Beyond.
Productivity

How the cloud will
(and won't) make your
people more productive

Beyond. The cloud

1   Executive Summary

Everyone, it seems, is talking about the cloud. This white paper is one of a series that aims to move beyond the hype that currently surrounds the cloud.

This paper looks at enabling people to be more productive. It identifies collaboration as one of the means of delivering productivity and asks, how, if at all, will this be impacted by the cloud?

In answering that question, it looks at what is meant by the cloud: not the technology, but what it actually means for productivity. It also suggests that the cloud can have a positive impact on organisational efficiency and delivering business results such as customer happiness and information security. Finally, it looks at how cloud services will change, explaining federation and brokering, and exploring the issue of cloud readiness.

Beyond.
The cloud

2 Introduction

We believe that the way organisations are structured, run and resourced is fundamentally changing. The cause of this change is the emergence of a new way of buying and using services.

This is the cloud and it could help people become more productive than ever before.

Not all organisations are culturally, legally or financially ready to take advantage of this, but they should be. Some are being held back by an understandable scepticism about the hype surrounding the cloud. But they need to avoid being held back by under-preparedness when a cloud-based service does turn out to be the right solution.

The problem is that so much of the debate about the cloud has focused on technology; it is becoming difficult to work out exactly how much it really helps.

As a result, cloud fatigue is setting in among the very people who are buying managed network and IT services. Those at the helm of large enterprises may like the sound of the benefits promised by the cloud, such as saving money, better customer service and the improved ability to go to market, faster. But they aren't convinced that these can be delivered. The hype has made them sceptical.

"This is the cloud and it could help people become more productive than ever before."

How collaboration is (and isn't) making people more productive

One of the most important drivers of productivity, and one that can benefit from the cloud thanks to its non-geographical nature, is collaboration among colleagues, customers and suppliers. On that issue, our recent Enterprise Intelligence survey[1] revealed differences in collaboration success, depending on where in the world companies are located.

In that research, over two thirds of CIOs (67%) claimed seamless collaboration was available in their corporation anytime, anywhere, thanks to communications technology. Yet only 59% of workers surveyed – dropping to around a third in some Western countries – said they had seamless access to collaboration technologies.

In China, on the other hand, four fifths (82%) of workers are able to collaborate seamlessly with colleagues, customers and suppliers anywhere, anytime thanks to the communications technology they use. A similarly large proportion of workers in Singapore (72%), India (70%) and Brazil (68%) say the same (see figure 1).

The picture that emerged from the research was that CIOs in emerging market economies are doing a better job of enabling collaboration because they are more likely to be export/trade-focused organisations. This in-built demand for collaboration may also have the unexpected consequence of allowing companies in emerging markets to leapfrog ahead of their Western competitors when it comes to adopting cloud services more broadly.

2

"Organisations that can easily adopt cloud services are already very dependent upon them, but larger enterprises still need to understand the cloud more clearly in business terms."

Figure 1: source BT Global Services/Datamonitor
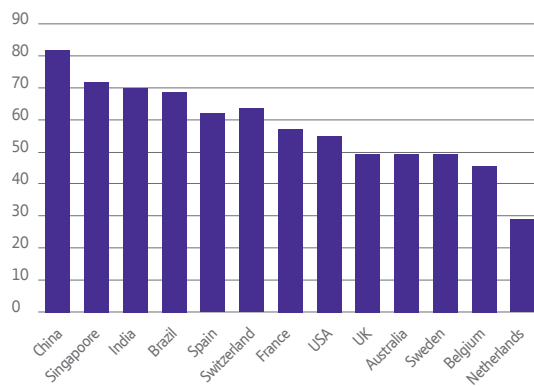
This supports our belief that the cloud is here to stay, but that the conversation between buyers and sellers needs to move beyond technology and focus on business benefits.

Organisations that can easily adopt cloud services are already very dependent upon them, but larger enterprises still need to understand the cloud more clearly in business terms. Once the focus has moved beyond the hype, indeed beyond the cloud, decisions about which services can be best delivered by the cloud come quickly into focus.

3

What makes a cloud service?

Attempts to define the cloud can be counterproductive. People use it to mean different things, from on-demand computing services to leased network infrastructure. It is perhaps best described, rather than defined, by the following maxims:

- The cloud is an opportunity to dramatically reduce costs by operating more efficiently; significantly growing revenues by increasing innovation.

- The cloud is pay-as-you-use, flexible or elastic business services, delivered over a network with real-time service management; delivered to defined service levels and under contractual, legal and regulatory constraints.

- The cloud changes value chains; solutions are assembled from proven internal and external services.

- Cloud economies of scale and ease of use remove barriers to entry; allowing new (and existing) competitors to unlock new ideas.

- Cloud suppliers profit by taking risk on behalf of customers, being best of breed in service innovation, forecasting demand, managing investment, and building to scale.

Many talk of cloud services as a revolutionary approach. But they are really the result of evolutionary progress in the economics of running a network. The cost of operating cloud services has fallen below the cost of individual organisations running services themselves. As it has become cheaper to run distributed services over networks, the cloud has blossomed, taking on new forms.

"Organisations that can easily adopt cloud services are already very dependent upon them, but larger enterprises still need to understand the cloud more clearly in business terms."

Moving towards the cloud at BT

Several years ago BT identified an ambitious set of objectives: to simultaneously improve customer experience, reduce costs and improve time to market.

We asked our customers what they wanted and they told us we should rationalise our portfolio, while still providing a high level of customer choice – seemingly contradictory requirements.

Our own analysis revealed that related products had inconsistent features, such as billing processes and user interfaces. In a sense, each product was implementing different ways of doing the same thing, resulting in a very large cost base. We concluded that we needed radical change. That change continues today.

The transformation that we are undertaking is to develop a number of shared services that can be used to assemble products for customers or support internal business processes. These are common business services rather than just IT services, but they are delivered in a novel way: they have defined service descriptions and can be accounted for on a usage basis. Furthermore, there are no guarantees about how the service will be implemented unless this is explicitly described in the service description. The service is de-coupled from its implementation.

This is a cultural shift, but it is bearing fruit. We have achieved cost savings by balancing our portfolio of service options against business need, and by aggregating demand from across the business or, if appropriate, out-tasking some of the service to a trusted third party.

Business process owners are happy with this approach. It is becoming both cheaper and faster to deliver new services because large elements are reused. Ultimately we envisage further progress. For example we expect to see auction and real time pricing variants of cloud services providing even keener pricing than is currently available.

Quality has also improved, as open innovation – using third party partners where appropriate – has resulted in consistently best of breed implementation and continuous improvement.

4 How the cloud helps people be productive

The cloud enables organisations to make their people more productive.

It affords organisations more freedom to determine and shape the services they offer their customers. It takes IT out of the complexity of building and delivering a business service.

It brings businesses speed to market and flexibility, making them more efficient, future proof and customer focused (see Figure 2).

How can this be achieved?

Economies of scale

Commercial Flexibility

Best of breed

Cloud

Efficient

Rapid Scaling

Future Proofing
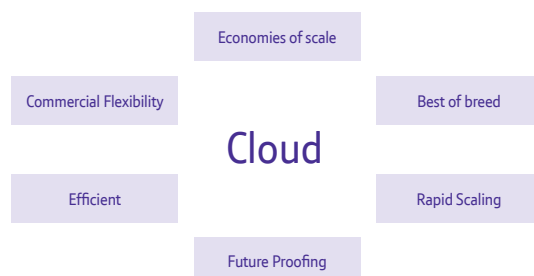
"A revolutionary approach emerging from evolutionary change"

Figure 2: source BT Global Services

Making people more productive...
Cloud services can be turned on or off or up or down according to demand. Hence, unproductive time can be minimised more effectively than when using traditional installed services.

For example, a retailer dealing with unexpected demand for a fashion line or a government body handling a spike in customer enquiries around a one-off event would have the flexibility to cope using a virtualised data centre to store, process and retrieve transaction data. The ability to respond to demand can make a huge difference to that organisation's performance

....which makes operations more efficient...
No modern customer focused organisation could operate without the essential technology required to manage their operations and communicate with customers and suppliers. Improving the efficiency of an organisation's IT can have a dramatic impact across the entire enterprise.

IT has become a major – and growing – cost of doing business. But that can change, and the cloud is one way to strip out operational IT costs and deliver service improvements and innovation.

...which makes customers happier...
Putting customers first means giving them the confidence you will deliver the service they want, first time, every time. Maintaining customer service levels can become challenging when an organisation launches a new service, and this is an area cloud services can make a big difference.

"A revolutionary approach emerging from evolutionary change"

4

Take the example of branded credit cards. Many big brands, such as travel companies and supermarkets have launched credit cards over the years, as a way to extend their relationship with customers and provide new services supported by their brand promise. Doing so is risky, however, as the maintenance of exemplary customer service becomes a challenge when an organisation manages previously unknown operational and regulatory compliance processes.

For example, credit card data have to be stored according to strict security rules, with multiple proofs that data cannot be accessed by unauthorised individuals or systems. The storage of credit card data thus becomes a highly specialist service in its own right. This high level of specialisation, and the shrinking cost of running secure networks, means that storage of credit card data is an ideal service to be delivered by one specialist organisation, via the cloud.

Doing so ensures that new services can be de-risked at launch. As a strategic approach, this builds trust among customers that new services will be safe from the outset, even when they are built on technologies and processes that are not core areas of specialism for the brand launching the service.

Making innovation happen faster

The cloud is an enabler of innovation. It changes the economics of building, launching and improving new services by creating a fertile ecosystem where they can be developed, combined, launched and failed fast, all without the prohibitive costs associated with the launch of a service.

The App Store launched by Apple is a good analogue for such an innovative ecosystem. By making the barriers to entry extremely low, and the prize for success high, Apple has created an ecosystem which enables consumers simply to add functionality to their devices, without delay, major investment or complex installation. The economic model attracts suppliers and users benefit from higher levels of innovation.

Something similar is happening to enterprise services. Infrastructure can now be pay-as-you-go and can be up and running in hours, rather than the months it traditionally took. It means organisations can launch new services on short-term trials, or on speculative business cases that would have been impossible traditionally.

So the pace of innovation can accelerate, without risk. That is not a technology outcome but an organisational one.

"The cloud is an enabler of innovation. It changes the economics of building, launching and improving new services by creating a fertile ecosystem where they can be developed, combined, launched and failed fast."

5 Industry focus: where will the cloud go?

Over the next few years, as enterprises seek to become more competitive, by maximising productivity, the cloud is likely to become a much more dynamic environment. As trust grows, there will be a move from infrastructure to managed environments, such as Google's AppEngine or Heroku. While some services are better candidates than others for cloud delivery, more services than we can currently conceive will become available, and enterprises need to be ready to take advantage of the benefits they offer.

In that sense, it is not about the cloud itself, but about making people more productive, organisations more efficient and allowing organisations to focus on core competencies such as customer service.

The integration of cloud and non-cloud services will become a vital requirement for heads of IT and organisations that pre-qualify and combine cloud services to provide service level guarantees will become important partners. Who are these partners?

Federators

Groups of cloud service providers will begin to agree common service level commitments which will enable them to package together each others' products. Hence, each one will be able to offer customers different combinations of services without having to make their own individual capital investments in the component parts. This will help deliver more flexible business benefits to customers and enable the federations to operate more flexibly. It will also ease the integration of cloud and non-cloud services.

Brokers

A cloud broker will match cloud consumer requirements with cloud supplier capabilities – perhaps in real-time. Commercially a cloud broker will allow a customer to match business service guarantees to technical service guarantees and the broker may use a federated approach to manage risk across suppliers for a customer (see Figure 3).
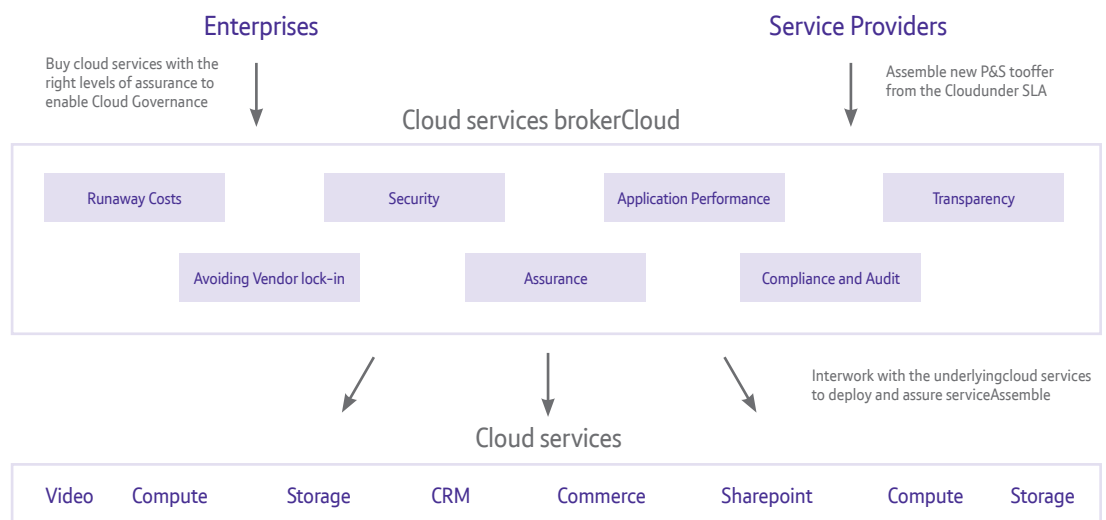

Figure 3: source BT Global Services

6   Cloud readiness

If the cloud is a cross-organisational issue, what do organisations need to do to make the best use of it, and to ensure they benefit from the productivity benefits it promises?

Even if some services or processes will continue to be delivered by traditional means, as global organisations become more dispersed, they will need to change the way they work, in order to maintain productivity. Since this is where cloud delivery is naturally at its best, current processes and systems may need to be integrated with others that are cloud-based. Interestingly, new start-ups are more likely to be able to adopt cloud services from the get-go, making them more productive and placing increased pressure on older organisations to respond.

Associated with business process change is governance change. Managers who have had direct control over all aspects of their part of the organisation will now find that they have to cede some control to cloud service providers, in return for the productivity benefits on offer.

This returns to the important issue of trust. A service description and its associated service level agreements are an essential part of a cloud service. The critical questions that need to be asked are: "how much of your personal or organisational 'brand' are you willing to risk in order to boost the productivity of your people?" and "how will you cope if your competitors become more productive, cutting their cost of service delivery and increasing the pace of innovation?"

"As global organisations become more dispersed, they will need to change the way they work, in order to maintain productivity. "

7 Conclusion

Few doubt the cloud has a role to play in making people more productive. It is clear that some services are already ripe for cloud delivery, and the move to get them there is not a challenge limited to the IT department.

The 'Beyond the Cloud' series of white papers examines in depth specific aspects of running an organisation, and show that, beyond the hype, cloud services have an important role to play. They should be seen as part of the solution to corporate challenges such as boosting productivity and efficiency, and meeting demands such as delivering better customer service and security.

The other papers in the series are:

– How the cloud will (and won't) make your customers happier

– How the cloud will (and won't) make your operations more efficient

– How the cloud will (and won't) impact your organisation's security

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About the authors

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Chris was part of the Services and Solutions team within the Group Chief Technology Office; where he was instrumental in developing BT's common capabilities architecture. Prior to this, Chris has undertaken a number of roles including major programme management, commercial analysis, systems development and research. Chris joined BT in 1988 from GEC Research. He has a B.A. in Mathematics and a M.Sc. in Computation from the University of Oxford.

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