

Unwrite your future ■

Digital Architecture



BUSINESS

Every generation has a set of beliefs that appears self-evidently true.

And one of today's most popular truisms is that digital's killing the analogue star. Mature companies are in a mortal race to evolve. Why? Because digital pure plays are invading an ever-growing roll call of industries, giving consumers and business customers what they want in new ways 'traditional' companies find almost impossible to match.

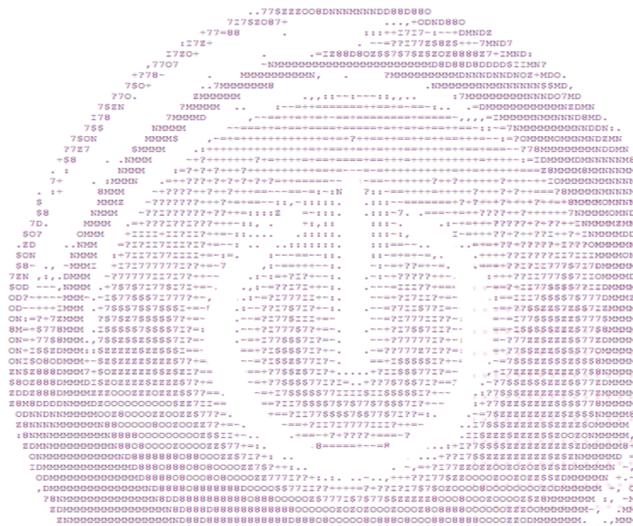
It's time to transform – or die. But the problem with self-evident truths is that often we accept them without necessarily embracing them. And that's because they are not always as wholly self-evident as they first might seem. Not when you're

down in the weeds of implementation. While all of us recognise the need to transform, how many of us completely understand what this means – where does the complexity start and where could it, actually, lead?

Do we end up paying lip service to digital transformation more than actually doing it? Have we accepted it requires a significant (perhaps even drastic) shift, with buy-in across the whole organisation, a monumental cultural update, and perhaps the one thing that executives are not being afforded: time?

Talking to our customers, we think there is wariness about real change, particularly when a business is increasingly profitable. Why change a formula that's currently working? It's easy to discount the future, especially when the board and shareholders are breathing down your neck for better numbers this quarter.

But if the self-evident beliefs of our age are right, there's a better chance of every organisation thriving if a full digital transformation does take place. How do we square this circle? How do we unwrite the future?



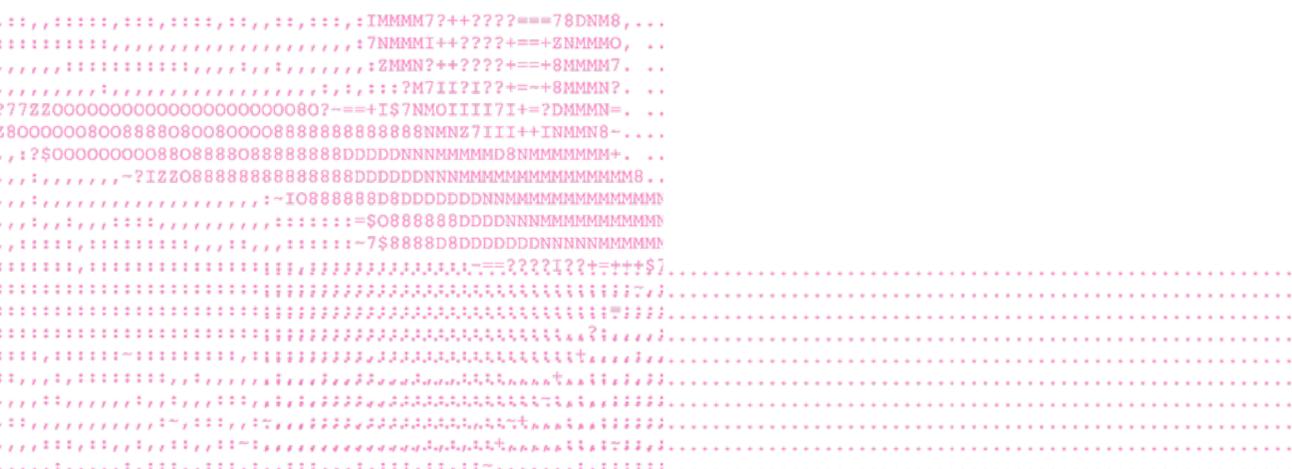
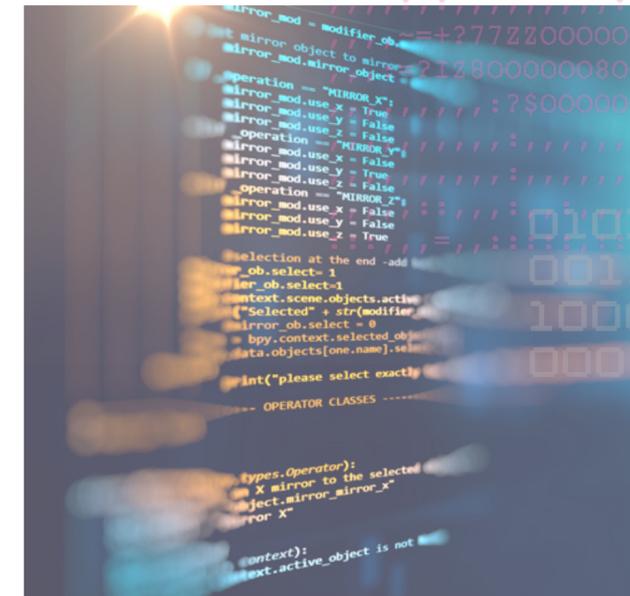
What is digital anyway?

Those of us not born to IT can mistake ‘digital transformation’ for a new website or slightly better IT, rather than transforming the entire organisation to a continuous digital state.

It’s about having a platform – a digital one – to run the whole organisation. Only then will the future be truly unwritten.

And that tracks back to the fundamentals of infrastructure – being able to get data into, around and back out of the business. From which – with other digital tools – springs the ability to create innovative products and delight-laden customer experiences, all driven by real demand. And the key – the starting point of digital transformation – is understanding what a digital platform actually is. And why it’s different from a classic IT architecture.

The starting point of digital transformation is understanding what a digital platform actually is



How did we get here?

What many of us still operate our businesses over, is the result of decades of development and, often, layers of complexity and multi-point integrations.

ERP systems are at their heart and the common architecture has accreted functions across HR management, CRM, accounting, sales, business intelligence and supply chains. Latterly, vendors realised the need for cloud, mobile and 'big data' capabilities too.

Once committed to ERP, it's an expensive business. Not only to expand and integrate capabilities but to licence, update and maintain. Other systems are purchased for other purposes and need to be bolted-in. The result is often a complex myriad of business systems that all belong to a heavily-customised (rather than configured) whole.

Every system should communicate with each other. But in practice this was often too costly, creating walled gardens of data within the business. And visualisation? The commercial guys need to make do with plenty of spreadsheets.

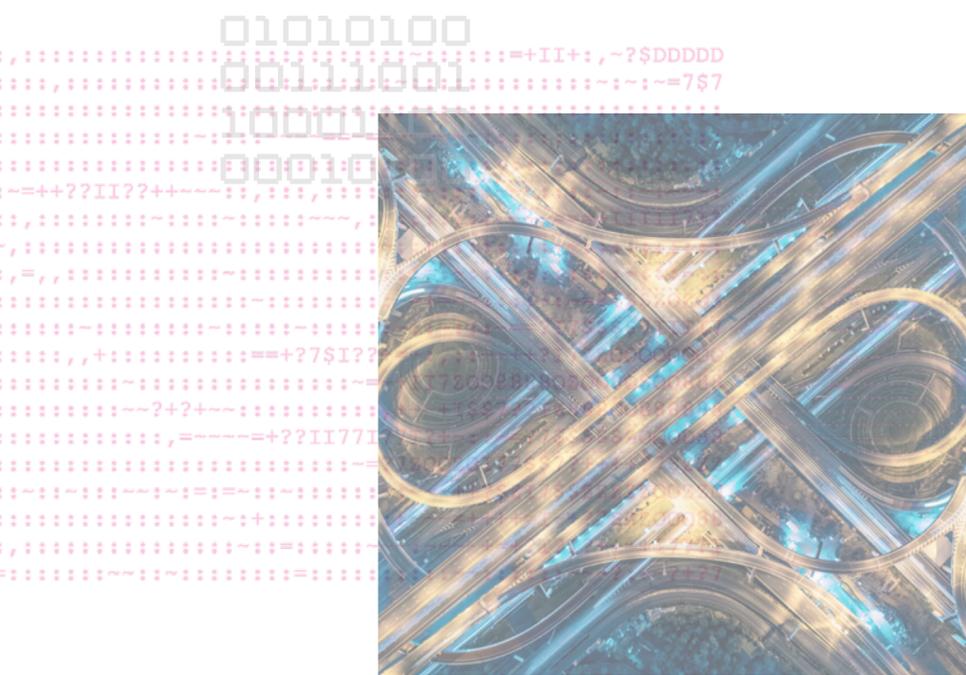
Despite this downside, many of us are rightly cautious about moving away from these systems. Why spend money and take risk on the upheaval of something new? Plus, the ERP vendors' business model was built on the need to create dependency. And they achieved this very effectively. By owning the core architecture, they achieved their own commercial aims.

But Classic IT architecture is looking less and less fit for purpose. Data simply can't move in, around and out of the business at the speed digital pure plays achieve.

One of the core reasons for this is APIs. By moving information between applications and databases without revealing all of the source software's code, APIs save time and reduce security risk. And ERP systems have long incorporated them. Although certainly not from launch.



Classic IT architecture is looking less and less fit for purpose



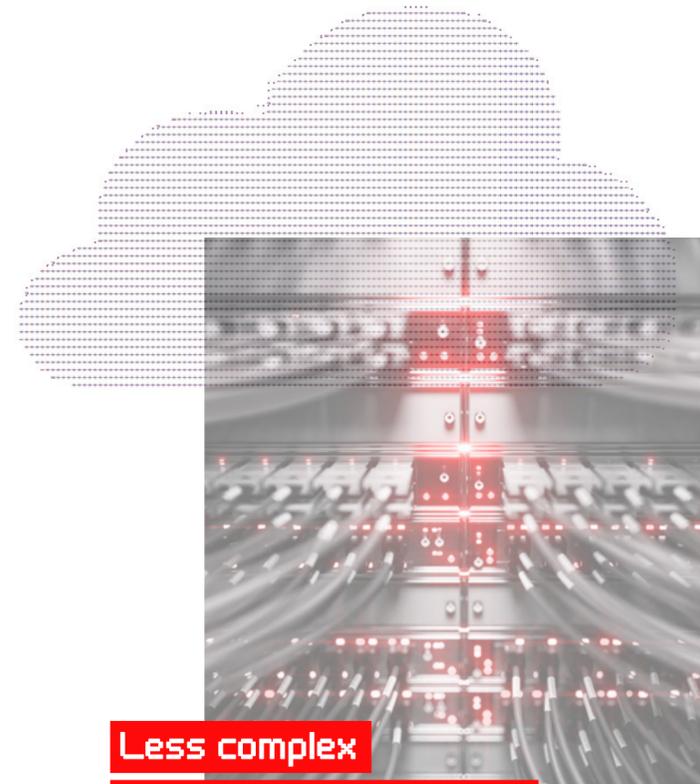
>> How did we get there?



The difference is that a digital pure play's architecture is predicated on APIs, services and microservices. Rather than adapting systems to enhance data flows, they're built on the assumption that data has to be – and actually is – universally fluid. Without expensive, time-consuming integrations.

Perhaps the other key difference is the cloud. Classic IT has its servers in owned – or at least walled – data centres. Effectively 'on-premise'. Secure connections are required between each physical location. With a firewall as the perimeter.

Meanwhile, digital platforms exist in the cloud, with all the well-rehearsed benefits we know this brings. Brought together, APIs and the cloud deliver free flowing data at a fraction of the cost of ERP.



**Less complex
architecture is simpler,
easier and cheaper
to maintain**

They are also far more elastic – utterly scalable and flexible. Components can be swapped in and out at much lower cost and risk.

New technologies like AI can be slotted in quickly. The tech is mostly device-neutral, Internet of Things (IoT)-ready and, whilst requiring more bandwidth, needs a less complex network architecture. Which is simpler, easier and cheaper to maintain.

In contrast, classic IT is a loose and expensive integration of systems, connections and applications, which creates islands of data that lead to slower decision-making and product innovation.

Perhaps most importantly, all this tends to worsen customer experiences, sapping competitive

advantage. And neither does the security argument play into Classic IT's hands. The perimeter that surrounds the entire IT environment sounds comforting. But it comes with the need to invest in security patches, bugs and fixes – as well as niche security applications, as threats have become more sophisticated.

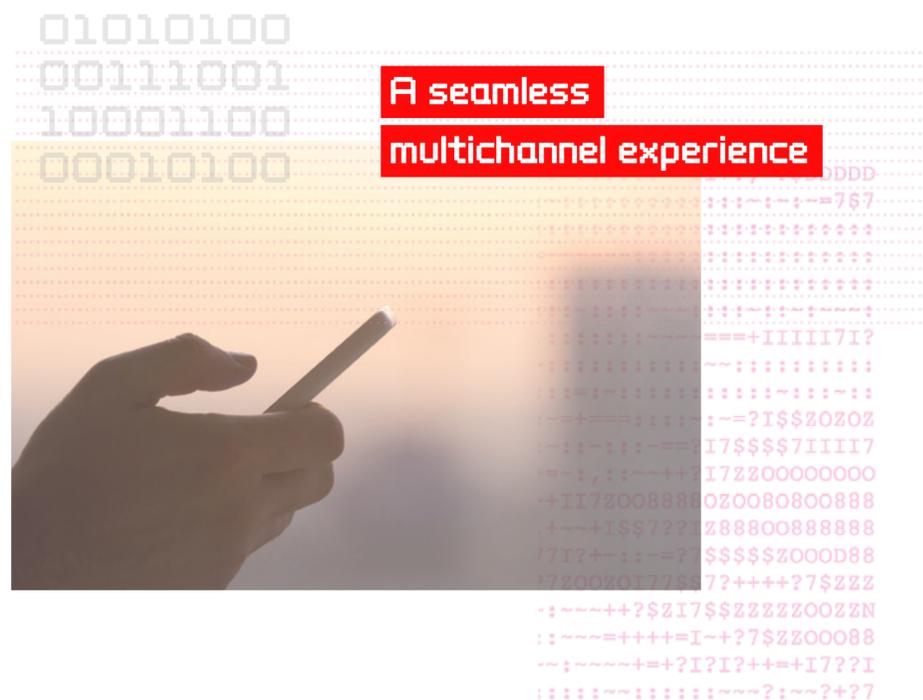
The flaw in the walled-garden is that once a hacker is in, they have access to roam the enterprises' systems as they see fit and cause havoc – halting systems, stealing data, and holding the business at ransom.

Cloud systems' security processes are often configurable down to a per user/per app/per data point level.



The importance of being digital

Digital architecture is not without its challenges. It certainly requires a different mindset to create one, and a different culture to operate it.



Command and control just doesn't work when it comes to agile, test and learn and iterative environments. But even on the basic tech front, things change.

It needs plenty of high quality bandwidth to ensure that data can get into, around and back out of the business in real-time, whether it's to specific devices or machines with a multiplicity of APIs, or even a mix of both. But then there are many benefits other than it providing a seamless, integrated platform to flow data with ease.

Perhaps the most significant revolution is that the digital platform is ready to be built upon and changed without a long clunky process, within a big price ticket environment.

Scaled cloud environments are often used in order to ensure the business can ramp up or down their IT requirements on demand. Software-as-a-Service is a key delivery model for business applications.

API requirements for a range of applications are established from the offset, meaning that data can flow between channels, and next-generation switches and routers are used to deliver data packets. On the latter point, in a recent report, IDC even pointed to digital transformation initiatives as a reason for an uplift in router and switch sales.

As a result of these cloud-based services, employees are able to work from anywhere, make real-time decisions, switch to digital processes rather than time-consuming and space-wasting paper.

Voice-over-IP can mean costs of calls are lower, and flexibility of who makes the calls is higher. Big data files and HD video can be shared easily over cloud-based e-mail, social, project management or storage apps, and the additional speed means video-conferencing can be used to get closer to colleagues, partners, clients and prospective customers.

The digital platform enables companies to provide a seamless multichannel experience while enabling big analytics and machine learning. As well as readying us for IoT and even further-out tech, like augmented reality.

Castles vs constellations

The simplest way to draw the technical comparisons between a 'classic' and 'digital' architecture is to conceptualise the differences.

The classic architecture was built at a time when IT was considered, at best, an important strategic enabler for elements of a business – not the key strategic differentiator for the entire organisation, or its most fundamental 'operating system'.

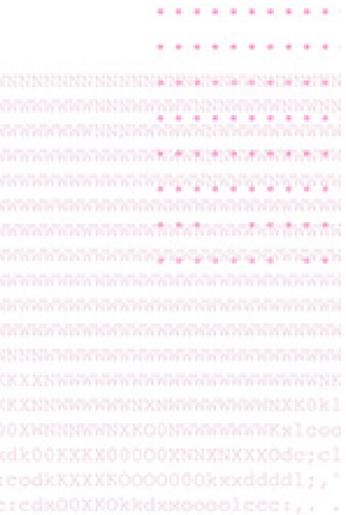
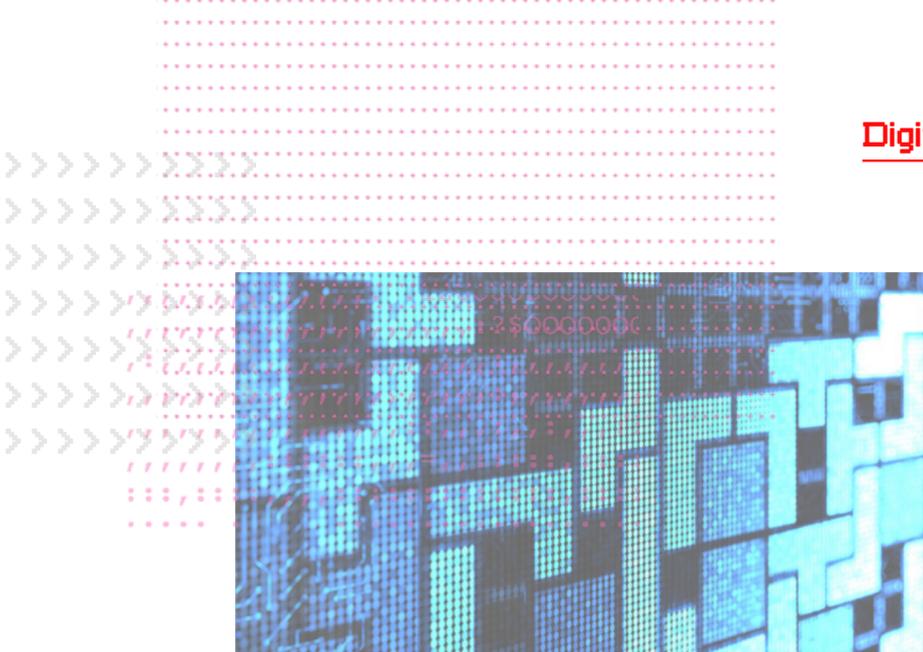
Over the years, as technology has become more important, this has been reflected in the way organisations have built upon their classic architecture. This has in turn created a castle mindset – one that focuses on strengthening, building out and bolting-on updates, new software and hardware, and security fixes to what exists.

It is a very structured approach. Waterfall and three-year planning cycles are its heart. Technology is built within and on-top-of existing technology. But ultimately, after a few decades of this approach, it can create a complicated map of systems that is difficult and expensive to manage and maintain – and doesn't provide end users the services they want, especially when the digital possibilities are developing at an accelerating rate.

That's because the customer – whether the internal employee or the external purchaser – is necessarily placed outside. The fiercely defended

walled-security perimeter must come between the classic IT structure and the outside world. The customer wants instant access to services and direct engagement with the company – but this just isn't possible. Within a digital platform however, the customer is the focus. The digital platform is, by its very nature, more a constellation of elements.

And with the right mindset it's possible to make that constellation exist 'around' the customer. Whatever elements are used in the build, each individual element is secure on its own, without being opaque like the classic architecture that preceded it.



>> Castles vs constellations

This means breaches – if they do occur – can be isolated and dealt with without impacting other elements. Which means data can be more accessible without the same level of total risk. And that helps the organisation become dynamic, open and agile, still secure and compliant. Fluid data helps direct new product development.

And older products can dissipate without the need for major remedial works across multiple, loosely integrated systems – as would be necessary on the classic IT structure. The nature of the constellated digital platforms is reflected in the change in nature of the IT teams that shape and maintain them.

The IT team no longer sees itself as a fixed cost centre in a digital environment. Instead it is a strategic enabler and provider of competitive performance that sits at the heart of the customer experience.

The digital platform also negates the security and cost fears that stem from ‘shadow IT’. In the classic architecture, shadow IT appears to allow the business to modernise and become more agile. Often the services better meet the needs of a department and its external customers, suppliers or partners. But, of course, they can also be a point of vulnerability. And so the rise of shadow IT has exacerbated the siege mentality of the average IT team. Which in turn become even more defensive and closed.

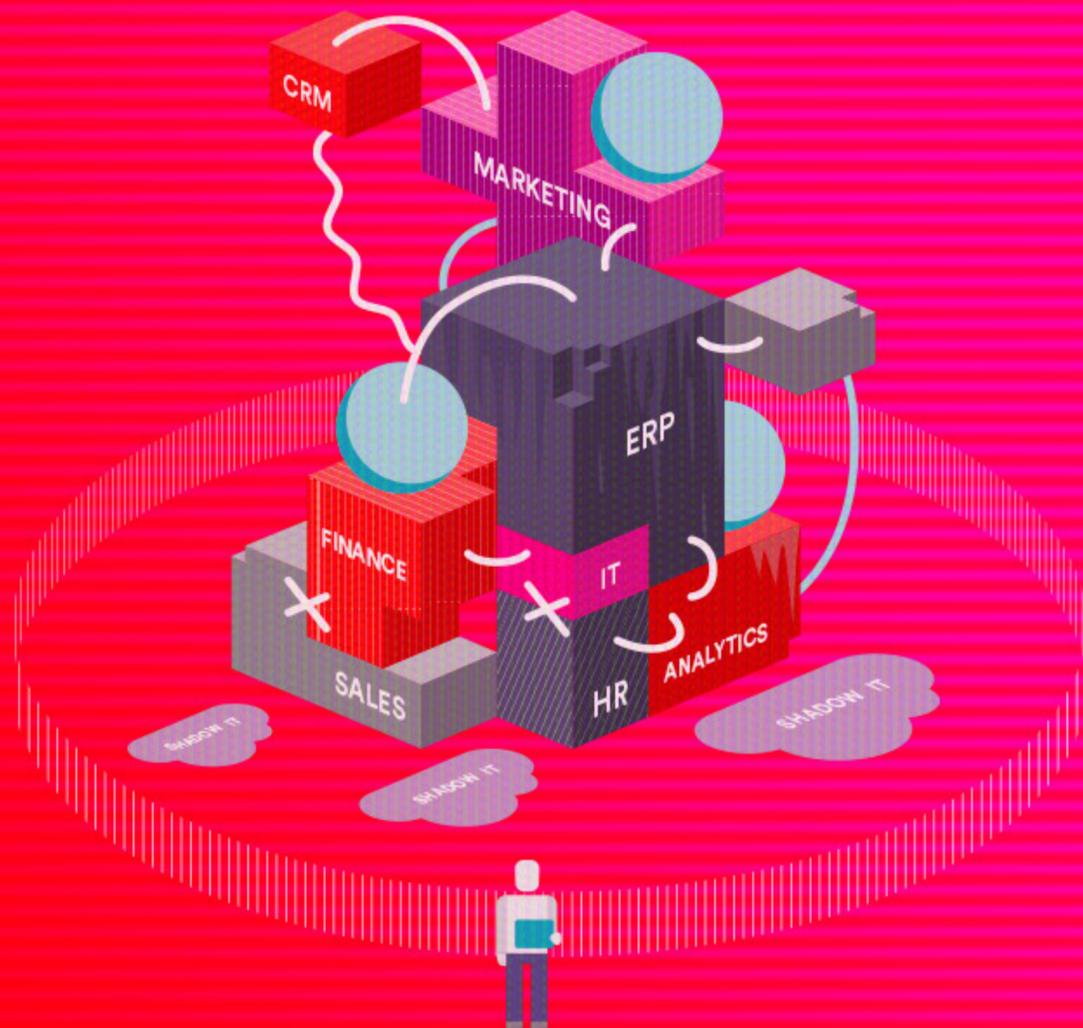
The digital platform solves this by providing the right capability at source – from the IT team. It can merge technologies which together seamlessly evolve, rather than being bolted on. All the tech works as it was intended to.

The IoT can immerse itself into the constellation and connect to all of the elements at once; in the classic castellated IT structure, it isn't possible to connect IoT devices to all of the different layers without major structural works. And that doesn't feel like unwriting the future.

Organisations become more accessible and less risky

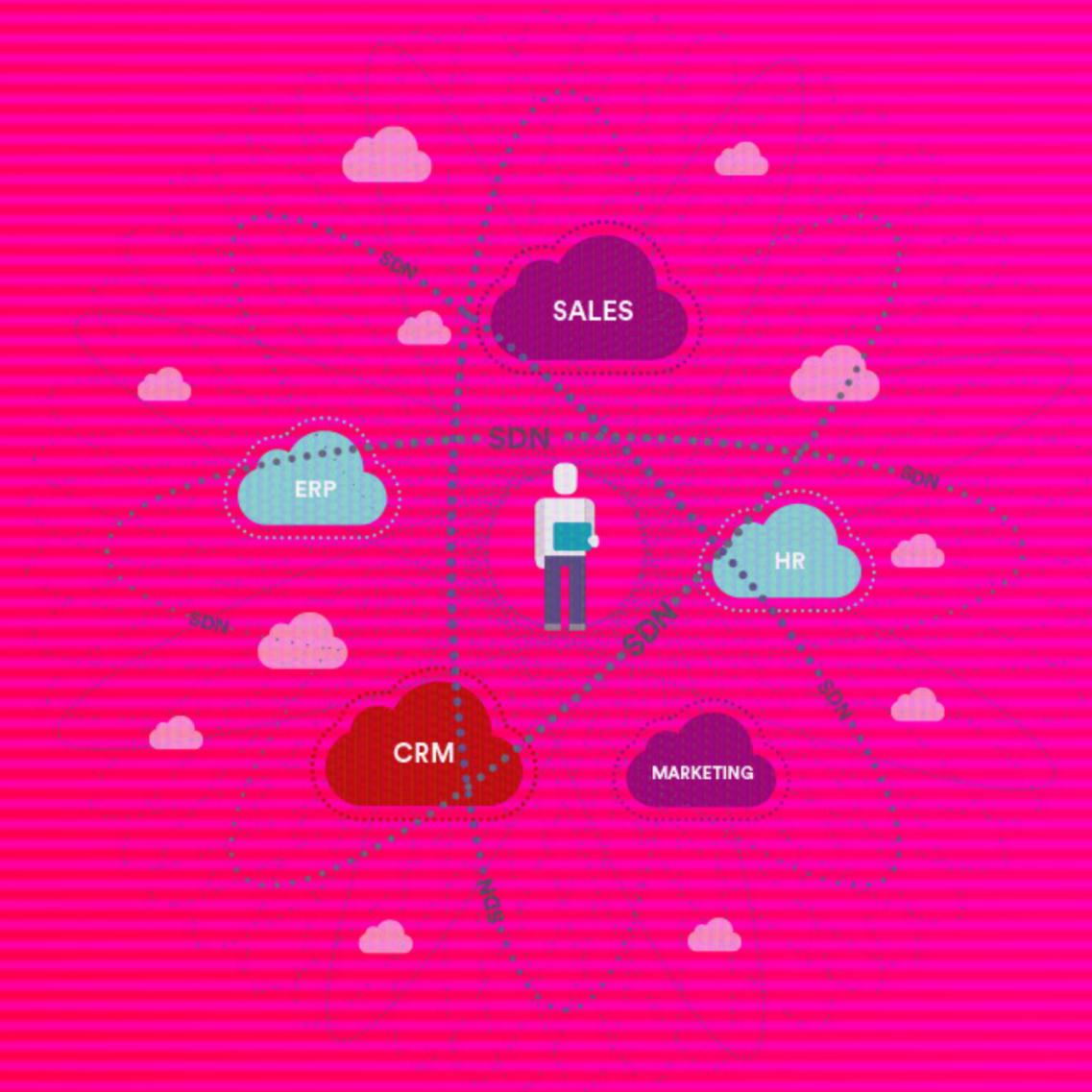


>> Castles vs constellations



Classic IT

Customer on the outside

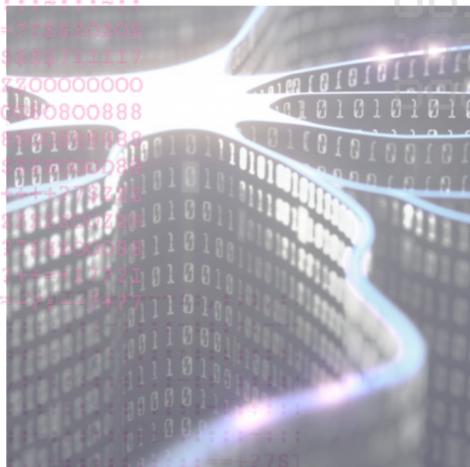


Digital Platform

Customer at the heart

So, are you ready to commit?

Looking at the two alternative models in this light, it's easy to see why true digital transformation isn't so simple.



Not only is it tech upheaval, it's a large shift in mindset. We have to unwrite what we know about the core importance of a single perimeter of defence and feel secure within a more open, constellation-minded approach.

And we have to be prepared for a relentless succession of change. In exchange, enterprise IT gets to achieve its preferred state – a fundamentally far more resilient and performant system to absorb the turbulence and disruption that our new accelerating digital environment creates.

But here is the rub. Unless we're willing to move away from the castle-like architectures we've built, nurtured and defended over decades, we're not actually engaged in digital transformation.

But even intent is not sufficient to drive the change. Some use what is known as a bi-modal IT strategy – a mixture of legacy and digital architectures to ensure there is no disruption to the business.

Whilst this may be a step in the right direction, it requires two different sets of teams, working with different methodologies. Those of us left working on 'old' IT can feel disillusioned, like we're waiting for the redundancy cheque as the digital transition progresses.

The tensions and culture clash this creates can slow down a transition at a time when it needs to be sped up. And when, if ever, will the old team disappear and allow the new team to run the entire show?

Sceptics even suggest that it's impossible to work in two different ways and effect a real transformation – perhaps it is a way to appease both those who are reluctant to change, and those who want to be using agile methodologies and emerging technologies.

But digital transformation isn't about making everyone happy, it is about improving the results of the business – it may require an element of ruthlessness.

We have to be prepared for a relentless succession of change

This is just the start

The benefits of digital platforms are clear. The self-evident truth is not a myth, it is real.



Now might be the time to start unwriting your future

Unwriting our futures is a very difficult task. Just because the benefits are great, doesn't mean they are easy to access. In fact, the opposite is usually true.

The process of transformation is probably best done at speed. Yet in the real world, that is not always realistic.

Simply put, IT culture has to change.

Management structures need to adapt. Waterfall and three-year planning cycles need to drop out of vogue. IT people and all senior people need to get comfortable with far more grey than they're used to.

But ultimately, this will become a life and death situation for most of us at some point in the relatively near future. Some industries have already been disrupted by digital platforms.

Others are being taken apart and reshaped right now. And those of us who haven't seen this hit are likely to be next – or at least soon. The cheque is most definitely in the post.

So perhaps today is the day? The day to stop putting off what needs to be done and start to unwrite your future?



Unwrite your future ■

We hope this helps you form your own digital architecture, and consider how a higher performance digital platform can unleash your digital potential.

Talk to us on 0800 052 0800

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