

## **The Windows CE Environment for GPS/GIS Field Data Collection**

*John W. Jarnagin, Electronic Data Solutions, Jerome, Idaho*

As budgets shrink and workloads increase, employees are expected to be more efficient and multi-task in the workplace. Why should we not expect the same of our Windows CE software/hardware? The Windows CE environment allows a CE device to do many things: from doing GPS, editing shapefiles, working with spreadsheets and even emailing data, wirelessly. Gone are the days of purchasing a GPS unit that allows only for GPS field data collection.

ESRI's ArcPad, Tripod Data System's Solo CE and Trimble's TerraSync software are three software packages that run in a Windows CE environment. Some commonalities of these products, as well as key differences, will be discussed. One software package might be better than another based upon what needs to be accomplished in the field.

ArcPad is a lightweight GIS product for mobile computing. This software features low cost, portability, and a similarity in look and feel to ArcView, and an ability to work with GPS for navigation and data capture/data update in the field. ESRI has positioned this product as a 'field-based extension to your desktop or enterprise GIS.' It supports a multi layer environment with industry-standard vector map and raster image themes, similar to ArcView. It works directly in shapefile format and allows one to use customized data entry forms designed in Arc Pad Studio. If multiple background layers are required for use in field data collection, ArcPad is the right choice for the job.

Trimble's TerraSync for Windows CE is a full-featured data collection and data maintenance software package designed to work seamlessly with Trimble's ProXR/XRS, Pro XL, Pocket and Power receivers, along with Pathfinder Office. This product supports laser rangefinder input when performing GPS offsets of trees, utility poles, etc. Time saving tools such as repeating features, collecting line and point features at the same time and log now/log later, will make you more efficient out in the field. If full functional GPS is a field data collection requirement, then TerraSync is the answer.

Tripod Data System's Solo CE is a versatile GIS/mapping software application capable of gathering accurate position data and creating customized data collection forms with no additional software required. With Solo CE you can use GPS or a laser rangefinder to collect position data or simply select a position on your touch screen. User defined symbology is also supported by Solo CE, as well as user defined menu, toolbar, and map display options. Additional tools such as enhanced grid generation make Solo CE an excellent choice for field computing. If data collection done solely by laser rangefinder is needed, when GPS isn't necessary, then Solo CE should be used for the task.

Not only are there many Windows CE software packages available, there are many Windows CE hardware options, ranging from rugged to non-rugged. Again, the tasks that need to be accomplished in the field will dictate the kind of Windows CE hardware/software that are suitable to use. The beauty of Windows CE is just that - choice. One Windows CE software product can be used or, a combination of different Windows CE hardware and software packages used together, to aid in field data collection. So, the choice is yours. Will you continue to use one device to do one job or will you use Windows CE?