



The Enterprise Transformation Programme

Synopsis

- Legacy infrastructure is a major issue for the telecommunications industry. It presents a risk to customer experience and is a driver of significant complexity and cost for network operators.
- Vodafone is the first operator in the UK to tackle this issue head on; creating a unique network decommissioning programme tasked with all stages of the project lifecycle, from data gathering through to network power-down, including customer engagement and migration.
- Underpinned by a proprietary data engine and workflow tool known as Kosmos, the team have built an adaptable, evolving operating model to migrate customers off legacy networks. Using this model, a significant number of customers have now migrated, enabling the closure of 15 networks and their associated products and IT stacks. Critically, these customers now benefit from reliable, standard services - reducing risk to their business and making them ready to consume the next generation of connectivity solutions.

Delivery to date:

15 Legacy networks closed

2,018 Enterprise customers migrated off legacy onto stable platforms.

29% Reduction in major customer incidents

£44m Savings delivered



"If we could walk away from the contract, we would. I don't think Vodafone truly understands how precarious the relationship is" – Large utility customer, 2015.

In 2012 Vodafone, traditionally a leader in mobile telecommunications, acquired Cable & Wireless Worldwide (CWW). The rationale behind the acquisition was to build a global fixed line communications powerhouse to meet the demands of an Enterprise market seeking fixed and mobile services, as well as IT, from a trusted communications partner.

The integration process was complex, as CWW came with three major acquisitions of its own – Energis, Thus and Your Communications. These businesses were never truly integrated into CWW and they came with their own networks, products, systems and customers. As the newly formed Enterprise Fixed business began to scale, **it was plagued with issues**. Each network had its own complexities, with hardware and software often out of vendor support and the relevant knowledge and spare parts within the business beginning to dwindle. **The result was that customer incidents were becoming lengthier and more challenging to resolve.**

The experience delivered to Vodafone's strategic customers was no longer acceptable, particularly given that in parallel Vodafone was investing in its strategic Redstream network - the only converged fixed and mobile core network in the UK.

Running all these networks concurrently took a toll on the company's P&L as well. **The fixed business was losing money**, struggling under the weight of duplicate networks to house, power, and maintain, in addition to customers rightly receiving service credits to compensate for outages and service disruption.

In 2015, a business case was put together to address these customer experience issues and to retrospectively integrate CWW into Vodafone: **The Enterprise Transformation Programme**.

The objectives of the programme, over a 5-year delivery period from 2016 to 2021 are to:

- **Stabilise** Fixed Line service management.
- Decommission the legacy estate of **34 old networks, 178 old products and 151 old IT applications**.
- **Migrate all customers** away from the ageing estate - either onto the new Vodafone Redstream network or by assisting them in porting to another provider.
- Deliver **£165m** of savings to the Vodafone UK P&L by FY22

Stabilising the Service Crisis

The priority in the first instance was to **address and stabilise the service crisis**. To this end, a number of steps were taken. Namely:

- **A freeze across all networks** preventing any work being carried out until the platforms had stabilised
- The introduction of a **peer review board** for any changes being made on the networks, with all decisions requiring sign-off from senior leadership.
- Restriction of the number of changes that could be made **at any one time**.
- **The design of a new major incidents process** with formal, more time-bound escalation paths.
- A number of **network audits** performed by Vodafone's key vendors to identify the most critical issues to be resolved

To sustain any improvement however, the root cause needed to be addressed: The legacy estate. Such was the paucity of inventory records however, that the scope of the task was (and would remain) difficult to quantify. The programme therefore quickly evolved into what it is today: an operating model with several key capabilities, able to adapt as it progresses.

Discovering and Enriching Data

The first key capability this operation has developed is finding and enriching data on legacy systems. This is enabled by the programme's most important innovation: **Kosmos**.

Kosmos is a database that draws data feeds from **60+** inventory, billing and provisioning systems into a **single view of the truth**. Thousands of business rules built up over 3 years of work (which continue to be refined,



iterated and updated) are applied to these disparate data points to enrich them, identify spurious data (known as "debris") and create a number of views and dashboards which can then be used to plan and execute the migration of the circuits identified.

The effectiveness of Kosmos is tribute to the team that's been built around it. 'The Insight Factory', as this team is referred to, have the constant task of adapting this tool to the evolving demands of the programme.

Migrating Customers

The second core capability of the operation is **the migration of customers**. As the programme has progressed, the below processes for migrating customers has been baked into the operating model:



- **Discover:** Establishing whether the service live, billing, and as yet unchanged.
- **Pre-qualify:** Establishing whether the customer requires a replacement service.
- **Sell:** If the customer wishes to migrate from the old solution to a new solution, that solution needs to be designed, agreed and contracted with the customer.
- **Migrate and Cease:** If the customer is taking a new service, this is built in parallel so that they can enjoy a seamless migration before the ultimate cessation of the legacy service.
- **De-Commission:** Once customer-clear, the nodes/switches/equipment can be switched off and physically removed from the network.

This process is enabled through Kosmos as well, which functions as the programme's workflow tool. Kosmos currently has **51 "batch statuses"**: Every circuit record has, at all times, a numeric value showing the current status of that circuit – i.e. where it sits in the migration process and what action needs to be taken next. Batch 6.0, for example, means the customer has been contacted. Batch 6.3 means solution design is underway.

This enables detailed reporting on the programme's progress. As the programme has developed, this insight from Kosmos has been used to identify bottlenecks and speed up the end-to-end process. For example, in Q2 of this year, the average time a circuit would spend in batch statuses 19.0, 19.1, 19.2 or 19.3 was 65 days. Today it is 29 days. **The insight has enabled the team to identify outliers or circuits that have become stuck and address these in a targeted way.** The lessons learned from these outliers have enabled the programme to understand the root cause of issues and use continuous improvement techniques to constantly reduce the overall time it takes to migrate customers.

Continuous Improvement

Achieving the aggressive targets laid out in the Enterprise Transformation business case has always required the programme to accelerate throughout its lifetime. A major part of this has been rolling out and adapting a version of **Agile Scrum** across the programme. As an example, the Insight Factory Delivery team (IFD), who manage the "Migrate and Cease" step of the decommissioning process, were one of the first areas of the programme to implement these ways of working.

Agile Sprint 3 for the IFD team involved working through a simple backlog of tasks with estimates of the man days required for each.

Stakeholder/Project	Quantity	Activity	In plan	Estimation and ETA	Owner	Comments
Nick P33		Discover		1 MD	Grace/Dave	Time? CS and Rules for L8 and P3
Nick P33		Batching		1 MD	Grace/Dave	Line? Ref? VDA/DTA -> Group 1
Nick P33		Batching		1 MD	Grace/Dave	Line? Other
Nick P33		Strategy		1 MD	Grace/Dave	Refact
Nick P33		Batching		1 MD	Grace/Dave	Internal Products
Nick P33		Batching		1 MD	Grace/Dave	Internal Customer alignment
Nick P33		DD and Cease		1 MD	Grace/Dave	DDU Cease
Nick P33		For next sprint				Sketch data quality
Caroline VC	45	Ceases in flight		2 MD	Quinn	Ceases
Caroline VC		Alerts etc		1 MD	Quinn	Non valid references and cancelled
Caroline VC		Ceases/Providers		2 MD	Quinn	Report - automated
Caroline VC	43	Provider on hold		1 MD	Quinn	Chase/Confirm status (dependency on Report)
Caroline VC		Tracker Sync		1 MD	Grace	
Caroline VC		Meeting		1 MD	Quinn	
Caroline VC		DSL		3 MD	Cat	Grace to send bullet points
Caroline VC		Check N		1	GR	Nive
Caroline VC		Check N		1	GR	N Dead
Caroline VC		Check N		1	GR	Check Gary 22 live
Caroline VC		Ceases in flight		1	GR	Automated report
Caroline VC		Group 14		0.5	GR	Meeting with Dave
Caroline VC		Details that Avia is tackling		0.5	GR	Char with Caroline
Caroline VC		PNC ceases		0.5	GR	Char with Dave and investigate
Caroline VC		Meetings		0.3	GR	With Ruth and Joe
Caroline VC		Upgrade to Vone-C		0.2	GR	Need highlighting in PRT
Caroline VC		Check N		1	GR	Nive
Caroline VC		Check N		1	GR	N Dead
Caroline VC		Check N		1	GR	Check Gary 22 live
Caroline VC		Check N		1	GR	Ceases and other issues
Caroline VC		Ceasing/Ceases		2 MD	Cat	Ceases and other issues
Caroline VC		Ceasing/Ceases		2 MD	Cat	Ceases and other issues
Kev P18		Info on all serv		1 Ryan		Ask Kev for scope and guidance
Kev P18		non-AKU billing to be input: 50% complete - f		0.5	Ryan	TC/SA/Avia - UTM and SSDS feeds check
Kev P18		Internal/External and Billing		2	Ryan	Y: Internal Voice? Or problem internal or not? And how to split Strategic on
Kev P18		Internal/External and Billing		2	Ryan	Understand strategy - Kev/Rene only
Kev P18		CS/CS and DSL ceases on		0.5	Ryan	Understand strategy - Kev/Rene only
Kev P18		new old live and billing due No - action live with Javi team to include in sprint		1 Ryan		630 reviews without NPD need to be checked Alan trying to automate and
Kev P18		Green update recent - Blue No - Waiting for J		1 Ryan		Kev other - price increase and get rid of customers
Dal P31		Ceases report and chase			Cat	Some of these feeds when we started PRT they were coming the switches, b
Dal P31		Estimated 118 in commissioning			Cat	
Dal P31		checking data in PRT gone			Cat	Chase Kona Cease team
Dal P31		Overline			Cat	
Dal P31		Billing as expected			Cat	

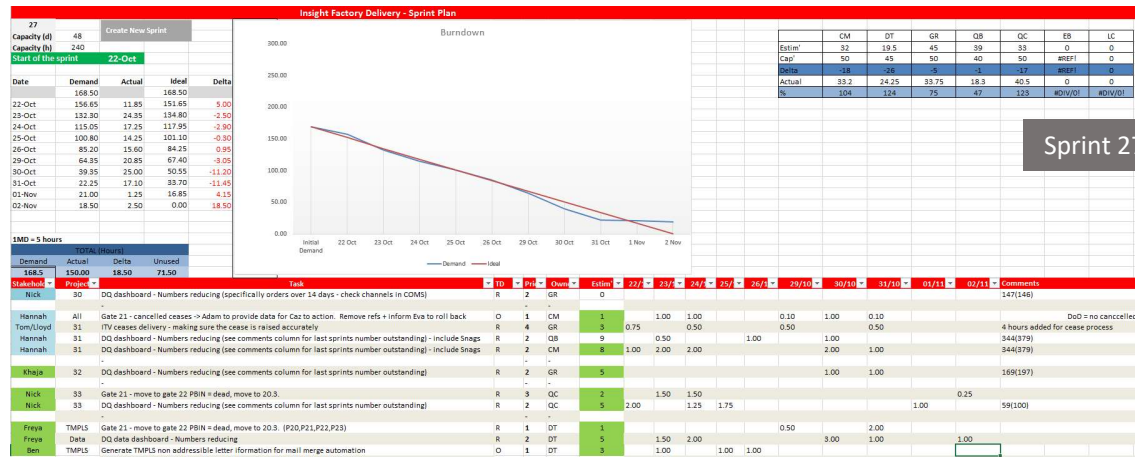
Sprint 3 backlog



Even at this early stage, each sprint included one Kaizen on top of the order processing workload – an improvement to the team's process or to Kosmos data quality.

By Sprint 10, the team had introduced capacity planning, and was beginning to get leaner – previously 70 manual checks had to be done before ceasing a circuit, these have all since been automated in Kosmos.

By Sprint 27, the team has **doubled its throughput** and automated standard cease orders – they are now **focussed entirely on exceptions** (15-20% of orders) and on fixing bottlenecks in the process.



Additionally, these learnings have been rolled out across the rest of the programme, with internal training days and peer-to-peer learning.

The success of the programme is also heavily dependent on other functions within Vodafone. The programme has successfully rallied the business through a number of mechanisms. One of the most notable has been **detailed reporting of savings delivered to each function's P&L**, which is used to incentivise and drive the right support in the rest of the business. All OpEx benefits delivered by the programme are recorded and validated with Vodafone's Finance function, and built into the budgets of the various areas benefitting from the savings.

Another key factor has been **regular senior leadership engagement**. Every week, the UK Chief Technology Officer, Director of Enterprise, Head of Networks and other members of the senior leadership meet with the head of the programme to dig into reports on the programme's progress (example page below, showing migration progress of customers, circuits etc. from year start to year end). These sessions enable data-driven decision-making and alignment between functions on obstacles and opportunities on a weekly basis.




	FY19 Start	YTD	RAG	TARGET												Total to complete in FY20
				Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Customers	1663	1066	➡	1613	1528	1453	1368	1214	1064	954	844	714	584	454	324	324
Circuits	13634	9,344	➡	12,957	12,275	11,672	10,989	9,752	8,547	7,664	6,780	5,736	4,691	3,647	2,603	2,603
Projected Outcome	Customer Clear (Switch)	66	59	➡	65	63	60	57	56	53	50	49	49	39	21	9
	Switches	66	63	➡	66	66	63	61	61	58	57	54	50	49	39	39
	In Year Opex Savings (£k)*	0	533	➡	0	0	5	31.7	70	113	693	761	866	1008	1157	1323
Networks (Voice)	7	6	➡	7	6	6	6	6	5	5	5	5	5	5	3	3
Products	16	14	➡	16	16	14	14	14	10	10	10	8	8	8	6	6

Other effective mechanisms have been **seconding members of other teams into the operation** to create cross-functional teams, and well as **strong internal communications** to help the wider business understand the purpose and importance of the programme (see example here: <https://vimeo.com/280752207/5356abca23>)



Progress to Date

The programme is far from over, but already massive complexity has been removed from the business:

Decommissioned:			Migrated:	Delivered:
			2,018 Enterprise customers (26% of total*)	£44m OpEx Savings (61% of FY22 target achieved**)
Networks 15 of 34 (44% of total)	IT applications 117 of 151 (77% of total)	Products 84 of 178 (47% of total)		

De-Risked:

High severity incidents
(i.e. a customer's service is down or running at risk):

Down by
29%
against FY14
baseline



of which:

Incidents raised by the **customer** rather than proactively raised by
Vodafone (which was the case for 1 in 3 severe faults in FY14):

Down by
53%
against FY14
baseline



*2,018 is the number of enterprise corporate customers migrated off legacy systems. The progress in migrating these customers appears slower than the progress in decommissioning the legacy estate – this is because the programme has so far prioritised customers with larger portfolios (i.e. more circuits, products and services) because migrating them frees up more of the legacy estate than customers with smaller volumes of circuits.

**£44m of savings has landed in the Vodafone UK P&L since project start. A total of £100.5m will have been saved by FY22 as a result of the activities delivered so far, meaning 61% of the £165m target has been delivered and would be even if the project stopped today. The programme is currently on track to exceed its £165m target.

The Future

The Enterprise Transformation Programme is **the largest co-ordinated fixed line upgrade and re-sign programme** within Vodafone's global history (by value **and** volume of services). In fact, we believe this is the largest programme of its type ever initiated in our industry anywhere in the world. The learnings gathered over the last 3 years are extensive - the programme has developed into a **fixed line centre of excellence**, with expertise now in high demand in other parts of the UK business and the rest of the Vodafone Group. The same is true for the Kosmos asset and multiple use cases have already been proposed for the redeployment of Kosmos in other areas of the business.

This programme is already becoming, and will continue to be, **the biggest enabler for Vodafone Enterprise's digital transformation** over the coming years. As the organisation responds to customers' needs for a simpler, more digital experience, the simplification enabled by this programme will have been fundamental in the transformation of Enterprise into a **digital, converged communications partner**.

Finally, Vodafone's fixed line customer base is increasingly serviced by a reliable, state-of the art network, on standard products, with standard terms & conditions and service level agreements. As a result, **customers will benefit from more stable, reliable services with less risk of outages**, and the peace of mind that Vodafone is proactively monitoring and safeguarding the connectivity their businesses depend on.

Thank you for your consideration,

The Enterprise Transformation Team

The future is exciting. Ready?

