



# How TalkTalk halved their legacy estate

Faced with a complex and unwieldy legacy estate and the aftermath of a cyber-attack, TalkTalk undertook an ambitious modernisation and transformation programme. By working with Capgemini to empower and incentivise its engineering team to identify areas of improvement, TalkTalk achieved a 50% reduction in its legacy code applications and databases within the first 18 months and created a 'can do' culture that continues to dramatically improve efficiency, reduce costs, and enable innovation across the business.

## The situation

Founded in 2003 as a subsidiary of Carphone Warehouse, TalkTalk Plc was spun off as a standalone business in 2010. With an offering that includes mobile, fixed line, broadband, and TV services it is one of the UK's quadruple play operators and is currently ranked as the fourth largest after BT, Sky, and Virgin Media.

In common with many operators in the telco sector, TalkTalk has made numerous acquisitions over the years, including Opal Telecom, Blinkbox, Tiscali, Tele2, One. Tel, and the UK ISP business of AOL, subsequently renamed AOL Broadband. This resulted in an IT estate comprising a diverse and, to some extent, disparate group of applications and data sources that was hard and expensive to manage.

In October 2015, the company experienced a cyber-attack, during which the personal and banking details of some customers were thought to have been accessed. While no evidence emerged of any customers suffering direct financial loss, the need for change became more urgent.



## Overview

**Client Name:** TalkTalk Plc

**Industry:** Telecommunications and media

**Location:** Headquarters in London, UK

**Client Challenges / Business Need:**

An ambitious, multi-year acquisition programme had resulted in a complex legacy estate with more than 1,000 different codebases, 650 applications, and 750 databases. This created duplication, redundancy, and inefficiency that was difficult and expensive to manage.

**Solution-at-a-glance:** Dramatically streamline the legacy estate, introduce new applications, services, and platforms, incentivise staff to become invested in the solution, and re-platform to new strategic systems such as Salesforce.

**Results:**

- In 18 months, the legacy estate was reduced by 50%:
  - Codebase of 1,000 items reduced to 500
  - 650 applications reduced to 400
  - 750 databases reduced to 450
- Easier to manage, less complex, and more resilient systems
- Multi-million pound savings
- Ongoing innovation driven from within the engineering team
- Engineers are becoming thought leaders and ambassadors for industry best practice



## The solution

Technology Director Philip Clayson took on the challenge of overseeing the recovery of the business from the impact of the cyber-attack as well as transforming the IT landscape, while of course providing a highly secure, and robust environment that would be much more resilient in the future.

Philip explained, *“Once we started to plan the streamlining of our IT estate, it quickly became clear that the scale of the task was overwhelming – with 84 million lines, our codebase was bigger than that of the Large Hadron Collider! And we had to shut down and migrate systems without disrupting our day-to-day business.”*

Philip’s approach to this mammoth task was to work closely with his team of 650 engineers to engender cultural change and empower them to become drivers of complexity reduction and innovation. He achieved this by creating a novel incentive structure that put the engineers at the heart of the transformation.

*“Our ideas scheme requires every engineer to contribute two or three ideas every year, one of which must be implemented. They can be very minor issues that resolve a small but irritating bug, right up to major changes that save hundreds of hours and millions of pounds; we’ve seen both ends of the spectrum. We have set aside budget to fund the changes, but we also stipulate that any change must recoup the investment made in it within the first year. This means that the process is self-funding and, in many cases, yields ongoing savings, year on year.”*

Speaking about the role Capgemini played in the process, Philip explained, *“Capgemini has been a strategic partner to TalkTalk since 2004 and has helped us to develop and manage an integrated applications suite with strategic platforms for order management and billing. This long-term involvement and in-depth understanding of our business enables them to be both responsive when needed, such as immediately after the cyber-attack, but also much more proactive and collaborative when it came to the longer-term process of transformation.”*

*“Capgemini’s team was very much embedded within our culture. This meant that they were able to work with us to provide advice that was based on sound engineering and a solid business foundation, rather than simply functional or cost-based decisions.”*

*“In essence, Capgemini is our highly regarded strategic partner, on hand to propose new ideas and new ways of working. They also readily collaborate with other partners in our supplier ecosystem, consistently proving to be at or near the top of our suppliers in terms of innovation.”*

This remarkable approach helped transform the culture within TalkTalk. Previously, the team was largely concerned with maintaining existing systems, but once they saw how they could play an active role in changing and improving the estate, they became increasingly engaged in the process. What’s more, by providing rewards based on the changes they suggest, there’s a tangible connection between achievement within the business and the recognition they receive.

Philip explained, *“It was almost a movement within the business rather than simply a change agenda. It took a couple of months to take hold, but as each legacy application was shut down and other initiatives were implemented, the team spent less time simply managing the estate and more time on further change and innovation. Thus, it became a self-driving, accelerating process.”*



## The result

The results speak for themselves. TalkTalk has halved its codebase in just 18 months, removed over a third of its 650 applications and migrated from 750 to 450 databases. What's even more remarkable is the increasing pace of change. For example, the next objective is to reduce the number of databases to under 100 in the coming months. It took 18 months to reduce the legacy estate by 50% and the target to reduce the already transformed estate by a further half in a year. As the initial transformation contained some easy wins, this shorter timeline is especially ambitious.

With the legacy transformation well underway, TalkTalk can now look to the future as it embraces new innovations, such as artificial intelligence to monitor calls for compliance and customer service quality. The cultural change engendered by Philip's approach has also opened up the potential for engineers at the business to explore different career paths.

*"We encourage our engineers to contribute and share their knowledge and experience across, and indeed beyond, the industry. That is more rewarding for them and builds our profile as an employer of choice. Whereas, previously, it would probably be fair to say that the path forward for an engineer was relatively rigid, that is far from the case now as we explore joint ventures. We really are beginning to see the emergence of the technical team as a business enabler, something that could lead future initiatives and drive change in a proactive way."*

Philip adds, *"Working alongside Capgemini, we were able to successfully decommission or fix 40% of the TalkTalk Business apps and are confident that the pace of change can be maintained. As our partner for the strategic Salesforce CRM, Capgemini has always been focused on delivering a robust sales & service cloud implementation. The next financial year will be focused on driving TalkTalk Business' digital strategy and consolidation and re-platforming of our legacy business support systems to Salesforce"*.

Other highlights include the fact that Capgemini has driven Priority 1 and 2 incidents down by over 85% in the last three years, improving service quality and cost effectiveness, and has increased virtual machine density by 25%, resulting in footprint, power, and cooling savings.

TalkTalk is also working with Capgemini's Applied Innovation



Exchange (AIE) to create a joint team to discover innovations and contextualise them for TalkTalk's business, taking advantage of Capgemini's global AIE network and partner ecosystem (start-ups, product vendors, third party R&D, academia, etc).

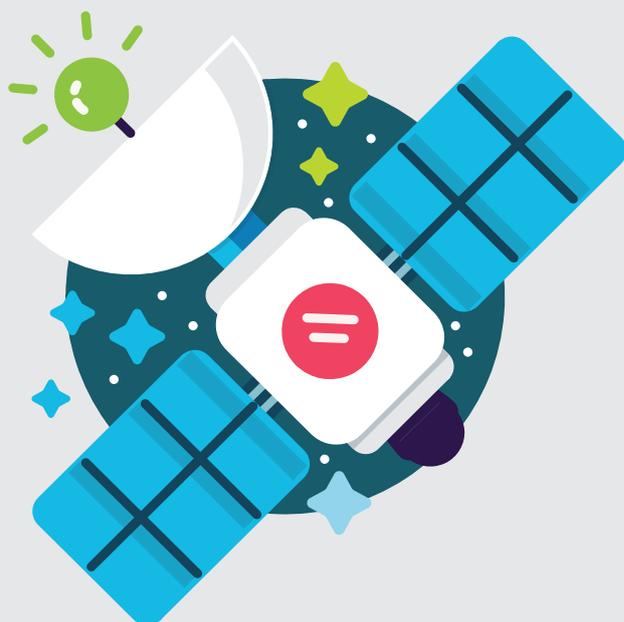
Reflecting on the value of the AIE, Philip explained how cross industry experience from a recent session provided an insight into potential innovation for TalkTalk: *"We were shown an app that used visual recognition technology to allow workers in another sector to identify components simply by taking a picture with their mobiles, enabling them to place orders quickly and easily while also avoiding errors. How does that apply to us? A similar app could enable our customers to quickly identify a particular router or other piece of equipment just using their mobile, enabling engineers to provide remote support or ship the correct replacement."*

*"With Salesforce CRM already implemented, we are building a robust and agile platform for the future. The exciting thing is that, with our engineers continuously seeking to improve our systems, some of the best ideas may not even have emerged yet!"*

## The benefits:

TalkTalk and Capgemini have had a strong, productive, and transparent partnership since 2004. Over the past few years Capgemini has:

- Successfully decommissioned or fixed 40% of the TalkTalk Business' applications
- Improved the reliability of the app infrastructure stack, which has drastically reduced the number of incidents and alerts generated (P1s & P2s by over 85%), while also increasing application performance
- Introduced IT security software that seeks and creates alerts for any security vulnerabilities, with instantaneous detection of suspicious activity for applications
- Improved security and performance to bring the application from a single point of failure to clustered environment
- Played a significant role in upgrading the billing platform while ensuring that the upgrade happened smoothly and all downstream applications' interaction remained unaffected
- Introduced new VMware server hardware and cache cards. This has resulted in significantly more virtual machines per server, reducing cost for hardware requirements, licensing, footprint, cooling, and power
- Focused on continuous operational improvements using automation to proactively fix incidents and reduce human intervention, improving productivity



## About Capgemini

A global leader in consulting, technology services and digital transformation, Capgemini is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. It is a multicultural company of 200,000 team members in over 40 countries. The Group reported 2017 global revenues of EUR 12.8 billion.

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## About Talk Talk Group

TalkTalk is the UK's leading value for money connectivity provider. We believe that simple, affordable, reliable and fair connectivity should be available to everyone.

Since entering the market in the early 2000s, we have a proud history as an innovative challenger brand. Today, we provide landline, broadband, TV and mobile services to over four million customers. We operate Britain's biggest unbundled broadband network, covering 96% of the population, supplying services to consumers through the TalkTalk brand, to businesses through TalkTalk Business, and by wholesaling to resellers.

TalkTalk Group plc is listed on the London Stock Exchange

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