

Cloud Computing - Taking IT to Task

The role of the cloud in driving business value

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Much of the discussion around modern IT still revolves around purely technical aspects of a given platform, leaving many business people in the dark as to what true value of a new technical architecture actually is. With businesses being run by process – not by technology – a new approach has to be taken: one that starts with the business imperative, drills down to the business process and then uses technology - increasingly from outside sources – to enable and facilitate the business tasks that are the basic building blocks of business value.

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A business is not run "on" or "by" technology – the real value of a business depends on its processes. That technology has become a major part of a business's means of operation can be a double edged sword: if the technology is poor or constraining, then the business will suffer. Taking a new approach where technology is purely there to facilitate an efficient and effective dynamic process environment is key for organisations to help in their global competitiveness.



Conclusions

Technology has to be seen for what it is - a pure facilitator of the business processes layered on to it. The need for flexible business processes continues to grow and the capability for internal IT staff and platforms to respond has become costly and problematic. Standardisation and re-use of function is increasing, and the need to focus on IT investment to support the business, rather than on patching, upgrades and technical fire fighting is driving a need to change the overall approach to IT. Looking to the cloud to offload commodity technical services and to provide services to higher level composite business processes puts IT back where it should be: at the heart of the business, but not dictating the business.

1. Introduction

Think about your own business; picture how it runs. You're probably thinking about processes, such as prospect to customer, customer to cash, product to delivery. You're probably thinking of the sales process, how marketing is carried out. You're looking at the individuals that make up your workforce and how they define the success or otherwise of the business itself.

At any point, did technology loom large in your thought processes?

Probably not. Although technology vendors would like to think that their product is the centre of any successful company, technology is not an end in itself, it is purely a means to an end. No company has become successful purely through spending money on an enterprise resource planning (ERP) or customer relationship management (CRM) application, and none ever will. If you suffer from poor business processes, and you put good technology underneath them, then all you will have is greater efficiency in doing things wrong - and you just start to go out of business faster than you were doing previously.

However, few organisations can describe their processes fully. After all, a process crosses between individuals, and often crosses between organisations as well. It is hardly surprising that many organisations have taken what they see as the easy option and have gone for the ERP, CRM or other application route, as the vendors promise to provide out-of-the-box solutions to "standard" processes.

But, within an organisation, what is a standard process? What are the benefits of doing these processes in exactly the same manner as everyone else, and how can technology be utilised to positively differentiate a business from its competitors?

This paper aims to look at how organisations can use a simple methodology that:

- Leverages how individuals work with tasks to uncover the organisation's existing business processes
- Uses this information to identify where these processes are broken or underperforming
- Shows how a mix of internal and external technology can be utilised to ensure that these processes are supported in an effective and flexible manner, so that the business can change them as the market dictates.

Quocirca believes that there is an emerging opportunity for organisations to radically alter their approach to how IT supports the business. The greater adoption of industry standards and the emergence of cloud computing, combined with the evolution and maturation of web services and service oriented architectures is leading to the capacity for an "application" to be built in a composite manner. By bringing technical functions together dynamically to facilitate business tasks, organisations can choose as to whether any specific function is served internally via an existing data centre, or served externally via the cloud.

Such flexibility opens up more options: an organisation can start by only taking new functionality as external functions, and can choose as and when it offloads internal functions out in to the cloud. Existing applications can be adapted such that internal functional components are surfaced to be made available to other functions - for example, the billing engine within an application can be made available as the core billing engine used everywhere across the organisation. This leads to a "long tail" approach - Quocirca expects that the internal data centre and the enterprise application will exist for the foreseeable future, but that these will increasingly be part of a private, internal cloud that interfaces and works in an integrated manner with external public cloud services.

Contained within this paper is guidance on how an organisation can approach its business process and task needs, how it can prioritise these as commodity, differentiated and unique processes, and then how using a hybrid internal/external cloud approach can provide the flexibility demanded by the business and its market.

This paper should be of interest to senior management in the small and medium enterprise (SME) sector, as well as to those responsible for business development and senior decision makers in the mid-market enterprises. However, the underlying approach to understanding processes and tasks should also be of interest to business process specialists and decision makers in large organisations.

2. The business imperative, business process and business tasks

Main Findings:

- Businesses have to work from the top down: attempting to run a business based on its basic underlying capabilities will not work
- Each individual works against tasks, which when pulled together form processes, and the processes have to support the overall business imperative
- Few, if any, individuals can describe a business process end-to-end. Even at a team level, little agreement can be found on what a full process description should be

Every business has a business imperative. For many, this is something that has been carefully wrapped in a mission statement, with customer-friendly wording combined with some aspirational statements. However, if everything is stripped away, the majority of organisations' business imperative is firstly to survive, and from there on to thrive. How this is done is defined by business strategy and delivered via the underlying business processes. These processes are, in themselves, dependent on how well the component tasks are carried out by individuals.

Business process management (BPM) has been around for a long time. However, many businesses have struggled when they come to trying to adopt a BPM approach, finding that the discovery and definition of a process is far more difficult than was expected. What tends to be misunderstood is that very few people carry out a complete "process" - which is an aggregation of a set of individual tasks. Tasks are what individuals understand, what they can describe and where all the issues that are found in the business process build up from. As the hunt for the ultimate form of business process automation goes on, the need to find a better way of discovering what tasks make up a process, and where the process flow is under-optimised becomes more and more important.

This is shown in Figure 1: tasks are aggregated into processes, which then result in how well the business imperative is fulfilled.

What is the purpose of a business?

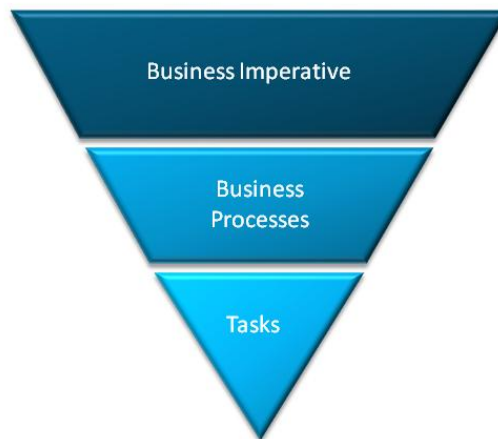


Figure 1

To better understand the importance of this, it is necessary to look at how processes and tasks need to be regarded as separate, although linked, entities.

As an example, take a simple process that is non-specific to an organisation - making a cup of tea. If someone came to you and asked you to make a cup of tea, you'd know exactly how to go about this, right? You'd boil some water, put a tea bag in a cup, pour the water over it, maybe add milk and sugar and stir it. Voilà, a cup of tea, as specified.

Case Study 1: RMD Kwikform

RMD Kwikform designs and supplies formwork, shoring, access and safety solutions for the construction industry. The company was founded in the UK over 50 years ago and has its head office in Aldridge in the West Midlands. Globally, the company has operations in Ireland, Spain, South Africa, Chile, the Middle East, Hong Kong, Korea, Philippines, Australia and New Zealand. RMD Kwikform employs 250 people in the UK and has around 1,500 employees worldwide.

Bansh Mistry, head of IT at RMD comments, "As with many IT departments we are often asked to solve business issues by having to find efficiencies with the people and budgets we already have at our disposal. This means we have to think creatively and sometimes do things we may not have considered before. In this instance we looked into the concept of managed services and found that it had the potential to be a far more cost effective solution than large financial investments and recruiting additional personnel."

Bansh continues, "Working with Star has released us from the financial and operational worries when rolling out systems to a new country. We can now roll out our business applications to any international office, quickly and easily. The model works well for us, and the central management provides greater visibility and improved control. We provide training for end users in how to use and access the system and, as all the applications are hosted by Star, our internal IT team can concentrate on making IT more strategic. Even when company resources remain static we like to think we can now work smarter."

Bansh is clear on the benefits of working with Star, "It's a professionally managed relationship and we have access to a dedicated Customer Service Manager and Account Manager whenever we need it. Additionally, we can also tap into Star's technical knowledge and services as and when required, which provides us with an optimal cost model."

"What this means to RMD is that we have access to an enterprise-level infrastructure and tools without the capital expenditure and exposure to risk, all at a fixed monthly cost. What I really appreciate most about this is that our IT team can focus on using technology to solve strategic business issues and not get drained by tactical tasks. We now have the robust systems in place that are secure and stable without having to recruit new skills into the team to manage them."

Bansh concludes, "We now use Star Business Email as a dedicated hosting service for Microsoft Exchange. Because it's run for us by Star we can keep our business email running with maximum uptime. This service guarantees availability of email and is supported by the highest levels of security and resilience. All in all, we now have a business supported by a technology platform that any large enterprise would be proud of."

However, what is really happening here is a set of sub-tasks that are only part of the overall massive process of making a cup of tea. For example, to get the tea, firstly, a camelia sinensis plant has to be planted and grown, the tea has to be picked, dried, packaged and transported. Clay has to be mined for the cup, iron ore has to be mined and steel has to be smelted for the spoon. Gas or electricity has to be used for heating the water, which itself has to be got from its point of creation to you ready for use.

What was a very simple "process" has now become an immense set of highly specialised tasks, each one of which feeds into others. Any person, or indeed any group of people, will not have to concern themselves over large parts of the overall process, which are dealt with by others. While you are standing there waiting for the kettle to boil, you don't have to worry about whether the electricity was created through fossil fuels, wind power or hydro. You don't need to concern yourself with whether the spoon is chromium or nickel stainless steel. However, each individual or group of individuals needs to ensure that they fully understand what outputs are required from them, and from there, what inputs they need in order to create those outputs. Each individual or group of individuals is dependent on

others upstream and downstream in the greater process to getting their tasks right for the whole process to be successful.

3. The task as the business building block

Main Findings:

- Individuals can describe their own tasks: what inputs they need, what outputs they create
- Stringing the tasks together will give a strong approximation to what the existing business processes are - and where there are problems
- Matching the tasks together will identify mismatches between inputs and outputs
- Optimising the processes now becomes a matter of ensuring that outputs meet input needs

If an overall process is too much for a business to define in one go, how can an organisation go about uncovering and defining how its processes do actually operate? The key is the task: here, an individual can describe exactly what they do and what they need to be able to move an item through their work environment.

Figure 2 shows how a task works: an individual carries out actions on an item that results in a set of outputs. To do the work, they also need a set of inputs. In the case of the cup of tea, the inputs will be things like the water, a means of heating it, the tea bag, a cup, milk, sugar and a spoon. The output will be a hot cup of tea. The inputs may come from a group of other individuals or just one - it makes no difference. As far as the individual is concerned, they are focused on one task only, and so should not have to worry about where their inputs come from.

Process and task



Figure 2

The problem arises where the inputs and outputs are not matched correctly, as in Figure 3. Each individual is working on their own task - but is not matching the input needs of the next individual in the process. Using the cup of tea again, what happens if no milk is available? Black tea with lemon may be an alternative - but only if this is acceptable to the person who wants the cup of tea. Even if all the tea maker's inputs are matched, there's a definite problem if the end output requirement is a cup of coffee - and this is where using a task-based approach really can help in uncovering the issues in an organisation's processes.

Moving on to a more business-focussed example: looking at a sales campaign, we will have a mix of demand side, sales and delivery side activities. Marketing will create a campaign which is pushed out to a set of targeted prospects.

Sales will then pick up on any leads and will hopefully close some deals. Warehousing will then supply any goods to those who have bought anything. A simple process, but one which often goes wrong.

Quocirca has seen organisations where the campaign is driven by marketing, without sales being aware of it. Prospects who have had communications regarding the campaign find themselves faced with a salesperson unaware of what they are asking about, leading to a poor perception of the organisation. Marketing has failed to match its outputs with sales' inputs: the process fails at the first hurdle. Even where sales and marketing are well aligned, fulfilment may not happen as insufficient inventory and/or plans to obtain more goods have been put in place at the warehouse. Sales and marketing are patting each other on the back, while customers are fuming that they don't receive their goods in a timely manner.

Matching outputs to inputs

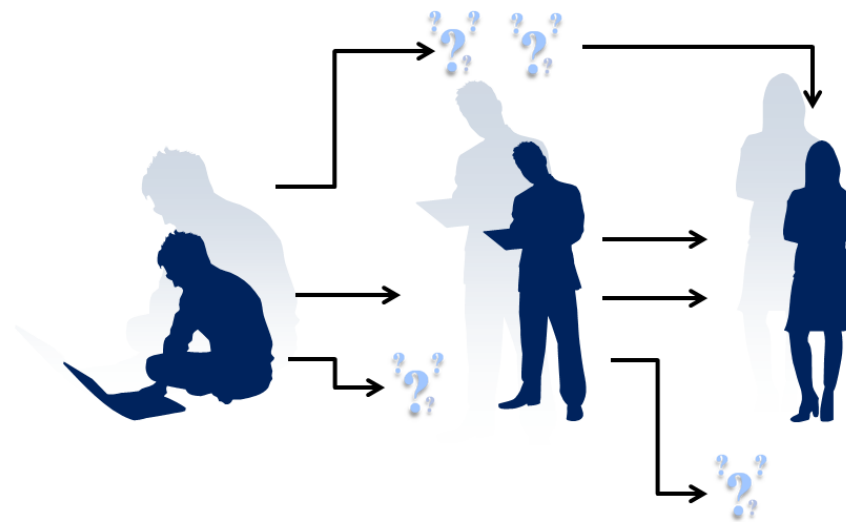


Figure 3

Providing each individual with a simple means of describing their own tasks as a bulleted list can really help in uncovering where the business process issues lie. Without any real guidance, an individual can detail what they do, what it is that they believe is holding them up (which is generally around not gaining the required information to meet their inputs), and any ideas they have for improvements to their own tasks.

Then, a person within or outside of the organisation with a basic knowledge of business process can analyse the task results and:

- Patch all the tasks together in order across a complete process
- Identify how the process works at the moment
- See where the major bottlenecks and breakages are
- Collect all ideas provided for process improvement
- Advise on strategic direction for process improvement

Such task mapping and matching does not require the levels of outside help that older style business process re-engineering (BPR) or business process management (BPM) projects have required in the past.

As opposed to old style BPR, this approach is cheap, effective and rapid, and it tends to keep the workforce on the business' side, as it is all aimed at making life easier for them. Changes can be implemented rapidly and effectively: individual tasks can be improved without impacting the whole flow of the process.

Quocirca recommends that an organisation starts with the top 3 or 5 processes that are seen as critical to the business - this will enable the approach to be proven in the business without individuals perceiving that too much change is going on at any one time.

4. Just where does technology fit in to this?

Main Findings:

- Technology is a pure facilitator: it has no business purpose beyond this. However, automation is a key priority to respond more rapidly and effectively to the market needs.
- Rather than run a business by application, it is better to use functional technology to facilitate the tasks, and so provide automation for the processes
- Increasingly, flexibility, scalability and availability will be better served by outside agencies than by in-house systems

So, the business now has a set of processes that are aligned with its imperatives and these processes are underpinned by a set of individual tasks that are carefully matched to optimise the flow of work across the process. All well and good, but where does technology fit in to this?

Figure 4 shows how the technology within an organisation should work. At the bottom is the overall platform - the architecture that supports the basic IT building blocks that are in place, such as servers, operating systems, network switches, storage arrays and so on. As far as the business is concerned, this is just a commodity - it should be hidden, it should not impact the business itself, it should just be there in the same way that electricity or water is.

What technology can provide

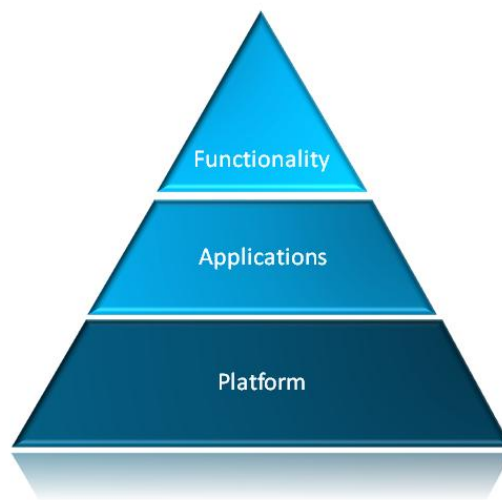


Figure 4

On top of the platform are the applications that the business uses - whether these be enterprise applications, such as ERP or CRM, add-on functionality, such as business intelligence, or for personal productivity, such as office applications, email and so on.

In the same way that business processes can be broken down into tasks, applications can be broken down into functions, using approaches such as a service oriented architecture (SOA). If a functional approach is used, it becomes possible to move away from functional redundancy: there is no need for each application to have its own events engine, multiple customer recording capabilities and different communication capabilities. As each action is required, the same function is called, providing consistency and the consolidation of function across multiple different

processes. In this way, supplier and customer details can reside in one place and one place only, reducing issues due to multiple entries in multiple systems: single billing and invoicing systems can be used, audit and governance work against the whole platform, not just parts of it.

And by placing the business needs above the technology capabilities, it can be seen where the touch points occur - or not. Each individual task requires specific technology to support it. What then becomes apparent is where the gaps exist: where a business task does not have the requisite technology underlying it to provide the support required (see Figure 5)

Bring them together. . .

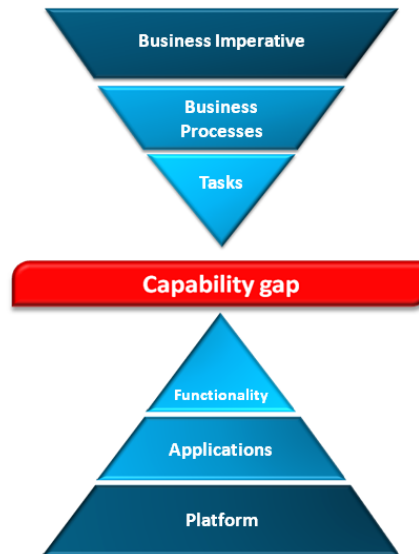


Figure 5

An organisation then has the choice as to how it addresses these issues - does it look at building up its existing technology to bridge the gaps, or does it look outside of the organisation for such functionality? The answer to this conundrum lies in looking at how processes break down within the organisation itself.

5. The process triangle, external services and the cloud

Main Findings:

- A business must prioritise its processes to identify where the greatest needs are
- The aim is to free up as much resource as possible to invest in where the business needs investment - in its unique and high end differentiated business processes
- Removing the base-level, “grunt work” aspects of IT, such as provisioning, patching, upgrades, break/fix and resourcing can reduce how much of an IT budget is used in just “keeping the lights on”

Not all processes are equal: within an organisation, there will be a mix of different types of workflows that will have different priorities and will deal with different types of information.

Quocirca breaks overall processes down into 3 basic areas, as shown in Figure 6.

Commodity processes:

Commodity processes are those that are necessary and are essentially the same or very similar no matter what size of organisation you are, what vertical you operate in or where in the world you are. For example, many of the processes across maintenance, repair and operations (MRO) can be highly standardised, as can much of purchasing, invoicing, expense claiming and so on. Although doing such operations badly can cost an organisation a lot of money, doing

them well does not particularly put an organisation ahead of its competitors. Many of the processes here are what can be termed as “hygiene factor” processes: they have to be done, and they should be done efficiently and effectively, automated as much as possible and hidden from the need for day-to-day human intervention.

Differentiated processes:

Differentiated processes are those which are more specific dependent on the size, type and/or geography that an organisation operates in. For example, all pharmaceutical companies have to submit documentation to obtain Food and Drug Administration (FDA) approval, whereas aerospace companies have to deal with the Federal Aviation Administration (FAA) and/or the Civil Aviation Authority (CAA). Finance organisations have to adhere to Basel II internationally, but also in the UK have to deal with the Financial Services Authority (FSA), whereas in the US, they have to deal with the Federal Reserve Bank (FRB). However, these processes still tend to be relatively common in approach in the given areas, but due to their higher value to the organisations concerned, being able to carry out these processes better than the competition can give market differentiation and a competitive edge.

However, if a differentiated process is deconstructed into its constituent tasks, Quocirca finds that many of these then become commodity tasks: again, becoming ones where highly standardised best practice approaches can bear fruit.

The process triangle

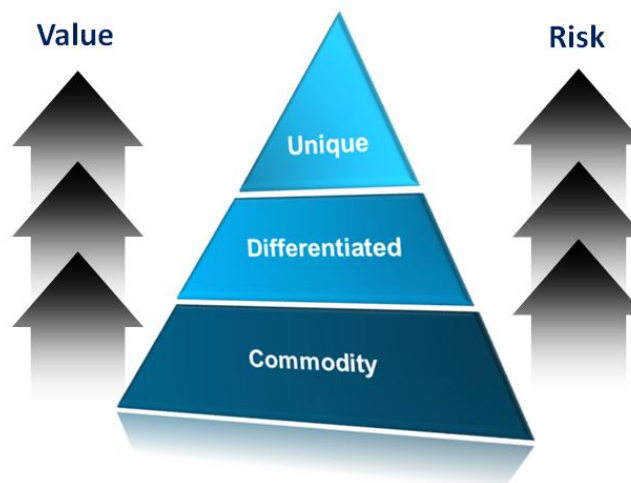


Figure 6

Unique processes:

At the top of the process tree are the processes that define an organisation: those that add the greatest amount of value to the business itself and those that are the closely guarded intellectual property of the organisation. Examples here may be:

- A hi-tech organisation using its employee base to drive new ideas for inventions
- A retail company tracking customer interactions in order to provide cross- and up-selling offers to highly targeted groups
- A financial institution moving its assets around to optimise revenues derived from fluctuations in global currencies

It is important for an organisation to be able to understand how its own process triangle works. For example, an organisation with a relatively high risk threshold may have a 60%/30%/10% commodity/differentiated/unique process breakdown, whereas a more risk averse organisation may have a 70%/25%/5% mix.

The more that an organisation is dependent on its unique processes, the more closely it must manage its risk. Matching the process triangle with an organisation's risk profile can help in defining future process approaches for an organisation.

Research carried out by Quocirca and by other research companies shows that for many organisations, 70-80% of the IT budget is spent on "keeping the lights on"; just in ensuring that the IT infrastructure itself is kept working. This leaves only 20-30% of the budget to be invested in providing support for the business - an unsustainably inadequate rate of return. However, by looking at the processes internal to IT, it becomes obvious as to how many of these fall in to the commodity area:

- Patching
- Upgrades
- Provisioning
- Root cause analysis for technical issues
- Help desk calls around e.g. passwords and applications

These can all result in downtime if not handled properly, and yet can all be fully or mainly automated, leaving only exceptions to be dealt with. For example, using virtualisation to drive the flexibility of a platform, enabling application images to automatically grow and shrink to meet needs means that the business is put in charge - IT is there purely as a facilitator. The more that can be driven out as being commodity process and task, then automated and removed from human intervention; the more IT resource can be focused on where it is most needed - on the highly differentiated and unique processes.

However, for the majority, it should make sense to look at how it best makes sense for the commodity functionality to be provided. When looking at an order process, industry best practice is fairly clear: you want the best fit to your needs at the lowest cost. That there is a necessity for a "server" (physical or virtual), an operating system, an application server, an application and all the energy and space required to operate and house it, along with the support costs of administrators and so on is something that should not be core to your own business' concerns. If you are in retail, your core business activity should be retailing, not technology.

Therefore, for processes that are pretty well standardised, it makes sense to look at offloading these to an external organisation. This organisation can concentrate on provisioning the hardware and software and ensuring that acceptable levels of availability and continuity are offered. Indeed, when looking at areas such as the general purchasing functions within an organisation, the external provider can focus on the legal aspects as well - changes in VAT, issues around dealing across borders and so on. By offloading the technical and domain expertise, your own organisation frees up money for investment - rather than for standard support.

Functions such as communication and collaboration - email, instant messaging, telephony and the like - are other areas where it is increasingly making little sense to host internally. Although standard email and voice services are highly commoditised, a modern organisation is completely dependent on its communication and collaboration capabilities, yet often prefers to gamble on being able to maintain sufficient capability through providing its own platform. As convergence of communication and collaboration technologies continues, allowing an external provider to take the technical responsibility for the platform still allows you to have control over how the platform supports and facilitates the business, for example, adding and controlling users and calling functionality from within other applications. It does mean that the real key is then built on how well the partner performs: can it guarantee availability and uptime? Can it demonstrate continuity planning, and has it got formalised disaster recovery plans? On the whole, Quocirca has found that external technical function providers can demonstrate better uptime, better security and better forward planning for upgrade and patching than the majority of private data centres.

Also, as the majority of external hosting companies will enable the sharing of infrastructure, using an external provider helps in pushing hardware utilisation rates to a high level. Although difficult to count this against an organisation's actual carbon footprint, it can be shown that using an external hosting company for commodity process enablement is a far more efficient and greener way of dealing with technology than attempting to do everything in house.

Case Study 2: Intelligent ID

Established in 2008, Intelligent ID (iid) is a software service provider, which provides an electronic identity authentication solution, giving customers the ability to remotely authenticate the identity, age and status of individuals along with the IT devices they are using. This helps organisations to communicate and transact with individuals in a safe, compliant and responsible manner. The solutions and associated services that iid offers are designed to help an organisation combat the risks of fraud, money laundering and identity theft while improving compliance and customer acquisition.

As a start-up business working in the security sector, it is critical for iid that all IT systems are up and running 24/7 so that authentication of identities and transactions can take place whenever their customers require. With customers ranging from the online gaming, financial services, retail and recruitment sector, each business has a different driver for carrying out stringent checks on a person's identity. Using their own in-house developed software, iid subscribes to different data resources ranging from the electoral roll, post office register to the deceased and birth register to authenticate an identity.

Harvey Flather, CEO, wants to guarantee operational effectiveness at all times in order to cope with the pressures of peaks and troughs in demand. To do this in a cost effective way, however, is always a challenge. Harvey explains: "For many organisations, identity verification is now a requirement, so that they can comply with FSA or PCI DSS regulations. I must be confident that our system is robust and reliable. Providing an 'always-on' service is the cornerstone of our business ethos and we simply can't afford to suffer any downtime."

Harvey continues: "The main challenge we face as a business is one of scalability. We have customers that are dependent on our service being available any time, day or night. We also have customers that may see a dramatic spike in activity on a particular day, and we have to be fully prepared and make sure that the capacity is available to cope with the additional traffic. A bookmaker customer may require our solution to verify up to 60,000 identities an hour on high-demand days such as the Grand National, but then the next morning it could be reduced to two an hour. So, you can begin to imagine the challenges that we face in having systems that can easily manage these spikes in traffic without suffering an outage."

"I can't tell you what a relief it is for me not to have to worry about signing off purchases for more hardware and software, and then concerning myself with who was going to look after everything outside of normal business hours. Had we continued to host our own solution we would have needed to employ at least two network administrators to manage the platform. With Star, we don't have to worry about any of the management headaches; we can simply focus on serving the needs of our customers."

Following the provisioning of the virtual servers in Star's UK based data centre facility, iid has also found additional benefits from partnering with a provider, whose services are already PCI DSS accredited. "We are regularly engaged with financial services organisations and one of the prerequisites within this sector is PCI DSS compliance from "end-to-end". Financial Service Authority regulations state that this is a 'must have'. Fortunately some of Star's services are PCI DSS accredited and this meant we are able to meet these regulatory compliance and our customers' requirements," says Harvey.

Much has been talked about cloud computing. A complete and realistic definition of cloud is difficult to come by, but as time goes by, it is likely that cloud computing will provide a means of bringing together the technical capabilities required by business tasks and processes in a dynamic manner as a “composite application”. By this, Quocirca means that the application as is known today - whether this be customer relationship management (CRM), enterprise resource planning (ERP) or whatever - will begin to die out as an off-the-shelf, single vendor solution. Emerging will be a far more dynamic aggregation of discrete items of functionality that are called upon together to form a facilitation capability for the business process. By building on existing proven technologies such as web services and SOA, external providers can begin to offer their services as highly standardised callable functions that can be used as the building blocks for such a composite application. The cloud makes this not only possible, but a preferable way of enabling a dynamic platform that can better support the business in a dynamic manner. The trick is to successfully and dynamically marry together internal cloud services, hosted within existing data centres, to external functions being served in the public cloud, either through virtual private networks (VPNs) or the open internet.

Whilst there are many hurdles to the adoption of cloud computing, the main one generally cited is security. Many organisations still see the use of an external entity as a major risk to information security, for example, with employees of the external provider having super user access and having access directly to the organisation’s data. However, Quocirca believes that the majority of organisations would be surprised if they were to carry out a comparative risk analysis between their existing systems and a cloud-based or hosted solution. As process automation has moved to include suppliers and customers, an organisation can no longer depend on its own internal policies and procedures around security to be adhered to by everyone in the value chain. Therefore, a standardised approach has to be taken. For many, this becomes too onerous, and lowest common denominator security ends up being the order of the day - which can (and does) end up as essentially no security. A provider of hosted services, however, will not only provide the highest possible data security standards along with the flexibility to “mix and match” along the value chain, but will also have high levels of physical security - including full profiling of employees, named access only to machine rooms, no visitor access and so on. In today’s hosting markets, it is rare to find poor levels of security amongst providers running premium data centre services, and the emerging cloud players understand only too well how much their future will depend on solid, demonstrable security capabilities.

Furthermore, few organisations can afford to build and maintain in-house data centres to the standards demanded by top tier hosting companies and service providers. Downtime is not an option for these providers, and vast amounts of money have been invested in providing multiple points of redundancy at all levels and full failover capabilities should there be any problems, even at a complete data centre level. While most data centres will have some level of redundant capabilities that will provide 95%+ uptime, the costs to create an internal data centre that can meet the uptime guarantees provided by top level providers is prohibitive for the vast majority, leading to massive underutilisation of the assets concerned. Far better to look to the economies of scale and the technical capabilities of an external provider - and leave such issues to them.

Indeed, fear of the unknown is another major hurdle to cloud adoption at the moment. The fear of handing over control at both the technological and process level scares many IT managers, as they see this as the start of handing over their actual job to a third party. However, attempting to keep technology in house is possibly a far greater threat to a business in today’s markets than using any cloud-based services. The speed of change in the markets - at both the business and technology levels - is too fast for any small group of people to keep adequate pace with. Far better to build up the right relationships with those providers which can provide all the “grunt work” of provisioning servers, operating systems and technical functionality, while changing the position of existing IT staff from being perceived as being a hard cost to the business (due to the amount of money spent in just keeping the lights on) to one where IT is seen as a business facilitator. Here, IT has to be able to act as the translator between the business saying “this is what we want to happen” and the service providers saying

“Many organisations still see the use of an external entity as a major risk to information security, for example, with employees of the external provider having super user access and to having access directly to the data.”

“this is what we have to offer”. Through fully understanding the services and capabilities on offer, IT can then go in to the business and ensure that the right solution is chosen against the business’ own risk profile and financial capabilities.

Many have seen this as the beginning of the death of the internal data centre, and yet Quocirca sees that this is where a far more hybrid model emerges. It is unlikely that certain types of organisation (such as defence, pharmaceuticals, finance) will want to give their unique business processes to an external provider to any great extent. Indeed, at this stage of the market, it is unlikely that many organisations will want to hand over their unique processes, and even differentiated processes may be seen as being better supported by internal means - even if this is based more on perception than reality. Within these processes is where the real intellectual property is seen to reside, and a fear of loss of control will continue to hold back the use of externally provided services in this area for the foreseeable future. However, within these unique and differentiated processes there will be a need to call areas such as communication and collaboration in order to interact with groups not under the direct control of the organisation itself (whether these are suppliers, customers or contractors and consultants). Here, Quocirca expects to see the emergence of the hybrid cloud, as shown in Figure 7, where a certain amount of capability is maintained within the organisation’s own data centre, with other functionality being sourced dynamically as required from externals. The organisation may also deal direct with certain partners through defined data and communication links, through the cloud with fully- or semi-managed links, or through the open internet for non-critical, low security data and communication needs.

Such flexibility enables an organisation to better match its needs against its risk profile, and when combined with a working knowledge of how its business processes break down into commodity, differentiated and unique, to prioritise how each process should be dealt with when moving more into a cloud environment.

Indeed, by taking this approach, an organisation can define very rapidly those processes that can (and should) be moved into the cloud in the immediate term, as they are low risk but high cost to run internally. Once these processes have been proven to be better supported externally, and cost savings have become apparent, a proportion of the savings can be invested in moving more processes into the cloud, or in bringing in technical function from the cloud into the internal data centre to help facilitate more differentiated and unique processes.

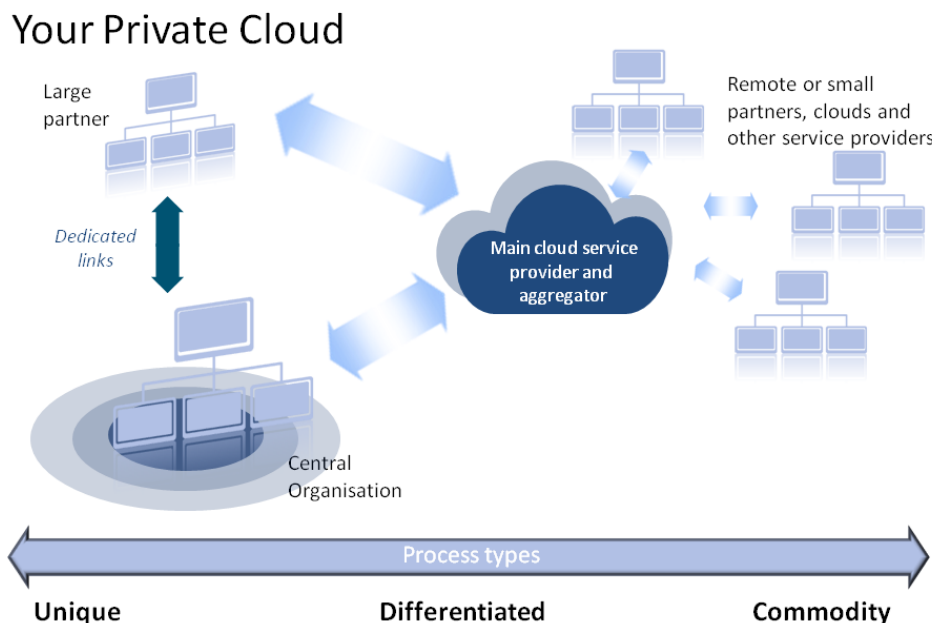


Figure 7

6. Conclusions

A successful organisation is defined by the quality and flexibility of its processes, not by the technology that it uses. However, good process underpinned by poorly performing technology will hinder the overall success of the organisation. Similarly, good technology applied to bad processes will limit success. As information technology has become more widespread, the dependence on it as a platform for business facilitation cannot be underestimated - and yet the majority of organisations still believe that they can take a non-core activity and outperform organisations who live and breathe such capabilities.

To become a world-class process and task based company, an organisation must first of all uncover its processes as they are enacted at the moment, and the best way of doing this is through using task mapping and matching. Once the processes and tasks have been discovered and the gaps in them fixed, the technical needs for facilitating these processes can be looked at.

Whereas historically, any gaps identified at this stage would have meant looking at introducing new applications or new code into existing applications, today's architectures mean that the functionality required can be obtained from external providers whose focus and domain expertise is solidly within the areas concerned. Commodity processes and functions can be serviced through external providers wholesale, lifting the burden of maintenance, energy and space requirements as well as management and implementation of future technology advances from the organisation's purview, putting the focus on ensuring that agreements between provider and user focus on quality of service, business continuity and performance.

The cloud will increasingly offer the capabilities for organisations to pick and choose the functionality they need to better serve the needs of the tasks and therefore the processes, that make the business work. Large scale, monolithic applications are approaching the "long tail"; although the application will remain the cornerstone of many organisations' approach to IT for the foreseeable future, new functions will increasingly be sourced as callable services, so beginning to marginalise the application itself. Going forwards, Quocirca sees an increasing move to the provision of applications that are a composite of a set of functional components served as web services within a service oriented architecture (SOA). As this capability improves, more and more external providers will be able to offer a catalogue of functions that can be used on an on-demand basis. Through such capabilities, organisations will be able to ensure that they have far greater flexibility in the market, will be able to immediately respond to changing workloads through dynamic resource provisioning and adjustments.

That taking such an approach should also lower overall costs is a welcome by-product. However, the main focus should always be that such an approach enables the right technology to be applied to provide the right functionality to support the tasks and processes within an organisation. An externalised approach means that all the money spent can be viewed as IT investment - rather than as spend on "keeping the lights on".

About Star

Star provides on-demand computing and communication services to UK businesses. Utilising an advanced cloud computing platform, the company has redefined how business people use and pay for the technology that supports them. Star's On-demand Business Services™ are easy to use and pay for and are available any time and from anywhere, removing unnecessary costs for hardware, software and ongoing maintenance.

Since 1995, when Star was founded, the company has been an Internet technology innovator and pioneered the system for cloud based spam and virus scanning for business email that became MessageLabs. In the last 14 years Star has established itself as a leading IT and communications service provider of the highest pedigree looking after 3,500 UK business customers and their 500,000 users.

Star has UK based data centres that sit within a network and communications capability that forms the basis of the Star Platform, from which a wide range of computing and communication services are delivered to customers. Star has over 230 employees working from offices throughout the UK, providing the highest levels of customer service and support. Star's technology roadmap will deliver on-demand, cloud computing services to UK businesses who want immediate access to the latest enterprise technologies.

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About Quocirca

REPORT NOTE:

This report has been written independently by Quocirca Ltd to provide an overview of the issues facing organisations seeking to maximise the effectiveness of today's dynamic workforce.

The report draws on Quocirca's extensive knowledge of the technology and business arenas, and provides advice on the approach that organisations should take to create a more effective and efficient environment for future growth.

Quocirca would like to thank Star for its sponsorship of this report and the Star customers who have provided their time and help in the preparation of the case studies.

Quocirca is a primary research and analysis company specialising in the business impact of information technology and communications (ITC). With world-wide, native language reach, Quocirca provides in-depth insights into the views of buyers and influencers in large, mid-sized and small organisations. Its analyst team is made up of real-world practitioners with firsthand experience of ITC delivery who continuously research and track the industry and its real usage in the markets.

Through researching perceptions, Quocirca uncovers the real hurdles to technology adoption – the personal and political aspects of an organisation's environment and the pressures of the need for demonstrable business value in any implementation. This capability to uncover and report back on the end-user perceptions in the market enables Quocirca to advise on the realities of technology adoption, not the promises.

Quocirca research is always pragmatic, business orientated and conducted in the context of the bigger picture. ITC has the ability to transform businesses and the processes that drive them, but often fails to do so. Quocirca's mission is to help organisations improve their success rate in process enablement through better levels of understanding and the adoption of the correct technologies at the correct time.

Quocirca has a pro-active primary research programme, regularly surveying users, purchasers and resellers of ITC products and services on emerging, evolving and maturing technologies. Over time, Quocirca has built a picture of long term investment trends, providing invaluable information for the whole of the ITC community.

Quocirca works with global and local providers of ITC products and services to help them deliver on the promise that ITC holds for business. Quocirca's clients include Oracle, Microsoft, IBM, O2, T-Mobile, HP, Xerox, EMC, Symantec and Cisco, along with other large and medium sized vendors, service providers and more specialist firms.

Details of Quocirca's work and the services it offers can be found at <http://www.quocirca.com>

