The Future of Mobile Working

Thick Verses Thin Technologies

ROCC Computers White Paper

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The benefits of moving to a mobile working environment are well documented and established; these include:

- Reduced time needed for back office data input (timesheets, job completions etc)
- Less data errors as less data has to be manually keyed
- Reduced travel time because there are less visits to office/depot
- Reduced travel costs due to less depot visits
- More efficient resource planning as real-time information is available as to the status or jobs and operatives
- Lone worker protection as the location of the workforce is known at all times
- Health and safety information is available in real-time such as the vehicle safety checklist
- Improved availability of key performance statistics as these are recorded as they happen
- Up-to-date information is available to citizens as the corporate CRM is updated in real-time

Basically these benefits translate into increased productivity giving lower operating costs aligned with a short return on the capital investment employed, a no brainer, but what is best thick or thin architecture?

Wikipedia defines the different technologies as:

*A **thin client** (sometimes also called a lean or slim client) is a computer or a computer program which depends heavily on some other computer (its server) to fulfill its traditional computational roles¨ This stands in contrast to the traditional **thick** or fat client, a computer designed to take on these roles by itself. The exact roles assumed by the server may vary, from providing data persistence (for example, for diskless nodes) to actual information processing on the client's behalf.*

What this actually means in terms of mobile computing is that a thick client has the application (or some part of it) installed on the mobile device whilst the thin client solution has no application installed, except for a web browser such as internet explorer. The thin client therefore is completely reliant on the internet to deliver the application to the handheld.

I have summarised the pros and cons of each approach in the following table:

Technology	Pro	Con
Thin Client	Quicker implementation	Requires network coverage
	No interfaces required	
	Real-time operation	
	Generally much cheaper to implement	
	No data is held on devices so more secure	
	No data is held on device so easier compliance to the GCSX*	
	Easy to use as based on web pages	
	More device independent	
	Industry standard web browser (Internet Explorer)	
Thick Client	Will operate in restricted 'local mode' without network coverage (only applicable if **not** running single job at a time)	
		Complicated interfaces
		Application needs installing on each mobile device
		Longer implementation time
		Generally more expensive
		Harder to use (as a bespoke client interface instead of a web page)
		Not real-time operation
		Data is held on the device so security an issue
		Data is held on the device so must in encrypted to comply with GCSX* - this will reduce performance
		Bespoke communications i.e. not Internet Explorer

*GCSX - The Government Code of Connection (The GCSX Code of Connection (CoCo) is a list of security controls with which ALL local authorities must be compliant before their GCSX circuit can be activated. This applies to local authorities who are taking a direct connection, or who are connecting via an aggregated gateway.)

The above pros and cons don't take much analysing; the only real advantage of a thick client solution is that it will keep operating in areas of no coverage. But even this one advantage is not as beneficial as it seems, as if 'one job at a time' processing is being used (which is where all the major efficiency benefits come in) even a thick client will not be able to receive the next job without network coverage and will in any case only be able to work in a restricted 'local mode' until coverage is restored.

With 3G coverage and communications infrastructure improving all the time, is network coverage and black spots going to be an issue in the future? It is worth noting that the level of network signal required to transmit data is significantly lower than that required for voice anyway.

The conclusion is that there is a very short window of opportunity for thick client mobile solutions, until the 3G infrastructure is so widespread that the thick client solutions become legacy and many of the niche companies that supply them disappear into the ether overnight. This when combined with the very high cost of acquisition and the other relative pro's and con's listed above make the thin client an infinitely much agile and long-term solution.

About the Author

Chris Potter is the Operations Director of Uniclass and has over 25 years experience in the IT industry. Chris was instrumental in the founding of the Uniclass division within ROCC in 1989 and was responsible for the creation of the new Uniclass Social Housing product suite in 2008. He has extensive experience in successfully leading both the business development and delivery teams at ROCC and building long term relationships with key partners and customers.

ROCC is the leading supplier of housing repair systems with over 500,000 social housing properties in the UK currently being managed using ROCC's Uniclass social repair systems. For more information please visit www.rocc.com or contact Chris at chris.potter@rocc.co.uk