

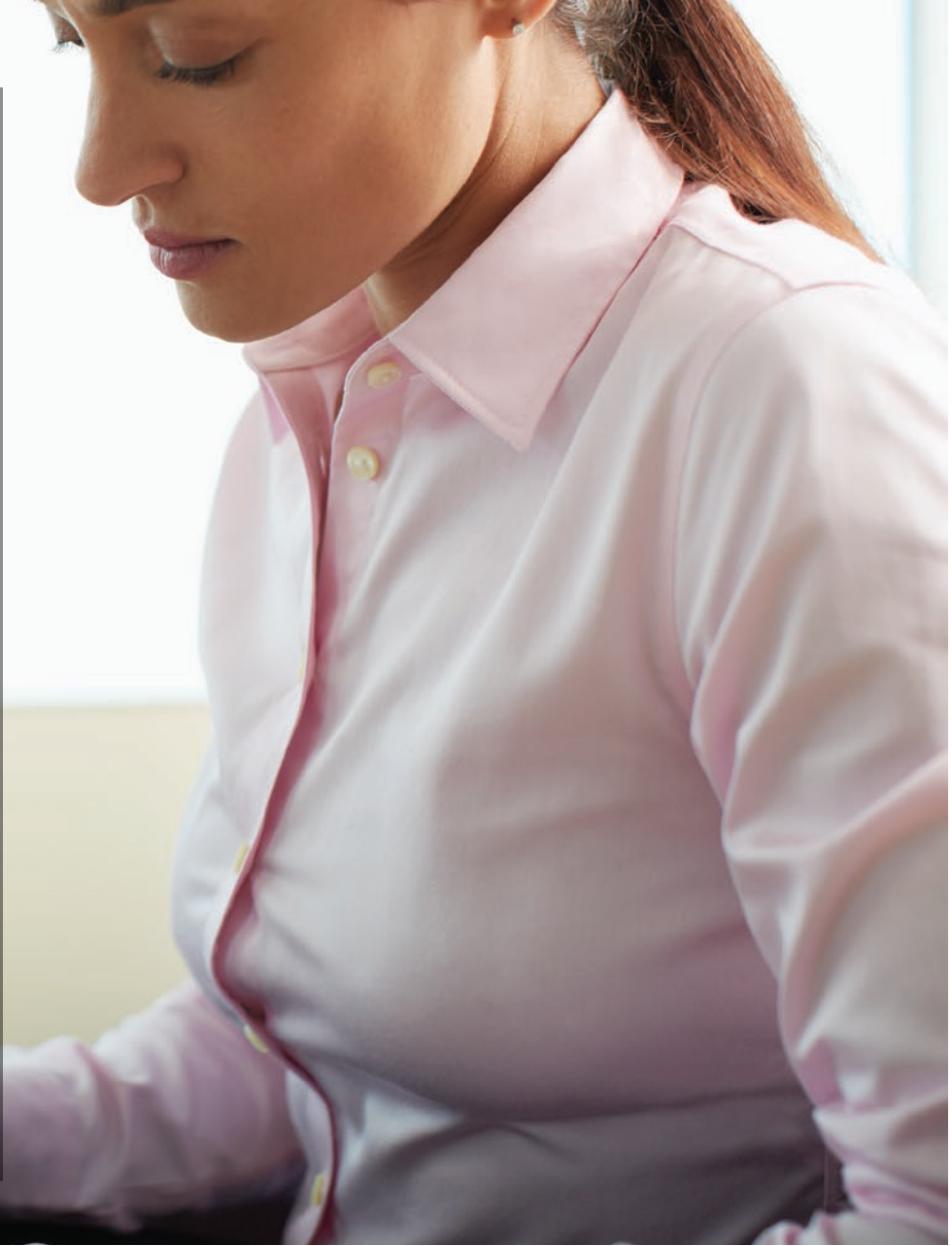


Bringing UK government into the cloud

A guide to cloud computing for the public sector

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Introduction.

The UK Government is committed to encouraging public sector organisations take advantage of cloud-based computing. The aim is to drive down cost, improve efficiency, and assist the development of service transformation by taking a Digital by Default approach to public services.

In 2012, the UK Government launched the “G-Cloud” initiative. This comprised of a Framework for cloud suppliers and the first CloudStore, allowing organisations from local councils to health authorities browse pre-approved cloud products and services. In May 2013, the Cabinet Office went a step further and announced its Cloud first policy, mandating public sector bodies consider cloud solutions before non-cloud alternatives. The target is for 50% of new public sector ICT spend to be in the cloud by 2015.

There is sound business sense behind this campaign. Moving to the cloud not only helps cut ICT spend but enables dramatic reduction in costs in other areas. It has the potential to transform the way the whole organisation works. It can break down barriers, free people to work more efficiently and effectively and enable members of the public to engage government in ways that suits them best. It can also help you become more responsive and agile and allow you to make better decisions more quickly.

In this eBook we’ll show you, step-by-step, how the cloud could help you cut costs, improve performance, collaborate more effectively and empower the public. On the way, we’ll share some of our experience from helping public sector organisations harness the potential of the cloud. You’ll discover how:

- Wiltshire Council is saving £2 million annually thanks to moving to the cloud and bringing ICT management in-house.
- Local authorities across the country are keeping streets cleaner, while slashing the associated costs thanks to a handy cloud-based Smartphone app.
- How a flexible collaboration tool helped Transport for London staff and volunteers work together to keep London moving during the Olympics.

If you haven’t already made your first move onto the cloud, this eBook could give you the reassurance and knowledge you need to take the leap with confidence. If you’re an old hand, we hope you will still be able to learn something new.

Happy reading!



Chapter 1: Cutting costs



With the cloud the possibilities for cost savings are truly endless.
Here are just a few examples...

1.1 Migrating to the public cloud.



Replacing some of your in-house systems with public cloud services is a fantastic way to cut costs. It's also a great way to introduce new initiatives while keeping costs down.

In 2010, in line with the Mayor of London's open data strategy, Transport for London (TfL) invited developers to build mobile apps using real time telemetry information, tracking the trains on the London Underground. The aim was to provide the information to the general public via a choice of apps, to help them plan their journeys.

The apps were so popular that TfL's servers struggled to cope with the demand. Microsoft came to the rescue. Over the course of six weeks, we moved the TrackerNet telemetry data feed to the cloud, on a Windows Azure database. The system is now comfortably able to handle the 2.3 million hits it receives each day.

 [Read more](#)

“ The cost to the taxpayer and the travelling public is marginal in comparison to what it would have cost to build a new infrastructure inside our own data centres. We're now able to deliver a series of open data initiatives for travellers that would have not been financially achievable otherwise. ”

Michael Gilbert, TfL's chief technology officer



1.2 Cloud bursting.



Some organisations have a few, fairly predictable, spikes in demand during the year. To avoid the risk of their systems collapsing under the demand, many choose to invest in far more in-house server capacity than they normally need. The cost implications of this are huge.

Depending on the data sensitivity and security requirements, the practice of 'bursting' the workload into the public cloud at times of peak demand offers a much more cost-effective and environmentally sound alternative.

“ The public cloud is almost a black hole of capacity. You can have as much as you need when you need it. So if you're expecting a peak in demand you can burst that workload into the public cloud by renting space for a day, a week or a month. We can help customers do that. ”

Paul Tarttelin, Microsoft bid manager

Find out how the cloud helped UCAS cope with increased data demands on A Level results day.

 [Read more](#)



1.3 Making use of virtualised server space.



While making use of the public cloud offers the greatest cost savings, this isn't always an option in the public sector, where security and privacy are of paramount importance. Using virtualisation to maximise the processing power of servers housed on your own premises, however, can open up the possibility of using the extra capacity to run a cost-effective private cloud service.

By establishing a highly virtualised private cloud, in combination with moving lower security risk services to a public cloud environment – a hybrid cloud solution – we helped the Isle of Man Government achieve a 15% reduction in operating costs.



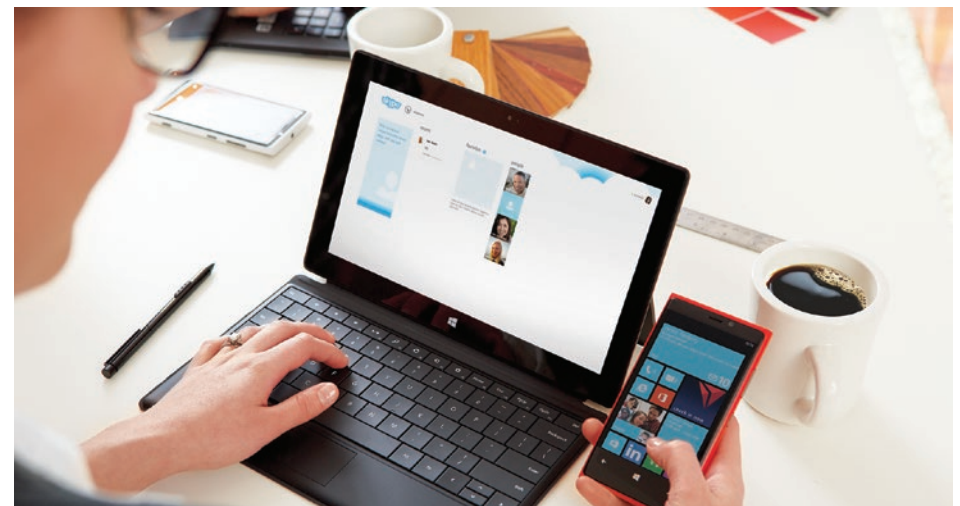
And it's not just computer hardware that can be replaced by a virtualised server environment. Microsoft partner Risual helped Leicester City Council replace their standard telephone hardware – private branch exchanges (PBXs) – with virtual PBXs hosted on additional processing space freed up from on-premise servers. Running Microsoft's unified communications tool, Lync, enabled the council to provide its staff with a much more flexible way of communicating.

“The alternative solution was to replace the Siemens private branch exchange (PBX) with a traditional IP PBX,” explained Risual's public sector account director, Karen Dallyn. *“The deployment of Microsoft Lync 2010 was not only more cost effective, but also offered better functionality through a single client and seamless integration with Microsoft Outlook and the rest of the Office suite. It also supported the proposed building move and flexible working initiative for staff by giving them access to instant messaging, voice, and collaboration services at any council location or when working from home.”*

The change has helped the council save around £500,000 and played a major role in reducing its annual carbon emissions by around 550 tonnes.



A private cloud solution incorporating Lync is also helping healthcare provider Locala Community Partnerships to find savings. It estimates that its telephony costs will go down by 20% as a result of using the online solution. Offering health visitor consultations via online video is also reducing travel expenses while providing patients with a more convenient service and freeing up health visitors to spend more time with patients who have more complex needs.

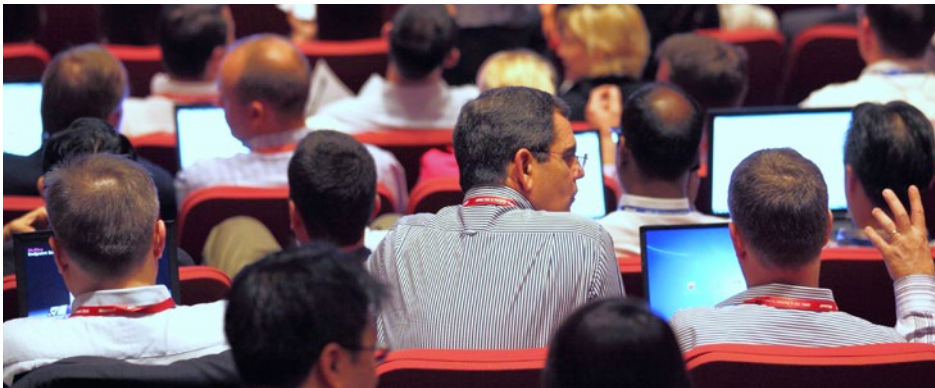


1.4 Encouraging competition.

Another, less direct, way that moving to the cloud can yield cost savings is through increased competition, particularly between SMEs, including small developers and independent software vendors (ISVs), and more traditional IT service providers.

Microsoft UK government industry manager, Richard Shipton, explains, *“If you’re in a legacy contract with a traditional IT service provider and want an SME to come in and develop something for you and run it on your own network, that means a lot of complication and delays. If you go out to the cloud you can completely break that. An ISV can deliver a completely self-contained piece of work that you can then integrate into your legacy network if you want. This really creates competition.”*

He adds, *“This could be a gentle introduction to the cloud. Then, when you do get to the end or a break in your contract you have the opportunity to think about what you’re going to need, how they will work together and what’s the most competitive way of achieving it. This different way of thinking is the biggest change and benefit the cloud has given.”*



1.5 Increased efficiency.



Effective use of cloud-based services can also yield cost savings by improving efficiency. A great example is an app called Love Clean Streets, originally developed for Lewisham Council by Microsoft partner bbits (Blackburn IT Services). Run on Windows Azure, it gives residents a quick and easy way to report incidents of fly-tipping and graffiti, and allows them to keep track of the council’s response in real time.

It costs the council just £1.10 to process a report made on Love Clean Streets compared to £5.10 for a complaint made by phone. Responding to reports through the app also involves less administration than responding to a phone complaint. As a result, since launching Love Clean Streets, the council has been able to respond 87% more quickly to reports of environmental crime. Cleaner streets mean people are less likely to tip and graffiti and this lowers the cost of cleaning operations. Meanwhile it’s benefiting from savings and additional revenue to the tune of £150,000 per year.

bbits have since successfully rolled out the app to councils across London and the UK and even as far afield as Jamaica.

 [Read more](#)

As this example demonstrates, one of the most profound ways moving to the cloud can help you save money is by enabling you to reimagine the way your organisation works.

1.6 Case studies.



For more information on the following case studies click on the links

[TfL tube train telemetry apps:](#)

[Isle of Man Council virtualisation:](#)

[Leicester City Council move to Lync:](#)

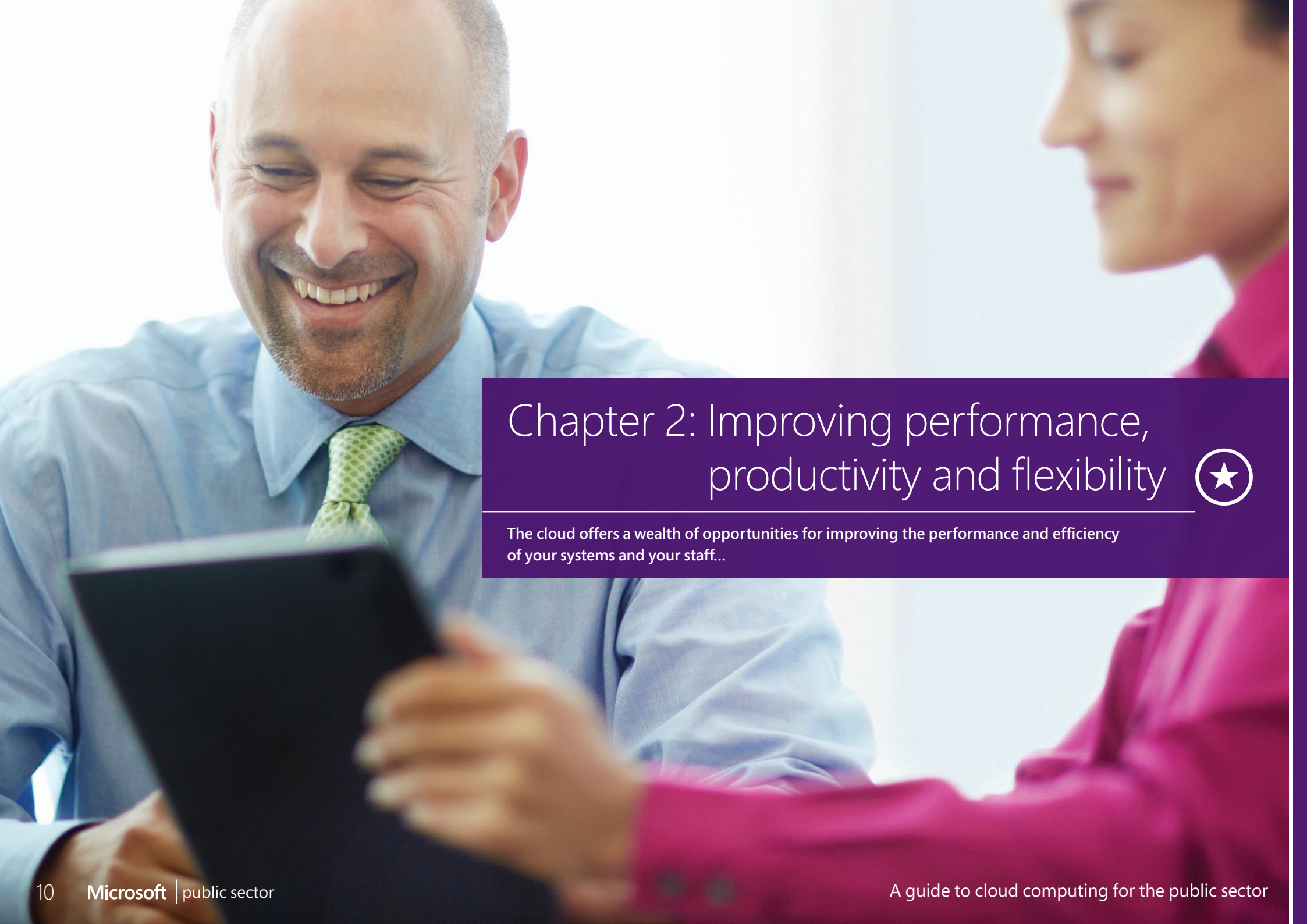
[Lewisham and Love Clean Streets:](#)

[UCAS and Windows Azure on A Level results day:](#)

Try it for yourself!

[1-month free trial of Microsoft Azure:](#)





Chapter 2: Improving performance, productivity and flexibility



The cloud offers a wealth of opportunities for improving the performance and efficiency of your systems and your staff...

2.0 Ability to handle heavy loads.

Target Tracker, part of Essex County Council, develops software for schools. Its application, Primary Target Tracker, was designed to help schools track the progress of primary school children and gather information to help improve achievement levels. Originally it was based on Excel spreadsheets and each school's data was stored in its own internal system.

Essex County Council decided to rebuild the solution for the cloud, using Windows Azure SQL Database. Today, it's used by 11% of England's primary schools. The solution is completely scalable and easily able to cope with peak levels of demand towards the end of the academic year.

Target Tracker project manager Darren Cole commented, *"We chose to develop Primary Target Tracker on Windows Azure because it manages rapid changes in demand and we don't have to introduce expensive servers in-house that remain idle for long periods of time."*



In 2010, the Environment Agency selected Microsoft Gold Partner, Shoothill, to develop a Flood Alerts application. The app enables the general public to access current data on the flood risk in their area via a user-friendly interactive map. The system comfortably handled 15.6 million hits over nine days during widespread flooding in November 2012.

"The great thing about the application is the use of Windows Azure cloud technology to handle user demand, which in one instance rose from 600 concurrent users to 30,000 in just 12 minutes," explained Shoothill's MD Rod Plummer. *"With Windows Azure, thousands of servers can be brought in to handle spikes in traffic during the busiest periods, when potentially millions of people and businesses are at risk of flooding."*



2.1 Better productivity.



Using cloud-based resources can help you increase productivity and efficiency in a variety of ways.

The most obvious one is by enabling staff to work effectively, wherever they are. Wiltshire County Council achieved this when it became the UK's first local authority to transfer all its employees to Microsoft Office 365 – Microsoft's public cloud version of Exchange, SharePoint and Lync, hosted on secure data centres in Dublin and Amsterdam.

Andy Spurway, the council's head of service delivery, commented, *"During the UK's bad weather in early 2013, staff could work flexibly from home with Office 365 without putting a strain on the network."*



As part of its drive to improve service delivery while reducing costs, the council went on to bring ICT operations, which had previously been outsourced, in-house. Efficient management, with the help of Microsoft System Centre 2012, is now enabling the authority to save £2 million a year.



2.2 Less wasted time.

With the cloud, running and managing day-to-day services isn't just more efficient. The cloud also makes it much easier and faster to get started with a new solution.

"The cloud can eliminate months and sometimes years out of a project that requires a reasonable amount of infrastructure," says Microsoft UK government industry manager, Richard Shipton. *"Traditionally you might be looking at a six month or a year's project to buy and install extra storage. Now you can do it just by going to a web page and using your government procurement card!"*

A major advantage of some public cloud services is that they're always up-to-date and you're always on the latest version – a concept we call 'evergreen'. That means you don't need to worry about upgrading to a new version.

The only proviso is that if you have customised the solution for your needs, you will need to ensure updates are compatible. Where possible, we recommend using the options available within the tool to configure it to suit, rather than wholesale customisation.

2.3 Re-imagining the way your organisation works.



The truth is that moving to the cloud can help to improve your organisation's performance by freeing you up enabling you to do things differently.

"If you just replace your existing IT systems with cloud services, you're potentially missing an opportunity to transform your organisation," says Microsoft Head of Business Development, Daniel Batts.

"You don't necessarily get all the cost savings you're looking for just by moving from doing something the old way to doing something the old way using cloud service. By using cloud services you can introduce new, more efficient ways of managing your business processes or interacting with the public. It gives you that opportunity to rethink and banish old ways of working."



2.4 Case studies.



For more information on the following case studies click on the links

[▶ Primary Target Tracker:](#)

[▶ Environment Agency flood alerts:](#)

[▶ Wiltshire County Council move to Office 365:](#)

[▶ Wiltshire County Council and System Centre 2012:](#)

Try it for yourself!

[▶ 1-month free trial of Office 365:](#)

[▶ Get a taste of System Centre 2012:](#)



Chapter 3: Collaborating better



Achieving genuine collaboration across an organisation has become much easier with the advent of cloud technology. When it's done right the result is a more responsive organisation with employees who are more engaged and able to work more flexibly and efficiently...

3.0 Improved communication and co-operation.



The more streamlined communication that the cloud allows improves the flow of information and ideas between employees, better reflecting the fast-paced exchange of information and ideas in the outside world.

“Things happen outside the organisation much more quickly than inside. That’s because organisations are bound by the constraints of silos, hierarchies and technology boundaries – by private information channels like email and phone calls,” explains Edmund Ovington from leading enterprise social network Yammer, now part of Microsoft.

“On the outside information is flowing like it never has before on platforms like Facebook and Twitter. Things are happening in public by default, whereas inside organisations things are happening in private by default.”

“If you flip that on its head you start countering the problem. You realise that the more you open up information the more you open up conversations for serendipity – having people you’ve never met or people who work in different departments giving input on the issues you’re facing. You’re going to speed up the velocity at which you can solve problems and also solve them with a more holistic view.”

Before joining Microsoft in 2011 Richard Shipton was chief architect and CTO at DEFRA. He contrasts his experience there with the potential available now: *“At DEFRA I regularly worked with 16 or 17 bodies. Within that there were 12 networks, only some of which could talk to each other and some of which could only talk to each other in certain ways. When we went through a restructuring and offices started to be combined, you’d sometimes end up with two sets of cabling to enable people to collaborate with one another.”*



“Now you don’t have to worry about that. With the cloud, you’ve got a point everyone can get to. If two different departments need to work together, they can just go to a common cloud service and collaborate.”

You can even use Yammer to co-ordinate the roll-out of other cloud-based services, enabling users to support each other through the transition.

3.1 Deeper employee engagement.

With a cloud-based collaboration tool like Yammer, everyone across an organisation can share information and ideas to achieve shared goals.

New initiatives can be sparked off by any employee, irrespective of their status and job title. For example, a very junior member of staff can post an idea for a solution to an ingrained problem. Their colleagues at all levels will be able to see and respond to the idea and keep track of the feedback it generates. This is a fantastic way to harness the cognitive ability of the whole organisation.

“It’s about creating a culture of sharing. If you provide a network where employees can put their ideas and lots of people start agreeing with them it gives them confidence that speaking up is a positive thing,” explains Edmund Ovington.

“If people feel they’re listened to it makes them feel much more aligned to what their organisation is trying to achieve than if they feel they just have to get on with their jobs and accept things.”

Being more open to listening to and responding to ideas, however they’re generated, is an important step towards becoming a more agile organisation.

3.2 Collaborate anytime, anywhere, on any device.



Using cloud-based services makes it possible for people to work together effectively even when they’re out and about, using their smartphone, tablet or laptop.

During the London 2012 Olympics, 3,000 Transport for London (TfL) employees volunteered as travel ambassadors. Based at tube and rail stations and bus and boat stops across London, they helped to keep the city moving smoothly during its busiest three weeks ever.

To help the travel ambassadors work effectively together across widely dispersed locations, TfL set up a Yammer network, which they could access via iPads and iPhones. This enabled the volunteers to support each other and helped to streamline the co-ordination of resources. Positive feedback from the public and senior TfL staff shared through the network made the volunteers feel valued.

After the games TfL employees continued to use the Yammer network, with many supporting the idea of mobilising travel ambassadors for future events. This was picked up by management, and the model was replicated at the Notting Hill Carnival later that summer.



3.3 Case studies.



For more information on the following case studies click on the links

[▶ TfL's use of Yammer during the Olympics:](#)

[▶ Watch videos about customers' experiences with Yammer:](#)

Find out more

[▶ A step-by-step guide to making the most of enterprise social:](#)

[▶ The Yammer 'Responsive Organisation' manifesto:](#)

Try these out for yourself

[▶ Sign up to join Yammer:](#)





Chapter 4: Engaging and empowering the public



The cloud provides some compelling possibilities for deepening and improving relationships with the public, while driving efficiency and cutting costs...

4.0 Engaging with the public, digitally by default.



Driving better public engagement by delivering services in the way people want to consume them is one of the key goals of the Government's Digital by Default strategy.

Cloud-based solutions, including mobile apps and web tools that are easy for the public to interact with, help government departments and other agencies deliver better customer service. As well as keeping people happy, delivering services digitally also keeps costs down. Statistics show that it typically costs £16 to do a face-to-face transaction, £4 to do it over the phone or 16p to do it online.

"Organisations are realising that the way they communicate has to fit with the customer rather than the other way round," says Michael Wignall, who heads up the public sector sales team for Microsoft's customer relationship management solution, Dynamics CRM.

Using tools like Dynamics CRM Online makes it possible to respond automatically to digital communications, driving cost efficiency.

"The external benefit is that you can tailor responses based upon the information you know about a person and their circumstances," explains Michael. *"Regardless of which way the communication happens, the customer should expect an equally good response, taking into account their situation and past interactions. You want the channel effectively to be irrelevant."*

Leveraging the flexibility of the public cloud, where possible, makes saving and handling all the data collected a much more manageable task, especially considering the ageing and growing population.



Engaging with the public digitally is not just about broadcast and submission. It's about getting a dialogue and building a community of conversation with them.



Michael Wignall



4.1 Empowering patients.



Cloud-based tools can help to put patients in control of their healthcare.

With some health applications information governance issues can present challenges. However this is less of a concern with cloud services hosted in the UK. An example of this is a Microsoft product called HealthVault, which allows people to create their own personal health record. The service is integrated with the NHS Choices website, enabling people to easily access information about conditions that affect them.

A related tool, eRedbook, enables parents of young children to track their development and interactions with health professionals online.

Microsoft healthcare industry market manager, Neil Pearson, explains, *“The chance of people pitching up at their GP and forgetting their paper Red Book are high but the chances of them forgetting their mobile phone are a lot less. There is already a version available for parents to use and it’s currently going through approval with the Royal College.”*

South London and Maudsley NHS Trust (SLAM), provides the UK’s widest range of mental health services. As part of its patient empowerment programme, the trust has recently piloted offering patients access to a cloud-based online tool, myhealthlocker, which they can use to keep track of how they’re feeling. This gives patients a better understanding of their condition and a greater sense of control over their treatment and progress.



4.2 Rethinking decision-making.

Using cloud-based services to interact with the public can improve decision-making in four distinct ways:

1. Empowering people to make their own decisions

One way to achieve this is by giving them access to decision trees, where they enter their own information and make choices from the relevant options presented.

2. Making use of high quality data collected about individuals

Collecting information on an individual, their circumstances and past interactions in a tool like Dynamics CRM Online makes it possible to build up a highly detailed picture of them. This can facilitate automated decision-making, for example systems that pro-actively offer people services that are likely to be relevant to them.

3. Gathering and analysing big data

All the information collected through an organisation's interactions with the public can be collated in an online database using a solution like Microsoft Azure. Analysing this data to pick up trends and their causes makes it easier to respond to market demand.

4. Informing the public

If you publish the results of your big data analysis the story comes full circle – the public can use this information to help guide their own decisions.

4.3 Providing services in new and better ways.



The cloud creates opportunities for public sector organisations to improve the way they provide services for the public and, at the same time, cost-effectively deepen engagement.

For example, creating a mobile app is now a much more manageable and affordable task, providing people with user-friendly and even fun ways of interacting with your organisation.

While the enterprise social tool Yammer is designed chiefly to facilitate communication within an organisation, it's also possible to open up networks to sections of the general public. This is a great way to facilitate consultations on issues that affect the community.

Replacing static internal databases with dynamic cloud-based tools can open up possibilities such as sending out automatic reminders to renew licences or permits. Relying on people to remember to renew, increases the likelihood that they will forget. Compare the impact of receiving a fine for failing to display an up-to-date permit with that of receiving a friendly reminder to renew online!

“ If you can drive better interaction with the public, make more timely and accurate decisions on the information you have about them and, by doing that, deliver a better service, then everyone wins. ”

Michael Wignall

4.4 Case studies.



For more information on the following case studies click on the links

[!\[\]\(d3fb9f94af8b26d1c844efa9a98805b0_img.jpg\) Watch a video about myhealthlocker and South London and Maudsley NHS Trust:](#)

Find out more

[!\[\]\(5a132f13505a6571904d622757b7a8f0_img.jpg\) Read more about the potential of Dynamics CRM for the public sector:](#)

[!\[\]\(10f8862fc183b400327470ea85afe9ae_img.jpg\) Read more about the aims behind Digital by Default:](#)

[!\[\]\(e1d6102fe77919492c04879c8450f1f5_img.jpg\) Explore HealthVault:](#)

Try these out for yourself

[!\[\]\(d5d7044e5caf6907399af2dced8d6ff8_img.jpg\) 30-day free trial of Dynamics CRM Online:](#)

[!\[\]\(35dc653d59570f8f891c312eeece91a2_img.jpg\) 1-month free trial of Microsoft Azure:](#)





Chapter 5: Clearing a pathway through the clouds



Here we clear up some of the misconceptions of the cloud that we commonly hear from people in the public sector...

5.0 Clearing up the cloud.



“ The cloud isn't secure enough for the public sector.. ”

In fact, for many public sector organisations the security offered by reputable cloud-based services and the data centres that host them is far in excess of what they could achieve themselves internally.



Whether or not the services available through the G-Cloud Framework CloudStore are secure enough for you to use will depend on the Business Impact Level of the information you handle in your day-to-day work. For more information on Business Impact Levels, see the government guidance.

 [Read more](#)

A number of services on offer in the CloudStore are accredited to Business Impact Level (IL)2. That means they are officially rated as secure enough for the majority of public sector users. If you work with information classified as 'restricted' you will need to stick to services accredited to IL3. In many cases these will be private cloud solutions.

You can see all the IL2 and IL3 accredited services listed on the CloudStore.

 [Read more](#)

Windows Azure, Office 365 and Dynamics CRM Online are all accredited to IL2.

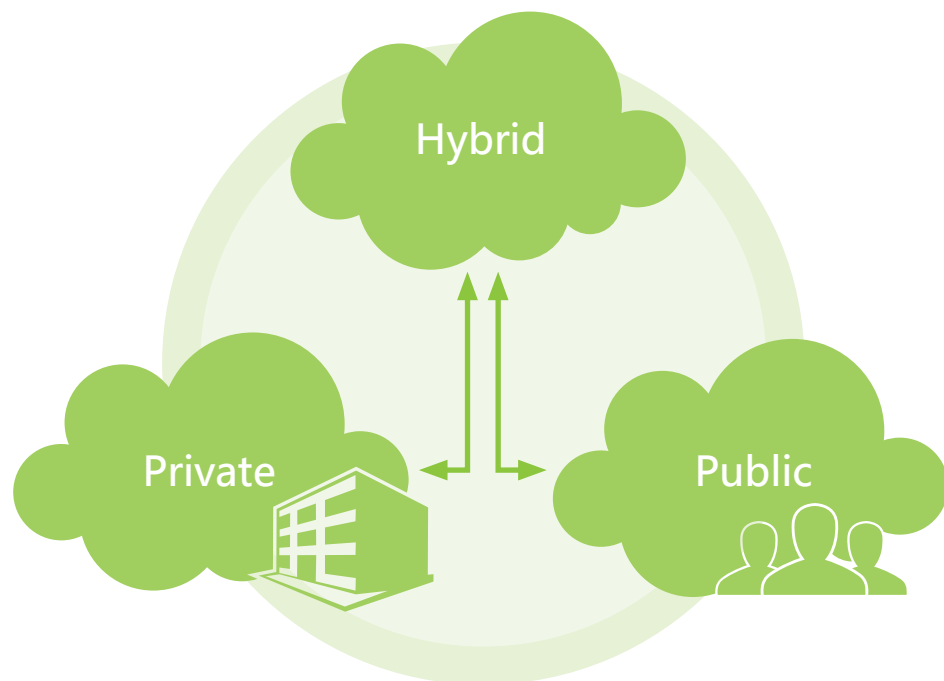
You can read more about the security of Office 365.

 [Read more](#)

And more about Windows Azure's security features.

 [Read more](#)

5.1 Cloud solutions.



Cloud solutions fall into three categories:

Public

Remotely hosted and accessed via the Internet. Suitable for users with low security requirements or for handling data which is accessible to the public anyway. Typically offers very good value on a subscription model.

Private

Hosted either within your own organisation's firewall or in a dedicated server environment in a specific data centre, typically in the UK. Suitable for sensitive data and users with higher security requirements. Tends to be much more expensive due to the smaller economies of scale.

Hybrid

A mix of the two. We can enable you to move seamlessly between public and private clouds, depending on your requirements. Microsoft's capabilities in this area are unique. We don't know of any other provider that can offer the level of integration or transparency across a hybrid cloud estate that we can. This means you can have some email users using public cloud and others using private cloud email, but all able to access seamlessly using Outlook in Office. Some users may even want both!

“Public or private cloud – it's an either/or choice and neither is right for us.”

5.2 Social media tools.



“Enterprise social tools like Yammer are a waste of time.”

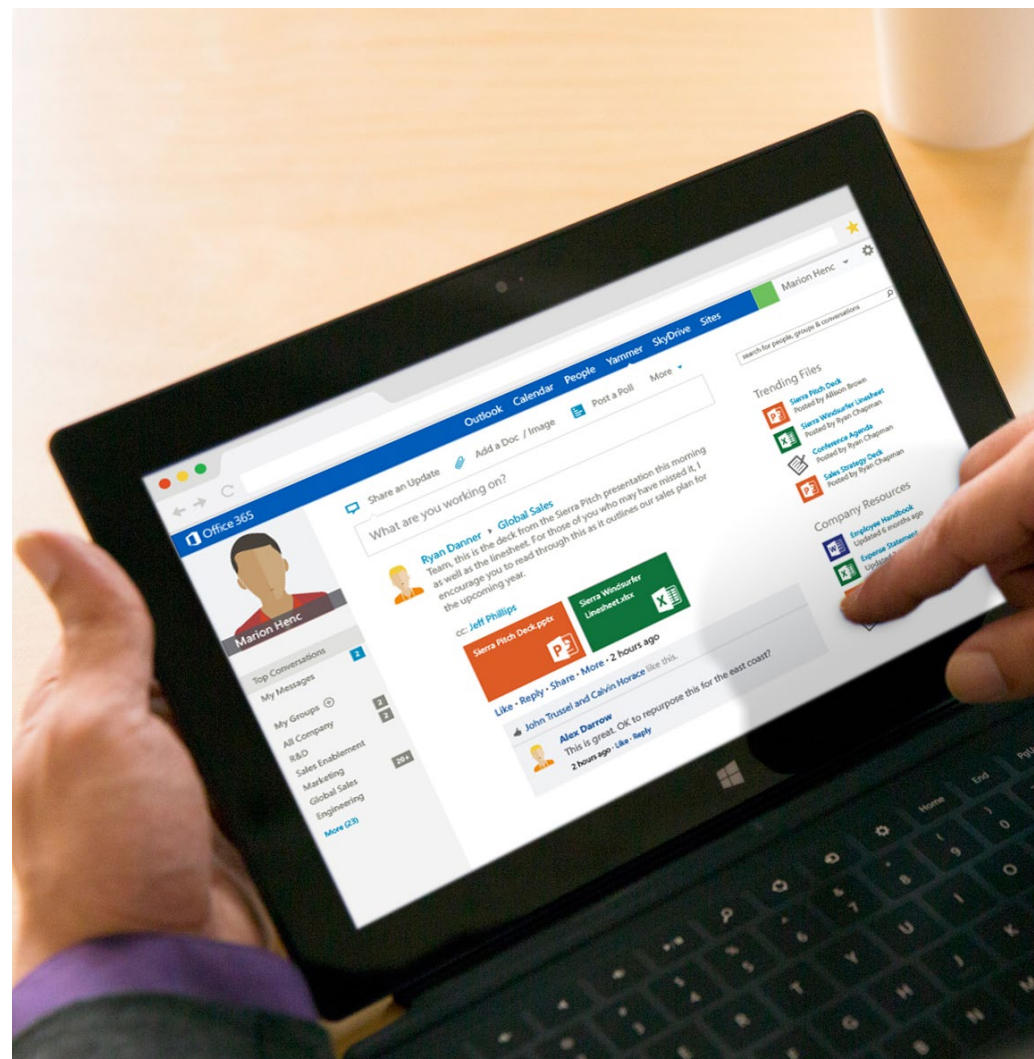
It's easy to dismiss social media as a distraction. However social media tools designed for business, like Yammer, can actually help people work far more effectively.

According to enterprise social and cloud specialist, Yammer's Edmund Ovington, *“Yammer doesn't make people less productive – completely the opposite. People might spend time browsing Yammer but they will be learning massively in the process.”*

“It doesn't stop me doing my job. Because I've got so much information at my fingertips I get it done faster and more completely and have the potential to be a thought leader.”

“What you have is an environment like being in a canteen with not just your boss but your boss's boss and their boss, so you're not going to say something stupid. We've got 250,000 networks globally. In the five years Yammer's been around we've had just two requests to take things down that have been posted inappropriately.”

“Enterprise social is a place where you do work, not a place where you talk about doing work.”



5.3 Cloud uncertainties.



“Moving to the cloud will put our ICT people out of a job...”

When speaking to customers about the benefits of the cloud we often encounter some resistance from middle management IT people. The root of this is probably concern about their job security, if systems that they were previously responsible for managing in-house are replaced by remotely hosted cloud services.

However the reality is that there will be a wealth of higher value-added activities and opportunities for technically-savvy people, from selecting the right cloud services and managing the set-up and migration of data to helping people make the most of the new tools. As Microsoft UK government industry manager, Richard Shipton, says, *“The cloud makes the plumbing just plumbing so everyone can go off and do something more interesting and useful!”*

In fact moving to the cloud could be a liberating experience for open-minded ICT managers and, for those who fully embrace it, a positive career turning point.



Chapter 6: Getting started - Seven steps to cloud heaven



We think there are seven key steps to start your journey to the cloud. There are possibly lots of other intermediate steps and even slightly different approaches depending on the level of complexity and scale of what you trying to achieve. However, we think these are the key points to consider as you move forward...

6.1 Get educated.

Get yourself educated, get your colleagues educated, get everyone educated, and not just the IT folks.

It's really important the leadership team, procurement, finance, HR and all the key business functions in the business understand the 'art of the possible' with cloud computing.

Share this ebook, research the cloud suppliers, meet them, read the case studies and ask lots of questions. Can the suppliers deliver robust enterprise class IT services? Are they committed to the highest levels of security and privacy? What are their SLAs and price points? What are their terms and conditions?

6.2 Create a strategic cloud manifesto.



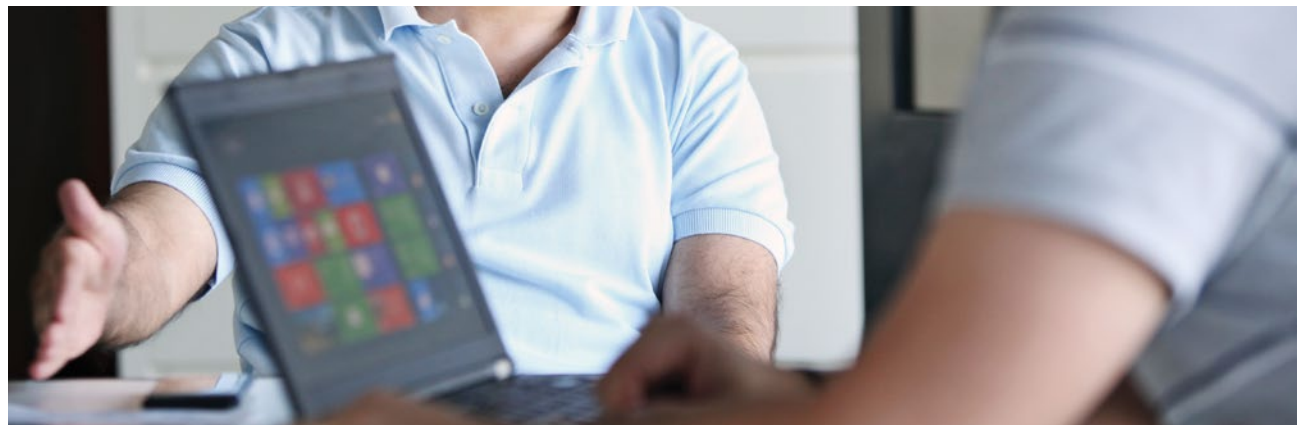
Review, refine and agree your strategic objectives for the business in the light of what cloud services can offer.

Cloud services can help change the way you do things but that requires change in culture, practices and procedures. Get executive and stakeholder commitment and make sure as many people are bought into new ideas.

Use tools like Yammer to solicit views across the organisation, run webinars, do polls and surveys to see what people think. Exploit the power of the crowd.

"You don't have to put everything into the cloud," reminds Microsoft UK public sector sales lead for Dynamics, Michael Wignall. *"A hybrid model is very plausible. So stick processes or systems suitable for the cloud in the cloud, but if you've got a legacy system that it just doesn't make sense to move to the cloud, at least in the short term, keep it on premise and just integrate them."*

If you need some support to decide which services to move to the cloud or to help you prepare to make the move, we can help by running a workshop for you. Just speak to your Microsoft services executive or representative.



6.3 Build the business case, build and inventory.



A strong business can really help propel a project forward. Think about whether cloud services will help reduce costs immediately, or help you avoid having to do a tech refresh with the associated capex in a few years' time. Also don't just limit the scope of the financials to the IT. It may well be that new cloud services will help you save money in other parts of the organisation. One common saving is in the estates budget. Using Office 365 cloud services can enable flexible working that in turn reduces the need for lots of expensive office space, light and heating. A smaller data centre will also reduce costs.

Conduct an inventory of users' roles, workloads and applications. Triage those into:

- Can move to the cloud now
- Require remediation and some rework before moving to cloud
- Need to continue running on legacy infrastructure and will require complete replacement in the future

Then look holistically at apps, not just their technical aspects. Consider the relevant attributes, i.e.: a component of an application that impacts the benefits and feasibility of cloud migration. Each component is assessed according to several criteria to determine its fit for the cloud, which might include:

- Workload = measure of the capacity to support infrastructure of the business
- Capacity = elastic, scalable, latency, through put
- Architecture – User interface design, app layer
- Cloud OS & data modelling – input to determine costs
- Financial – pricing and running apps. Implementation costs, ROI, support and operating costs
- Risk – Effect of uncertain objectives, org and technical readiness, business criticality, missing SLAs impact, Data classification
- Operations – tools, people, process for ops, SLAs, health, business continuity, deployment and support
- Security – protection and access control, regulatory compliance, privacy, encryption, data classification

Example comparison and score rating of Applications Profiler.

2. Profile Application Portfolio																										
Application Demographics				Application Profile													Score									
#	Capability	Name	Business Owner	Technical Owner	Workload					Architecture			Financial	Risk	Operations	Security & Compliance	Score by Profile			Overall						
					Scalability	Resource Intensity	Latency	Throughput	Complexity	Access points (mobile or offsite)	UI	Application					Data	Score	Weight		Score	Weight	Score	Weight		
1	Market and Sell Products and Services	Customer Relationship Management			3	2	3	3	2	5	5	3	3	4	3	4	3	2.6	3.29	3	2.2	3.67	4	3.83	3.31	3.67
2	Manage Customer Service	LOB Application			4	4	3	4	3	3	4	3	2	3	3	3	3	3.6	3.7	3	2.2	4.67	3.5	3.67	3.67	3.67
3	Collaboration	Intranet Portal Site			3	3	3	4	5	3	3	2	2	3	3	3	3	3	2.56	4	3	3	3.25	2.83	2.92	2.83
4	Unified Communications	Email Server			5	3	3	4	5	5	3	2	2	3	3	3	3	3.6	2.89	4	3.2	4	3	3.67	3.56	3.28

6.4 Just try it!



A good way to get a feel for the possibilities of cloud computing is to sign up for a free trial and just start playing. All of Microsoft's cloud services including Azure, Office 365, CRM Online and Intune offer free trials.

These can help you establish proof of concepts. Identify a small group of users or a non-critical workload and try out the service. Get familiar with the functionality of the service and work through the implications of using a cloud service, whether that is how your existing IT infrastructure integrates and interacts with the cloud services, or how your users will respond to the new service. In the case of Microsoft's services then users will experience no major change with the user interface.

One of the quickest and easiest moves to the cloud you can make is signing up to Yammer. There is a paid-for version available, which offers more possibilities for tailoring, gives you administration rights and gives you ownership of all the information on your network. However initially you can just sign up to the free version and encourage colleagues to join you.

"99% of executives agree that working towards more clarity and collaboration is a good idea but only a small fraction do anything about it," says Yammer's Edmund Ovington. *"You have to do it yourself, not go and tell someone to do it. Then it's a steamroller – everyone else follows suit."*

In fact using Yammer and unified communications tools like Lync Online can help to facilitate the rest of your journey to the cloud.

▶ Sign up to join Yammer:

▶ 1-month free trial of Office 365:

▶ 1-month free trial of Microsoft Azure:

▶ 30-day free trial of Windows Intune:

▶ 30-day free trial of Dynamics CRM Online:

If you're an ICT professional, you might want to be a bit more adventurous.

Microsoft UK government industry manager, Richard Shipton, explains, *"Most public sector organisations will have some kind of MSDN (Microsoft Developer Network) benefit. I'd advise anyone who's technically savvy and willing to experiment just to log in to MSDN, activate your Azure benefit and just try it. Create a VM (virtual machine). Create some storage. Take something you had stored on prem, marked no higher than IL2 and stick it into Azure and see how easy it is."*

6.5 Set strong cloud foundations.



Work with suppliers and contractors who have experience in implementing cloud solutions. Ensure your core IT is in good order including network infrastructure and identity management sub systems. These are critical to the long term success of any cloud based solution in your organisation. Many cloud projects get held up when networking, identity, data quality, or security policy issues come up and need resolving in real time.

“Getting a pilot of Office 365 or Azure up and running is something customers can do with no real technical knowledge and no real support from Microsoft,” says Microsoft bid manager, Paul Tarttelin. *“Taking on a pilot tenancy is very simple to do. We use the word tenancy because in a way you’re renting – it’s very much a buy-as-you-use service. You can set up mailboxes to see what Lync and SharePoint do, etc. It’s very easy.”*

However, he warns, *“There’s a big difference between doing that and deciding you want to put all your organisation’s email and intranet onto Office 365. That’s a much bigger leap. We help customers do this with our Cloud Vantage Managed Deployment service.”*

We also offer a service called Managed Lifecycle Engagement, which helps customers remodel their operational processes to make them compatible with using the cloud. Both services are listed in the G-Cloud v4 CloudStore.

Alternatively you can opt to work with one of the many Microsoft partners who are offering their services through the CloudStore.

6.6 Identify early wins.



Always try and identify early wins, 'low hanging fruit' and set up lighthouse projects. These early projects usually have benefits which can be easily realised in short timescale.

They give confidence to practitioners and users alike, will help with further education as to the art of the possible, help with change management, and also help to refine the business case for larger projects.

- Always pick projects that have easy targets and objectives and can be managed with just a small set of resources to begin with.
- Be ready to make lots of quick course corrections, be adaptable to unforeseen issues and keep everyone informed.
- How long it will take to move systems and processes to the cloud depends on the services you're using and the complexities involved.

Something like introducing Yammer for collaboration can take just a few days, and a few weeks to build up momentum. Developing and launching a bespoke app is likely to take considerably longer, however if you're planning to host it in the public cloud you can effectively miss out the load testing phase.

"You need to test the app initially to make sure it has been written appropriately to scale. But once it's live, if you get into peak situations, the system can just get more resources," reassures Microsoft UK head of solution development for the public sector, Carlos Gomes.



With an in-house solution you would have to source and configure a new server with enough capacity to cope with the peak levels of demand you anticipate – that might take weeks. Cloud computing takes those delays and costs out of the equation.

Off you go and it scales.



6.7 Implement, configure, iterate and feedback.



The Government digital service design manual offers some helpful advice on the stages you should go through when planning and implementing digital services:

Discovery

Research the needs of your service's users and explore any technological or policy-related constraints.

Alpha

Create prototype solutions to meet your users' needs, and test them with a small group of users and gather feedback.

Beta

Develop a fully working version designed to scale to meet demand and release a test version to the general public.

Live

Launch the 'final version', but remember that you should continue to improve the service in response to new needs and demands.

 [See the manual](#)

Also always try to remember to buy services you can configure, rather than customise.

"If you're using ready-made cloud services, you need to forego a certain amount of custom tailoring and bespoke design," recommends Paul Tarttelin.

"You can build a completely tailored, customised CRM system using Dynamics CRM Online, but we strongly advise that customers keep it simple and make use of the service as it's provided. This is one of the key principles of a successful cloud adoption strategy."

"When it comes to something like the evergreen service, every line of bespoke code has to be checked to make sure it works in the newly upgraded version. You're much better off keeping it simple and signing up to service as it is."

So customisation, such as changing the system to accommodate specific complex workflows, can cause problems. However configuration using the options available in the tool will enable you to tailor it to a certain extent without causing any problems with upgrades.

Instead of looking for ways to change tools so they accommodate your existing internal processes, it's worth considering whether moving to the cloud could provide an opportunity to simplify and streamline your processes.

Always continue with a process of continuous improvement through iteration and agile process development, rather than a 'big bang'. And always gain feedback from users of new cloud based solutions. Whereas changes could have taken many months, cloud solutions can typically be reconfigured and changed very quickly on the basis of constructive feedback. Develop ways in which you can capture feedback, analyse the trends and focus on the changes that will have the biggest impact for the most users.

6.8 Overcoming challenges.

There are three main types of challenges you're likely to face when planning your move to the cloud:

1. Security

The most obvious challenge you might face is ensuring that moving to the cloud doesn't compromise security or protection of sensitive information.

The key is to segment your information and keep anything very sensitive in-house or on a private cloud solution.

2. Existing suppliers

If you're currently tied into an IT management contract, you may find yourself facing contractual challenges. For example your supplier may charge you for allowing you to move data to the cloud. Resolving these challenges may take some careful negotiation, however the proliferation of competition that the cloud creates may give you some leverage.

3. A new pricing model

Working out the cost benefits of cloud services can be challenging, when you're accustomed to working with fixed pricing. Cloud service subscription models sometimes work on a usage-per-month basis, so quantifying the costs up-front isn't always easy.

6.9 Using the G-Cloud framework.



The best solution is to do your research and take advantage of the support available, whether from Microsoft, one of our partners or an alternative provider.

The G-Cloud Framework's CloudStore offers a great opportunity to make informed choices about the suppliers and services to use and achieve good value for money.

"G-Cloud" was initially conceived as procurement framework. All the services listed in each release of the CloudStore catalogue are pre-approved, the suppliers have all been through a full, legally sound competitive tender process to be included. That makes the procurement process much simpler for you.

The services listed in the CloudStore are re-tendered each six months, allowing new vendors, including SMEs, to join in.

The hundreds of suppliers whose services are listed in the current catalogue include many Microsoft partners, including some who offer hybrid cloud solutions, allowing you to combine the advantages of public and private clouds.

The CloudStore is not currently an online shop. It's a static catalogue where you can browse the services available and their specifications and service level agreements to work out which best meet your needs. You will still need to sign a G-cloud Framework call-off contract directly with the supplier to buy them, which all the G-Cloud Framework suppliers can provide.

Before browsing the catalogue it's best to have a specific idea of what you're looking for. Then you can sift through the relevant vendors to create a shortlist.

6.10 Case studies.



For more information on the following case studies click on the links

 [Read about the G-Cloud strategy:](#)

 [Visit the CloudStore:](#)

 [A quick guide to Microsoft products and services on the G-Cloud framework:](#)



Conclusion.



““ People tend to get hung up about the technology, but the focus should be on what it does, what the business benefits are, and what the service levels are. ””

Daniel Batts, Microsoft Head of Business Development

Speed of deployment, flexibility, scalability and versatility of consumption models are just a few of the many benefits of cloud computing. For public sector organisations, access to a pre-approved list of services on the G-Cloud Framework CloudStore makes it even easier to take advantage of these.

“From the customer’s point of view the focus should be Total Cost of Ownership and Value. From the customer’s point of view the whole idea of cloud computing is that you make the technology disappear!” says Microsoft Head of Business Development, Daniel Batts.

What really counts about cloud computing is how it gives you the opportunity to re-imagine the way you do things. Done right, moving to the cloud could enable you to improve the services you offer, deepen engagement with both colleagues and the public to become a more agile and responsive organisation, all while saving money.

Now that is definitely worth thinking about!

Additional resources.



Details of the Cloud First policy:



Information about Digital by Default:



Microsoft's public sector pages:



Microsoft's government blog:



Microsoft's health blog:



[Click here to return to the start](#)

