

t1.15

The future of spatial data management in utilities: information services via e-business rather than joined-up IT

Chris Ray, Managing Director, Geodesys

1 Executive summary

This paper looks at the information needs of utilities in the ever-changing environment in which they operate. It looks at the historic development of corporate IT solutions and suggests possible ways forward based on a service proposition, which the author believes will become a significant growth area. The concept of paying for joined up information via e-business rather than the continuing to develop bespoke corporate joined up IT systems very much fits with the new business models that are emerging in the industry.

2 Introduction

Over the last 10 years the utility sector has seen an accelerating pace of change which has now become accepted as the “norm” within the industry.

To support this change there have been customer focused, asset focussed, data focussed, business process focussed, IT focussed and, yes, even GIS focussed initiatives.

There have been many IT initiatives which have failed to deliver to the business’s expectations. This is usually due to one of the following reasons. Either the cost of delivery has meant that functionality was curtailed to keep the project within budget and timescale or the project has simply been no longer relevant because of the scale and speed of change within the business. The latter is a consequence of too many internal business re-organisations which are now perceived by employees as an ongoing process which is self-perpetuating. The good thing about re-organisations is that they offer an excellent opportunity to sweep problems under the carpet to start again with a clean slate and a new “team”.

The industry seems intent on delivering large monolithic IT solutions in an ever changing environment. This would seem a recipe for disaster for all? In fact, this is not the case. The only party to suffer is the utility business itself. For those involved in the delivery of the IT projects, the suppliers, developers and the project managers, it has been a hugely lucrative business and has developed into a somewhat cosy, self-perpetuating circular activity.

Is it the software development, which has not delivered, the underlying data which is not good enough, or has the structure of the organisation changed to make the application no longer relevant? Usually it is a combination of all three issues so everybody blames everybody else. Everyone gets paid and the circle continues.

The problem with this approach is that starting again does not wipe the slate clean unless significant abortive expenditure can be written off, and utilities have been reluctant to do this because of immediate impact on the “bottom line” profits in a highly regulated industry. For example, a £5 million IT development, if written off over five years, with interest payments, maintenance and depreciation will add somewhere around £1.5 million per annum to the operating

costs of the business. This means that the business must make consequent auditable saving (or generate new business with an annual profit) of £1.5 million to stand still. To be frank, this has just not been the case and this situation cannot continue in a real commercial world. IT developments or services are there to improve the bottom line, they are not an industry in their own right.

The sad thing in all this confusion is that managing a Utility or Network organisation is not, or perhaps more correctly, should not be difficult even in a changing environment

- The data required to run the business does not change
- The business processes do not change – albeit they might be accomplished in different ways by different people
- The IT is the only thing that does change with time facilitating better data management or delivery, to support more effective business processes

The IT should, therefore, be the facilitator, the icing on the cake, to consolidate knowledge, give competitive advantage, allow smarter working and provide business efficiencies. Why, therefore, is it so often seen as a corporate blocker to change?

It begs the question – who is running the business, the managers or the IT industry?

Another much neglected fact is that it is vital that all three components listed above are implemented in an integrated fashion. Mostly, when things go wrong it is because re-organisation has taken place without IT to support it. New systems are delivered without adequate data quality or IT specified before the last re-organisation does not reflect the way the new business functions. I am sure there are other combinations I have not thought of!

3 Joined up Information or joined up IT?

The main point to my arguments is that IT is just a tool to provide the right information to the right place to assist with decision making within the business.

I would suggest, from a business perspective, what Utility network operators require is access to joined up information in the most appropriate format to enable them to make valid decisions in the course of their work. Most people would be very happy to pay for this service on a performance basis if the right information could be guaranteed available in the right place in the right format. within the right timescales. They would be well able to specify their exact “Information” requirements although they may have struggled in the past to get to grips with complex “Functional Specifications” for systems, hoping it would serve the same purpose. They could also more easily judge the value of the service contract in meeting their requirements and the consequent impact on the operation of their business.

This is very much at odds with the current practice whereby the Business Owner has to secure funds for a third party department to secure a third party contractor to build joined up IT systems which they hope will have the same effect. The problem is that when they do not it is too late as they have paid their money!

This may appear to be a radical change of view – apparently losing further control of your IT to gain control of your business. However, with this concept you would only pay for the service if you were happy with it. So you are actually in full control. You have identified costs for provision of the required information within a contract and have removed a significant risk (the IT development) from your business. For those involved in the past with the outsourcing of IT services industry and have effectively lost control somewhere between the Business User, the IT department and the outsourced IT provider this is perhaps hard a hard concept to comprehend. You could draw a parallel with other industries. You do not build your own telephone network or your own

Television channel, you buy a subscription to the service that meets your needs. Do what you do well and intelligently outsource the rest. It is all a matter of cost, flexibility and risk management.

Some doubters to this approach would cite that “information” is too valuable a commodity for the business to outsource and there are, of course, always the DIY in-house experts who have made careers from picking up the pieces and developing their own “mini corporate” standalone solution. However, it must be pointed out that information is already effectively outsourced; it is locked into the corporate IT, whoever that it is managed by.

However provocative this proposition may seem, it does fit well with the new utility models that are emerging. If we look at the future I believe this is a huge area of opportunity as a support services business

4 Changing Business Models, Changing needs?

On the horizon for some time we have had two further significant changes for utilities to cope with

- The Internet and e-business providing the possibility of alternative IT strategies and flexibility
- Splitting of the corporate body and how to extract value from your business in a highly regulated regime

The internet and e-business has been thrashed to death over the last year and I do not propose within this paper to re-address these issues and opportunities other than their relevance in the points I have already made. The only point I would make on this matter is that if you have defined your information requirement, delivery via the web/e-business is a very cost effective and flexible way to proceed. If you have not managed the information, it will be little more use than the traditional corporate IT approach

The second item, that of the newly emerging corporate models, is, however, worthy of greater consideration.

All utilities have looked at ways of varying the corporate model since their privatisation. Competition has been a key driver and at varying rates in different sectors we have seen the splitting of Customer Service and Infrastructure Management. More recently within the water sector we have seen another variation on this theme, the splitting of the functions of **asset ownership, asset management and asset operation**. This has been accomplished in Wales by the formation of Glas Cymru, a non-profit organisation. A number of other companies are currently considering variations on this theme.

This asset owner, manager, operator model poses a number of issues for the organisation whether managed internally within one company or by externally splitting of the ownership to release value from the assets.

Perhaps the most relevant of these issues is that of the corporate IT, which, I suggest, explains some of the failures of the past.

The owner, manager and operator actually have very different IT requirements and, of course, there is no longer any “corporate” as the functions may potentially be within three separate companies. The underlying data is not dissimilar but it is the granularity of data that varies between the functions. It is therefore the transfer of information and the contract interfaces that are crucial for the model to succeed.

How do you reconcile these issues and provide flexible and competitive organisation for the future?

If we look at the water business in the Anglian region for example, the Asset Owner may just own the assets in the region or it may own assets elsewhere potentially anywhere in the world. What the owner needs is information to understand the whole life cost of the assets to negotiate with the financial markets and regulators to ensure funding is correct and the assets are maintained to an appropriate long term standard.

The **Asset Manager** may be managing the assets on behalf of the Owner but may also be managing assets for other asset owners. He, therefore, needs a different set of generic tools to analyse the performance of the assets, to advise the owner on alternative strategies and risk, and to manage the contract with the operator to meet the expectations of the owner. If this is to be successful in a competitive market, these tools will be flexible and generic enabling him to have many relationships with owners and operators.

The **Asset Operator** needs to effectively operate the contract to the requirement of the Asset Manager. This will require tools for understanding the network performance and the impact on customers in order to minimise the risk of failure against contract targets, mobilising the workforce to carry out necessary work and providing information to the Manager through the contract interface.

Everyone needs to own the right tools to effectively operate their business, manage risks and make a satisfactory margin from that business.

Even if these functions are carried out within one organisation, the same arguments are valid around the requirements of the different processes. As I have already intimated, this may explain some of the previous corporate IT failures which did not take account of this model.

It would be possible in this environment for each party to continue, as in the past, to develop its own IT strategies and rely on data transfer at the contract interfaces. However, it is in this three ball model that the “service” provision concept really offers a practical and cost effective solution.

5 The “Service” proposition

The diagram in appendix 1 shows the “Service Proposition” Model.

The simplicity of the model is that:

- It can work with any combination of business model, owner, manager, operator. The “information” services are merely supplied via the Service Contract.
- The service can be either supplied by the existing IT department or by a third party. The provider who is best able to flexibly manage and distribute information will be the winner in this respect.
- The customer only pays for what is delivered in line with a clearly defined level of service.
- There is no up-front capital cost provided the “system” will deliver to user expectations.
- A significant risk is removed from the organisation by removing the IT layer. The business gets the information service it requires to perform and grow its part of the business.
- The service can be leased and therefore issues relating to capital depreciation are removed.
- Flexibility for change to support business growth

The service provider will need a contract with the corporate IT owner to obtain data from the existing “legacy” systems as well as the service contract with the customer. This could be a barrier in the short term but, I believe these services will expand and re-define the “corporate”

very quickly. The future “corporate” will be restrained to a common communication infrastructure and corporate identity information.

6 Summary

I believe that the existing corporate IT solutions have not worked well in the utility sector generally, but these issues have been “lost” in the old monolithic corporate models. At best developments have not provided value for money. At worst, they have seriously constrained the business from moving forward and growing. The current model is no longer viable in the changing, competitive business and IT arena.

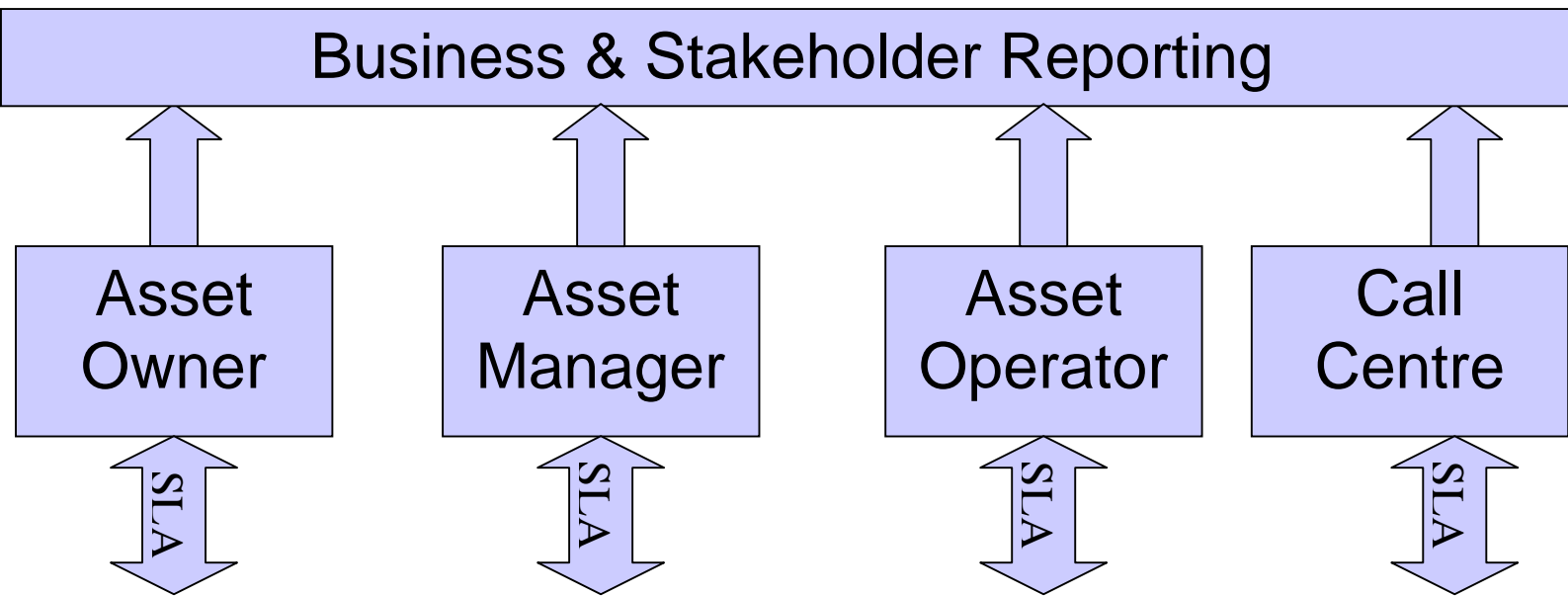
To counteract this some IT providers are hyping Application Service Provision (ASP) as a solution. I believe that although this may be appropriate for standard desktop packages, it is not the future for other corporate solutions. It is the split of the processes of ownership, management and operation that must be addressed to move businesses forward

Information Service provision is a flexible and cost effective way to meet the needs of Business Users; enabling them to be in control and to get what they pay for. The services also utilise the cost effective Internet environment for e-business which provides flexibility for operation anywhere: the office, the depot at home or abroad.

I believe this type of service is positioned for major growth and we will see significant developments over the next few years tying in information services with internet access and including mobile solutions. The businesses that embrace these services will have significant competitive advantage in their respective markets.

For those who do not embrace change and wallow in the past IT “treacle”, only time will determine their fate in a competitive and changing world.

The Information “Service” Model



Information Services - Office / Home / Mobile

Analysis & Reporting

Scheduling & Updating

Historic Performance
Data

Legacy Systems