Changing the Game

Bringing the Benefits of the Information Age to the Humanitarian Sector

Humanitarian organizations work tirelessly to improve the lives of billions of people in the developing world each year. Billions of dollars of aid are expended with the goal of helping target beneficiaries move towards sustainable self sufficiency. No matter what metric is used, most believe that progress has been slow and new approaches are needed to dramatically improve the impact of humanitarian efforts.

Over the past thirty years, the developed world standard of living has benefited from amazing gains in productivity. The Information Age has had a profound impact on the way many people work and live.

The following table contrasts the conditions that existed 5-10-15 years ago in the developing world as well as the current state of "readiness" that exists. The "current state" includes some generalizations because every part of the developing world is enabled to a different degree. The key point is that the trends are hugely positive in almost every region where humanitarian organizations do their work.

Developing World Technology Readiness Then and Now

	Then (5-10-15 years ago)	Now (2008)
Hardware	Bulky, energy draining devices, susceptible to extreme conditions (heat, dust, handling)	Smaller form factors (laptops, mobile devices, etc.), energy saving monitors, ruggedized PCs, better price/performance
Software - General	Unreliable, high support costs, unproven payoff with applications and categories being incubated/developed	More mature software (less buggy, more secure, more usable); better understanding of use cases where software can make a difference, improved application development methodologies

Software Applications (some examples)	Collaboration/Knowledge Sharing (limited to email) Supply chain (only possible for very high end corporate environments) Mapping (limited availability and usefulness) Project Management (targeted at more sophisticated users with extensive understanding of PM techniques)	Collaboration/Knowledge Sharing (Sharepoint, Groove, Office, Plone) Supply chain (easier to use, easier to deploy and maintain for smaller enterprises) Mapping (developing world maps available, geocoding enabling increasingly useful location based solutions) Project Management (Many "mid market" solutions which encourage proper PM techniques to the novice PM)
Network	Wired networks required	Multitude of effective wireless solutions (wi-fi, mesh networking, VSAT proliferation)
Internet Access	Geographic reach limited, slow, unreliable, costly	Geographic reach improving rapidly – ISPs in many parts of developing world with VSAT connections enabling more remote access, faster connections (but still variable depending on geo), more reliable, still expensive in some parts but price/performance improving almost everywhere.

Telecom and Radio	Expensive land lines; mobile limited to expensive satellite phones, two-way radio frequently used in most rural settings	Cellular telephony has taken off with more cell phones than land line phones in much of the developing world. Virtually all humanitarian workers have at least a cell phone with SMS messaging capabilities. Blackberries are becoming standard issue at many humanitarian organizations. Sat phones and two-way radio are still in use but only in most remote areas.
Skills	Severe IT- related skills shortages for both the program workers and the IT pros working the field.	Improving skill sets but most of it is self taught; there is an opportunity to enhance capacity by introducing proven approaches to skill building in the developing world.

The great philosopher Gretzky said "A good hockey player plays where the puck is. A great hockey player plays where the puck is going to be." This same perspective is needed when we think about using technology to improve the way NGO's work in the developing world. We could look at IT capabilities today but it makes more sense to anticipate evolution (both geographically and with overall tech industry trends) and build for the future (i.e., where the puck is going).

Two technology industry developments are worth calling out as we anticipate the ultimate shared NGO solution set.

Cloud Computing (and better yet, Software Plus Services) – Today the largest international humanitarian organizations have country offices in 50-180 countries. Each country office supports multiple field offices and each field office has some kind of IT investment, including devices, software, support staff, connectivity, power alternatives, etc. With very lean IT budgets and staff/offices geographically dispersed all over the world, new approaches are needed to equip the humanitarian sector knowledge worker

with the tools they need.

1. Services need to be hosted centrally. Multi-tenancy solutions must be considered as a way to improve service levels, lower costs, and drive overall efficiency.

2. Most solutions must be optimized for a periodically disconnected state (implying some kind of code and storage on the local device). Solutions must contemplate that devices, when connected, may have lower than "normal" bandwidth.

3. Customization must be driven out of all solutions that can be commoditized.

If we think about a "software plus services" model which is accessible from a number of different devices, we can see the possibilities. Imagine that a field worker has a device with some core applications resident on the device itself. And then imagine that the device has access (even sporadically) to some central set of services that are available when the device is in a connected state. Now imagine that those services are shared by others in the humanitarian community and that appropriate data is being shared between agencies trying to accomplish the same goal. Applications are shared, data is shared, and costs are shared.

The "software plus services" model is particularly interesting to medium and small sized NGOs who don't have huge investments in their legacy systems or sufficient funds to build customized system solution. In some respects, the benefits of this kind of architecture could enable adopters to "leapfrog" to a next generation suite of services that have acceptable functionality at an affordable cost with much less support and maintenance than conventional client/server type solutions.

Mobile devices – The proliferation of mobile devices coupled with their ever increasing computing capabilities points the way to solutions that can exploit how these new devices will integrate with existing systems.

The capabilities of servers, desktops and laptops will always have some clear advantages over mobile devices. However, mobile devices have the advantage of portability and ubiquity, which makes them an essential tool in humanitarian sector knowledge workers' everyday work.

Many solutions will benefit from a design that contemplates the different types of devices that the knowledge worker will have at their disposal. Just about every solution will benefit from a design that contemplates a "good, better, best" model. Those interfacing with the IT solutions will get a good experience if using any number of mobile devices, an even better outcome with more functional devices (which may only be

periodically connected) and the best experience with powerful, fully connected devices (still optimized for developing world realities).

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The bottom line is that much has changed with regard to how IT can be used in the developing world, and this creates opportunities. Many of the limitations that prevented sensible uses of productivity enhancing IT solutions in the past are not limitations today. Software is more usable, more powerful, and more secure. Hardware is more powerful, energy efficient, ruggedized and more portable. Software and hardware price/performance ratios are improving every year. Combine advances in hardware and software with gains in connectivity (even sporadically) and the benefits of "cloud computing" and you have the makings of a connected developing world-focused work force that can realize many of the same productivity benefits as we have seen in the developed world over the last 20-30 years.

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