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ERP MOBILITY: ENABLING THE SPATIAL ENTERPRISE

By Emil Vulin, Principal Consultant at we-do-IT

In a digital age, mobile devices are becoming the primary point of contact between an individual (be it a customer, partner or employee) and an organisation. This is especially important for large organisations like utilities, where staff may work in a variety of locations in the field but must be able to communicate with head office and with each other. Spatial information is a key ingredient in providing vital locational context in such situations, both for a field user's immediate needs and for the ongoing analysis that provides crucial insights that lead to better decision making. Therefore, utilities thinking 'big' about mobile have embarked on the strategic planning journey often referred to as 'mobile first' strategy.

Enabling mobile GIS is not 'just' a replacement for paper maps anymore; it is a logical extension to highly stream-lined business process scenarios with around 80 per cent of all corporate data having a spatial component.

Implementing an effective 'mobile first' strategy requires consideration of topics such as mobile device management, how to integrate mobile capabilities to back-end systems, how to protect against security risks and how to analyse the vast amounts of data that will be collected via mobile devices. For a utility organisation, integration of mobile solutions with core systems, such as GIS, ERP, CIS, OMS, DMS and SmartGrid, is fundamental to delivering real business benefits. Enabling increased access and use of spatial data throughout an organisation, especially to remote field crews, offers benefits →



both to the business and to the field users, including:

- up-to-date enterprise data which is available to all crews and external contractors in a timely manner;
- elimination of paper records
- reduced data maintenance costs;
- continuous data quality improvement of corporate data stores;
- enabling quicker, more informed decisions;
- minimising office support for field personnel;
- minimising truck-roll;
- increased productivity of field personnel;
- fewer abandoned jobs;
- lower cost of service and repair work;
- better fulfillment of service level agreements and regulatory requirements;
- improved Safety and compliance with OH&S requirements such as Lone Worker.

MOBILITY REQUIREMENTS

An effective spatial mobile solution must meet an ever-evolving range of requirements as technology improves and enterprise mobility policy and governance matures. There are a number of key requirements used for benchmarking spatial mobility solutions in today's market, many of which are discussed below.

COST OF OWNERSHIP

Utilities have long had a requirement to provide field operators with a device that is ruggedised to withstand the inevitable punishment of field based work. In the past, ruggedised laptops were purchased. These were not only heavy and cumbersome, but also came with a heavy price tag. Now organisations are able to ruggedise a lightweight and versatile 'consumer grade' tablet product for a fraction of that price. Aftermarket cases in the \$50-100 price range offer MIL-SPEC rated protection against field work hazards such as drops, vibration, dust, dirt, wind and rain. The total cost of ownership for such a device has reduced dramatically, and tablets are

becoming increasingly popular with utilities and telcos for field use.

FLEXIBILITY

As it is not practical for field workers to carry around multiple devices, the mobile device used must be versatile enough to meet all the user's needs.

Currently, mobile device space is seeing a rapid acceleration in iOS, Android and Windows 8 tablet uptake. Users want their devices to perform more functions and integrate with one another more easily. Organisations have the luxury of choice, and are often willing to apply a mix and match procurement model to apply the best solution for different applications. The Bring Your Own Device (BYOD) initiative is also gaining momentum. Many employees already carry around a capable device and are happy to use it for work purposes to promote further flexible work arrangements.

In the application space, given the flexible device requirements, customers are expecting support for all major device platforms. Application vendors who bring to market a product for a single platform only will be unable to meet the flexibility demanded by customers. Providing cloud hosting options is mandatory, however on-site hosting is still required by many utility companies due to security concerns.

SIMPLICITY

Utility field crews demand technology which is simple, effective and unbreakable. Designing for simplicity is the key, whilst enhancing the user's experience by making the most of today's easy-to-use touch clients, native device features and other apps from the ecosystem. Many leading vendors now provide native mobile applications for ERP, CRM and Collaboration, redesigned for the mobile experience. With a utility company's target usage profile of hundreds to thousands of users, easy-to-use and effective apps lead to maximised efficiency and reduced ongoing training costs.

AVAILABILITY

Utility field crews often operate

outside of reliable cellular network coverage areas, and this quickly becomes a barrier to mobility solutions that operate only in 'online' mode. Therefore, utilities require solutions that can operate in 'sometimes connected' mode. This means that the app operates primarily in offline mode, thereby being 100 per cent available, and connects online only when required and when in network coverage range to send and receive updates to and from a control centre. An additional benefit is a reduction in cellular network traffic, particularly for spatial applications, which can equate to real cost savings for an organisation's mobile communications plan.

INTEGRATED INFORMATION

Improving the productivity and quality of field staff operations, and in turn their customer responsiveness, requires them to be equipped with the right information at the right time, wherever they are. This information is often different for each task and is nearly always a combination of information from numerous corporate systems. For spatial data, it can be a combination of internal vs externally sourced data, static vs volatile feeds, differing vendor formats, and offline vs online accessibility. Additionally, the user's context may be relevant, for which information from a mobile device's sensors, such as GPS location, can be used to focus information presented to the user.

SECURITY

Mobilising a workforce creates new challenges for maintaining corporate security, particularly when BYOD policy is in the mix. Device management, network security and data security are vital, supported by overall security policy dictating what measures are required if a device is lost or stolen. Mobile GIS apps which operate in 'sometimes connected' mode will maintain data at rest, meaning that data is downloaded to, and stored, on the mobile device itself. For the utility deploying mobile GIS apps, this will include data related to critical infrastructure, so it is essential that application specific data encryption is applied to protect this information. **U**

Enterprise Mobility Solution

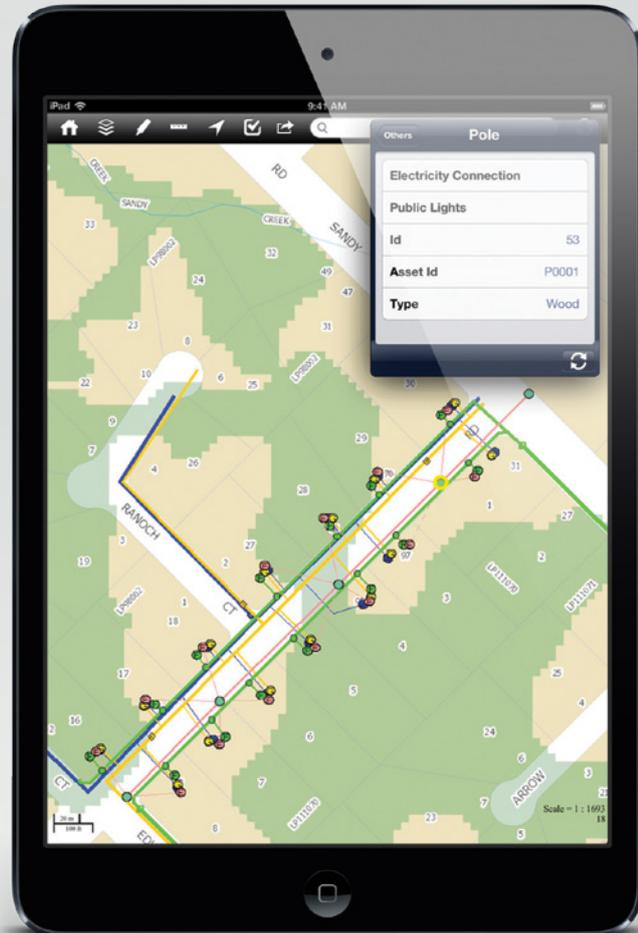
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Enabling the Spatial Enterprise

