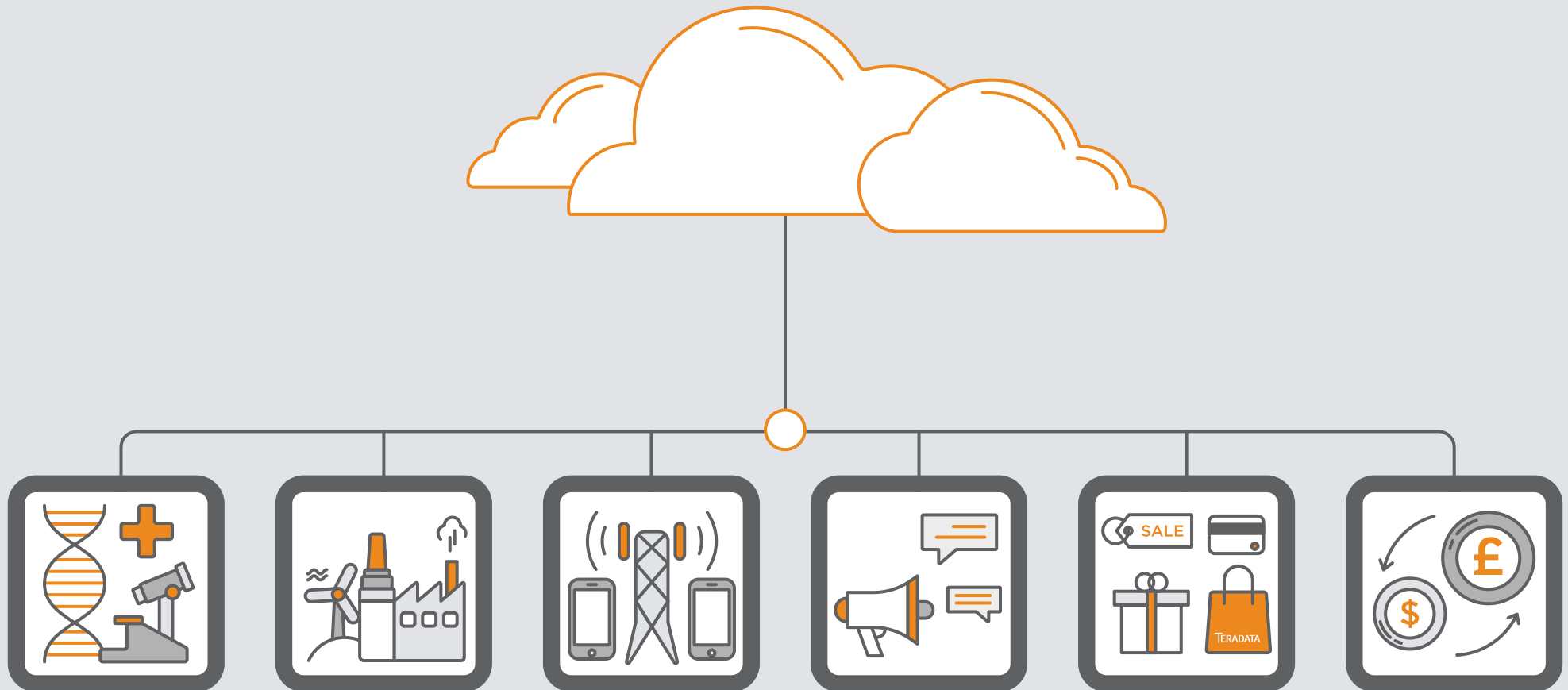


The Road to Data in the Cloud

A guide to navigating cloud migration



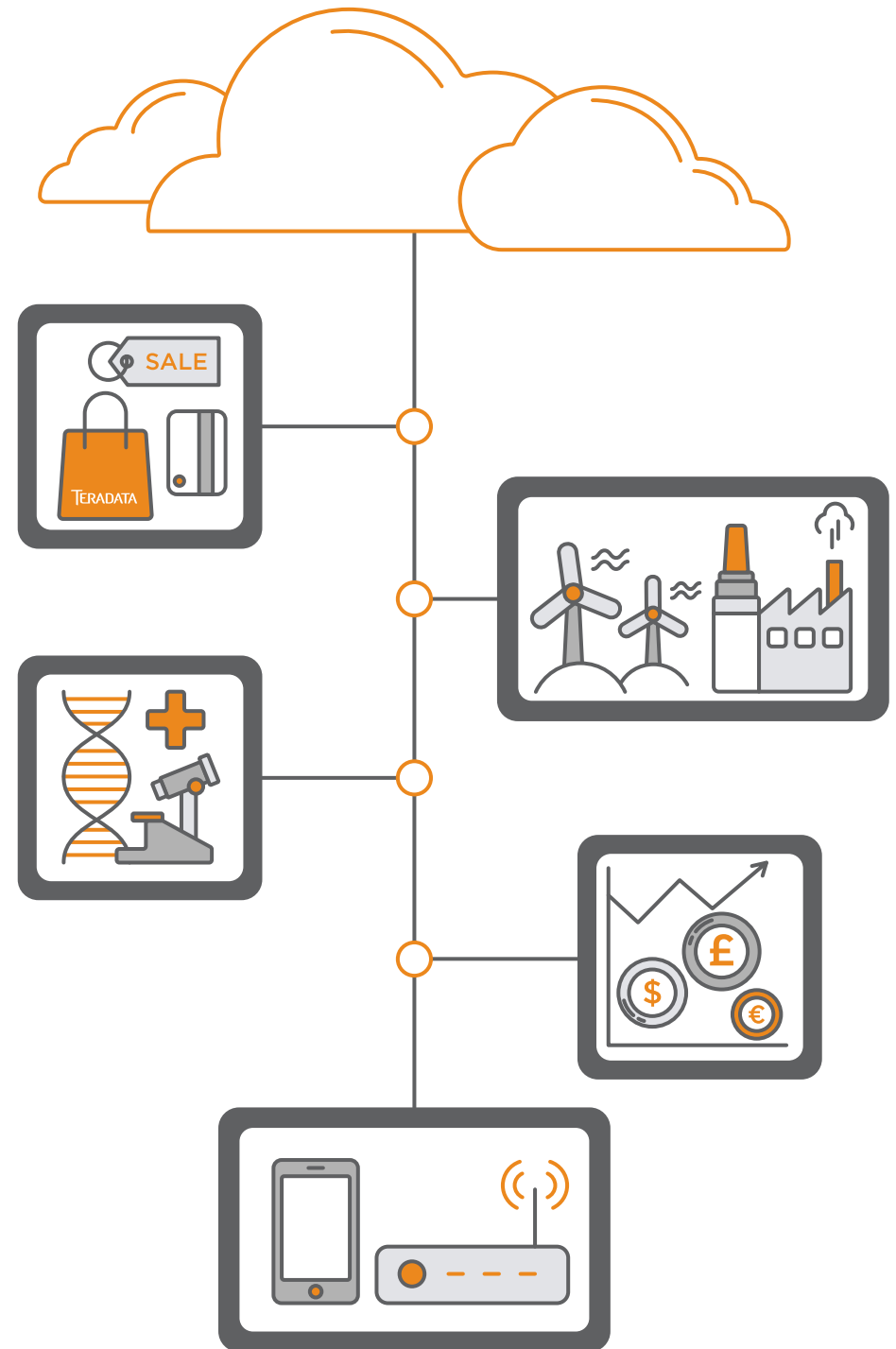
Executive summary

Cloud computing promises more than business efficiency and cost-saving – it plays an integral role in digital transformation. And yet some companies have avoided cloud migration, fearing the technology will increase IT complexity and costs, and pose a significant threat to data security.

The fact is, there are myriad cloud models and management strategies to ensure data is protected. With research and a thorough plan, companies will benefit from the positive opportunities of greater agility, better resource utilization and reduced power consumption. And if businesses are to maintain their competitive edge and not get left behind on the accelerated path to digitization, cloud migration is no longer an option – it's a requirement.

In this report, Teradata will offer guidance to:

- Help organizations plan a streamlined transition to cloud. And this isn't just the public cloud, but increasingly popular hybrid and private clouds, too.
- Cover how to gain senior leadership buy-in; how to choose the right cloud model for your organization's application portfolio and security requirements, and the various migration strategies available.
- And finally, look at where different sectors are positioned on the road to cloud.



The rise of data in the cloud

Cloud adoption is growing rapidly. Teradata's international study found that by 2019, over half of IT (56%) and customer data (53%), and two fifths of HR data (43%) will reside in the cloud.

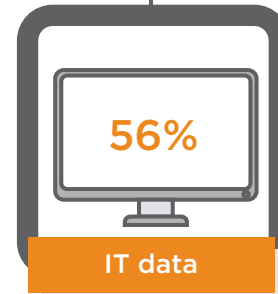
Despite this, fear over security is holding eight out of 10 business executives back from fulfilling its potential. In a world where daily security breaches and cyber-attacks dominate the headlines, the ambiguity around cloud computing can create fears about the security of corporate information.

Though most businesses are familiar with the cloud, there are many misconceptions of exactly what the technology has to offer.

A quarter of executives (25%) believe that cloud adoption would result in a lack of control, while over half (52%) cite a lack of senior leadership buy-in preventing them from transitioning from physical servers.

“There are many misconceptions of exactly what the cloud has to offer”

By 2019...



...will reside in the cloud

The fact is: cloud is here to stay. Gartner predicts that by 2020, public cloud infrastructure workloads will experience 60% fewer security incidents than those in traditional data centers. And with benefits including improved levels of agility, enhanced customer experience, and on-demand resources and scalability, what have companies got to fear?

Pursuing greater productivity by migrating applications to the cloud doesn't mean a decline in security, but it does require education to ensure teams understand new methods of monitoring and protecting information.

Ultimately, failure to embrace the cloud could be damaging to a business's financials. IDC says that removing the barriers to cloud computing in Europe could generate up to \$625bn (€587bn) worth of growth every year between 2015 and 2020. It's time organizations faced their fears and seized the vast opportunities cloud has to offer.

What are the common cloud misconceptions?



Overcoming cloud misconceptions

With so many false assumptions about the cloud, it's important to understand exactly why migrating IT infrastructure will benefit business before embarking on the road to cloud.

There are two common misconceptions associated with moving to the cloud: 1) that it is complicated and 2) that it causes major changes to an organization's working environment. Migrating to the cloud needn't be complicated if you break down the process. A good adoption plan uses cloud services that easily integrate with existing on-premises systems and security models.

In fact, it's best approached by determining which applications make sense to move and which don't on a case-by-case basis. This way, employees shouldn't notice a difference in how they access services once they move to the cloud.

“A good adoption plan uses cloud services that easily integrate with existing on-premises systems and security models”

Why move to the cloud?

Because it makes good business sense.

There are myriad benefits of cloud computing that will allow your organization to streamline operations and grasp new business opportunities. Here are just a handful of reasons you should begin your cloud migration journey today:



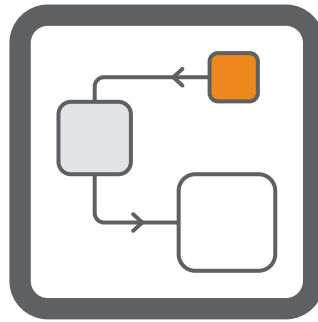
Agility

Creating environments for new applications to be produced faster, allowing development teams to use their time more wisely.



Usability

Simpler interfaces, removing some of the extensive training on how your system works.



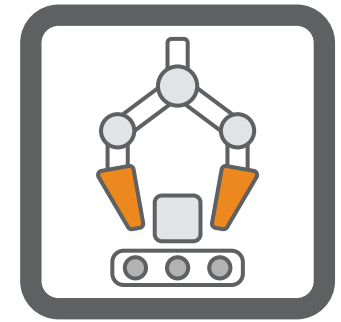
Scalability

Scalable infrastructure, creating powerful resources on-demand.



Efficiency

Creating and then moving cloud environments is quick, efficient and cost effective.



Modernity

A chance to modernize outdated processes.

The Road to Data in the Cloud

The road to cloud is designed to simplify the process so you can begin the journey with confidence.

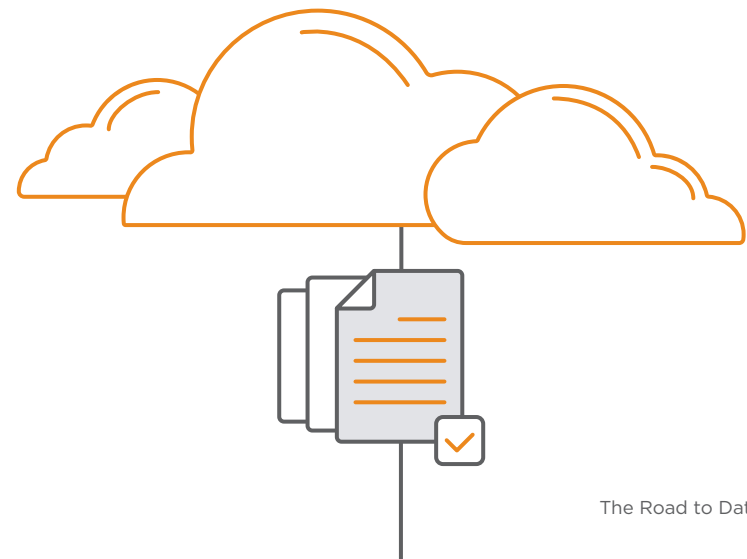
Step 1

Develop a phased approach

A considered migration plan consists of three parts: a risk analysis and mitigation assessment, a long-term strategy for how on-premises and cloud components will work together, and a phased implementation framework that enables your organization to move services to the cloud at the right time.

A thorough assessment of your organization's current situation is imperative. This includes your business's maturity, culture, and application portfolio. Cataloging the services you are using – from business intelligence to data visualization applications – will help you identify which cloud services you need.

In order to get senior leadership buy-in, prioritizing non-mission critical workloads that are typically run on-premises (such as test and development) are good to begin with as they minimize the potential for disruption. We recommend assessing applications based on their risk factor and how interconnected they are to other applications. Standalone applications that run in isolation are far easier to move than heavily integrated systems.

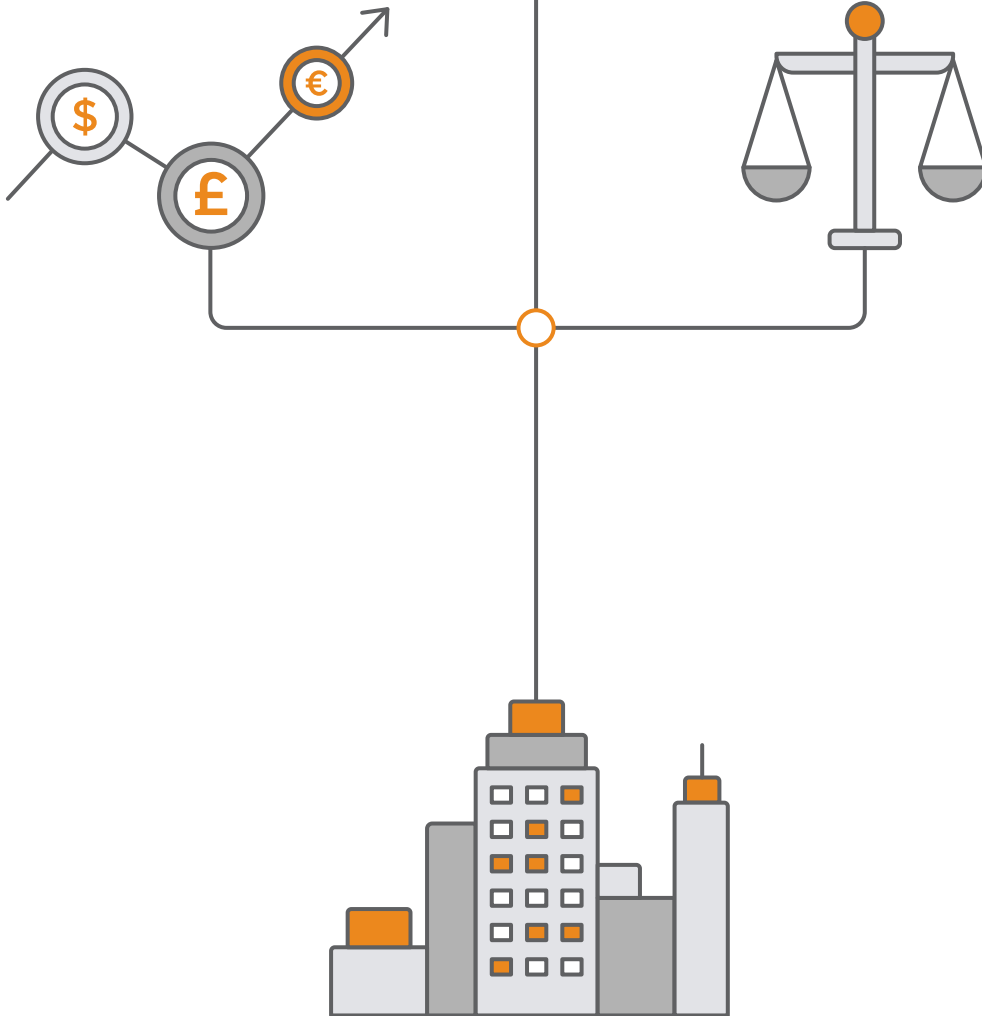


Step 2

Break down the economics

Understanding your current costs will help determine a migration model that offers cost efficiency. The next step is calculating the total cost of ownership (TCO) of your existing environment. While the media hype around cloud is focused on lower costs, migrating for this reason alone will result in disappointment. Increasing applications' agility and shifting to a subscription-based model is the true value driver.

Calculate TCO for current in-house applications compared to the cost of using the cloud. Address the capital cost of hardware and software, maintenance charges, facilities costs, network costs and support fees in both of your analyses. Labor is also an important cost consideration; this includes time spent by your team to support all aspects of the on-premises environment, since this will likely be reduced due to the value of services bundled into cloud offerings. Be sure to factor in the cost of training staff on new skills and any external consultation needed to ensure a streamlined migration.



Step 3

Decide on your cloud of choice

Once you've created a business case (step 1) to perform a cloud migration and calculated the total cost of ownership of your existing environment (step 2), it's time to weigh up the pros and cons of each type of cloud. The first decision is choosing whether you will use a public or private cloud, or go with a hybrid deployment (or environment), and then ensuring vendors meet your specific data security, availability and portability requirements.

Which cloud is right for you?

- **Public cloud** stores data on shared servers at third-party suppliers. This style of computing is elastic, meaning you can customize its services to suit your needs and scale up or down as appropriate.
- **Private cloud** services can only be accessed by a single organization and are maintained onsite or at a third-party data center.
- **Hybrid cloud** consists of a mix of on-premises resources coupled with public, private and/or managed cloud orchestrated to work together.

“Cloud adoption is extremely reliable; there is a range of cloud options out there to suit every security need”

Weighing up the pros and cons of cloud computing



Public

- + Cost savings and flexibility with initial speed of deployment.
- Flexibility varies from provider to provider. Check what is possible before signing up.



Private

- + The costs and flexibility benefits achieved with cloud computing, without data residing in a public environment.
- Higher upfront costs than public cloud, but has the potential of long-term saving that exceeds public cloud implementations. More expertise is likely required to maintain a private cloud environment if kept on-premises.



Hybrid

- + Offers the flexibility and customizability to choose from both public and private offerings.
- As this is the most complex cloud solution, a provider that understands your business priorities is essential.

Step 4

Pick your applications

Now it's time to identify which applications to migrate, list them out and set up a test bed for quality assurance. It's a good idea to start with smaller, non-mission-critical applications but don't limit yourself to just these.

The true value of cloud computing's scalability and flexibility is reaped with larger, mission-critical applications. To avoid costly vendor lock-in, find a portable provider that allows you to shift licenses from one deployment type to another as your needs change.

Understanding the technical challenges

As you identify applications for migration, consider the following:

- **Data gravity** — where the current data resides and sources of future data
- **Data migration** — how data will be moved from one repository to another
- **Scalability** — how quickly, and in what increments, you'll be able to increase or decrease capacity
- **Backup & restore** — whether, and how frequently, data will be saved in a safe location — and for how long, and by whom?
- **Availability SLAs (Service Level Agreements)** — what assurance (if any) does the service provider give for guaranteeing resource availability?
- **Network connectivity** — understanding whether existing network bandwidth is sufficient once key applications and data are moved to the cloud
- **Latency** — mitigating the potential effects of separating data from applications that need speedy access to data

Where are different industries on the road to data in the cloud?

Retail

48% of retail companies store their data in a physical data center.



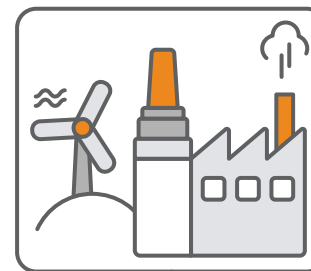
Healthcare

59% of healthcare organizations will move customer data to the cloud by 2019.



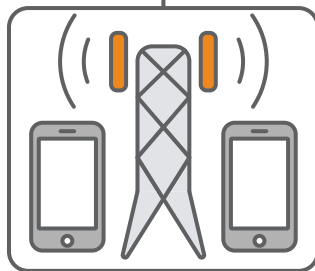
Utilities

will prioritize moving IT infrastructure (64%) and R&D/Engineering data (52%) to the cloud by 2019.



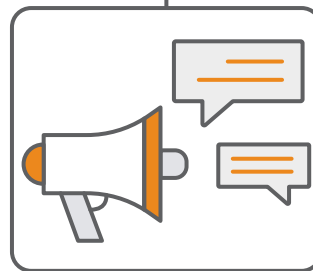
Telecoms

48% of organizations anticipate a significant increase in cloud storage by 2019.



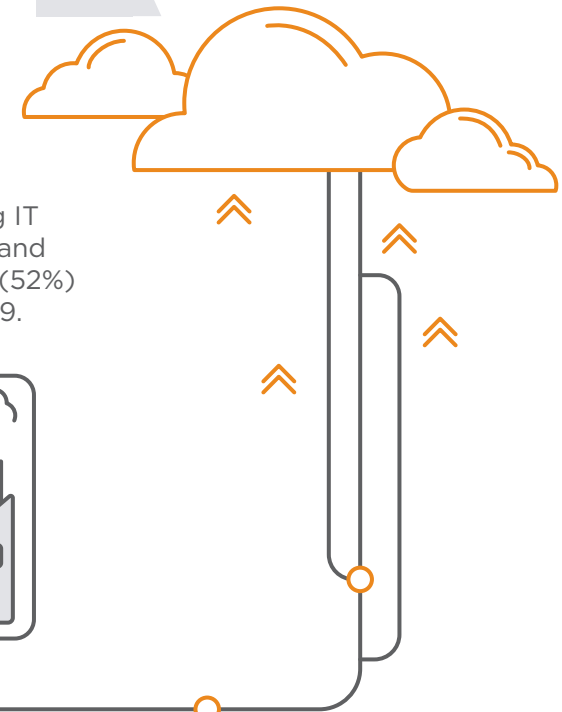
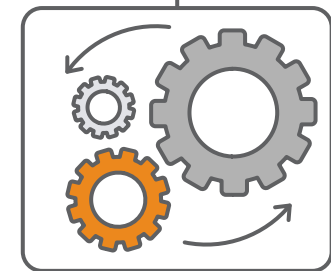
Public Sector

40% of public sector companies currently store their data in a public cloud.



Manufacturing

By the end of 2017, 50% of manufacturers will exploit the cloud.



BE BOLD

Moving to the cloud doesn't have to cause unease. If you're smart about research and implementation, cloud computing can be just as secure as an on-premises environment.

Still worried?

1. Vet potential partners
2. Choose a cloud service that supports end-to-end encryption
3. Ensure your workforce is properly trained on security best practices

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