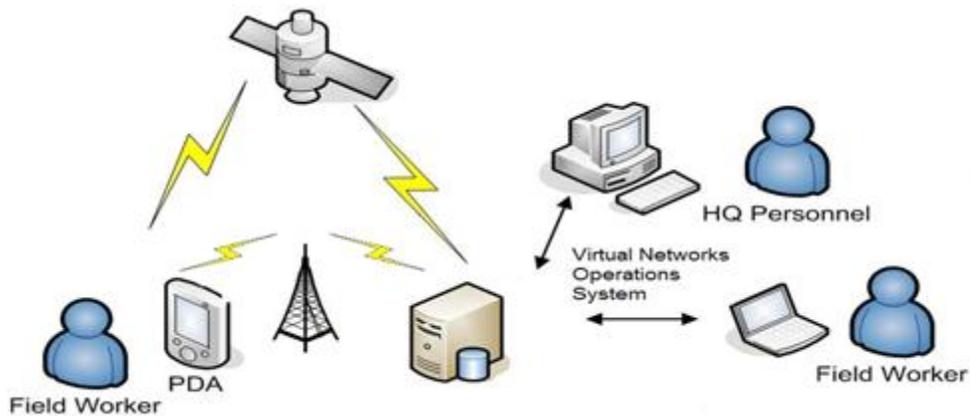
The ETWT was assigned the task of reviewing the changes in technology and the applications relative to NFFPC partners. The task was to specifically look at PDA technology, remote data collection and remote data storage.

This report focuses on the experience of the Maine Forest Service, but answers several questions raised during previous discussions. Questions range through topics like, what are the capabilities of a Personal Digital Assistant or an Enterprise Digital Assistant? How do these differ from conventional Personal Data Assistants? How is data collected and stored. Can I add a “Sim” card to my BlackBerry? What companies are out there that offer these programs? How can we integrate these products into our program? How much do they cost?

The Maine Forest Service has been using ruggedized Personal Digital Assistants since 2009. The program began through a cooperative agreement with Global Relief Technologies, the military, Maine Emergency Management and several state agencies. The Maine Forest Service adapted quickly to move from paper field inspection forms to electronic forms. In addition the data was stored on a common server in two locations to provide redundancy. This storage system is referred to as the Rapid Data Management System or RDMS. This two part project allows field personnel to collect data and upload it to the RDMS server via cell phone technology. Through an internet connection data can be reviewed and edited by field staff and managers.

The Maine Forest Service has found that this system has produced several positive aspects. For example:

- Increased field worker productivity
- Increased operational efficiencies
- Creates strategic visibility and reporting
- Provides GIS capabilities
- Provides connectivity 24/7
- Capable of custom forms and data bases
- Produces reports based on collected data
- Real time information sharing between field staff and managers.
- On the fire grounds it helps create a common operating picture.
- Provides the ability to upload data from multiple locations and viewed at multiple operations centers in real time.



This drawing depicts how the patented Global Relief Technology system, used by the Maine Forest Service, works from data collection to storage using cell phone technology or satellite.

The original PDA was the Motorola MC-75. This unit is a ruggedized, military specification handheld computer that works on Windows Mobile technology. The units have a 3.5” screen and provide cell phone, internet connectivity, Blue Tooth, Camera, Laser Scanner and wireless connectivity to some business equipment. The unit does tend to be bulky, but field personnel express that they like the unit. If it had not been for the cooperative agreement, the Maine Forest Service would likely not have moved in this direction. These units cost approximately \$1700 each plus the cost of data storage. Data upload and storage is a proprietary service offered by Global Relief Technologies and another company called Majella. To date the task group is aware of only one other potential company in Texas, but an internet search hasn’t uncovered additional information. Since this service is proprietary, simply adding a “Sim” card to your cell phone or BlackBerry is not possible. It may be possible to develop a simple system using Google Docs, but it would lack security, storage capacity, report generation, redundancy and technical support.



MC- 75 by Motorola



MC-75, Smart Phone & BGAN

The Maine Forest Service began in 2009 with the MC-75 which works on Microsoft Windows Mobile technology. As testing and discussions with the vendor continued the next generation looked like it would move to the Motorola ES400 which also worked on Windows Mobile technology.



ES400 by Motorola

The technology is now available on an Android platform and the Maine Forest Service program will move forward, beginning in early 2012, moving away from Windows Mobile. This new technology offers more speed and capabilities. The new units will have 3.6" touch screens and the full range of applications as any Android phone. The unit will be the Casio Commando. It is ruggedized, fully waterproof and meets military specifications. The unit cost for these is much lower than the Motorola MC-75 at around \$500 each.



Commando by Casio

In terms of which company provides the service that meets each agency needs the best is not the scope of this report. However the following list summarizes some key points.

#### Global Relief Technologies

Workhorse is the MC-75 now offered in Casio Commando.

Service operates on Windows or Android platform.

Provides both voice and data.

MC-75 operates in Windows programs

MC-75 is ruggedized handheld, reasonably sized, capable of voice and data \$1700. AT&T is the carrier and tends to be more expensive. Commando is ruggedized handheld, reasonably sized, capable of voice and data \$500. Verizon is the carrier and is more cost effective.

#### Majella

They use numerous hardware devices, among them the Galaxy, BlackBerry, Zoom etc.

Service on the Android platform.

They do not offer a unit that is capable of both voice and data other than through SKYPE

Their operating system is linear and very easy to learn.

Currently, they do not offer a ruggedized unit.

Staff will find using the Majella program very functional.

Technology has come a long way since the Palm type PDA. The main purpose of that PDA was to act as an electronic organizer or day planner that was portable, easy to use and capable of sharing information with a computer. It was supposed to be an extension of the PC, not a replacement. Though many have internet capability, they are not capable of voice or the data collection and storage system discussed in this report.



Classic PDA by Palm

In summary it is clear that Enterprise Digital Assistants can improve the way that fire and natural resource agencies can complete their missions. There are presently limited companies who offer the service of supplying the equipment, software and storage of the data that we collect every day. Since this software is proprietary we can not simply use our BlackBerry, Android or cell phone. There are several handheld field units that may be compatible with the system, but the provider will likely offer limited equipment options. Each agency will need to negotiate a contract including cell service, data storage and equipment. The cost will very likely decide if a program moves forward and how.

As technology continues to evolve it is clear that new companies, programs and equipment will become available.

## **For more information visit:**

EDA – PDA Definitions

[http://en.wikipedia.org/wiki/Enterprise\\_digital\\_assistant](http://en.wikipedia.org/wiki/Enterprise_digital_assistant)

[http://en.wikipedia.org/wiki/Personal\\_digital\\_assistant](http://en.wikipedia.org/wiki/Personal_digital_assistant)

Handheld Units

[http://www.motorola.com/Business/US-EN/Business+Product+and+Services/Mobile+Computers/Handheld+Computers/MC75A\\_US-EN](http://www.motorola.com/Business/US-EN/Business+Product+and+Services/Mobile+Computers/Handheld+Computers/MC75A_US-EN)

<http://www.androidpolice.com/2011/05/15/casio-g-zone-commando-review-built-like-a-tank-and-about-as-fast-as-one-too/>

[http://reviews.cnet.com/smartphones/casio-g-zone-commando/4505-6452\\_7-34660420.html](http://reviews.cnet.com/smartphones/casio-g-zone-commando/4505-6452_7-34660420.html)

Data Collection and Storage Companies

<http://majellagt.com/>

<http://grt.com/default.aspx>

EDA / PDA White Papers

[http://grt.com/App\\_PDFs/USAID%20RDMS%20Case%20Study.pdf](http://grt.com/App_PDFs/USAID%20RDMS%20Case%20Study.pdf)

[http://grt.com/App\\_PDFs/USAIDFinalReport.pdf](http://grt.com/App_PDFs/USAIDFinalReport.pdf)

[http://grt.com/App\\_PDFs/NYU%20Case%20Study%20on%20PDA%20Implementation%20ROI%20by%20NGOs.pdf](http://grt.com/App_PDFs/NYU%20Case%20Study%20on%20PDA%20Implementation%20ROI%20by%20NGOs.pdf)