MOZAIC

A GUIDE TO FRICTIONLESS DELIVERY

Aligning DevOps, ITSM and other tooling is the key to achieving frictionless delivery. This paper explains how to connect portfolio management, change and operate activities in a seemless flow of work.

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Future Ready

Automation is not an option!

Often in many organisations, portfolio management decisions, product delivery teams and enterprise service management capabilities are disconnected, decision making slow and work flows poorly. As examples, investment decision cycles may not align to the market changes that a Product Owner is responding to or Service Management Change and Transition Managers may argue that introducing new services is putting the Enterprise at risk and stop developed features being released:

Figure 1: Removing the silos of delivery

Mozaic has developed a new IT operating model construct; Digital Service Management (DSM). This is a dynamic IT delivery structure which is constructed to flex with the current business strategy challenge whilst maintaining the enterprise view, rigour and control. This approach builds upon, and integrates, the best of the Digital and Traditional IT worlds as shown below:
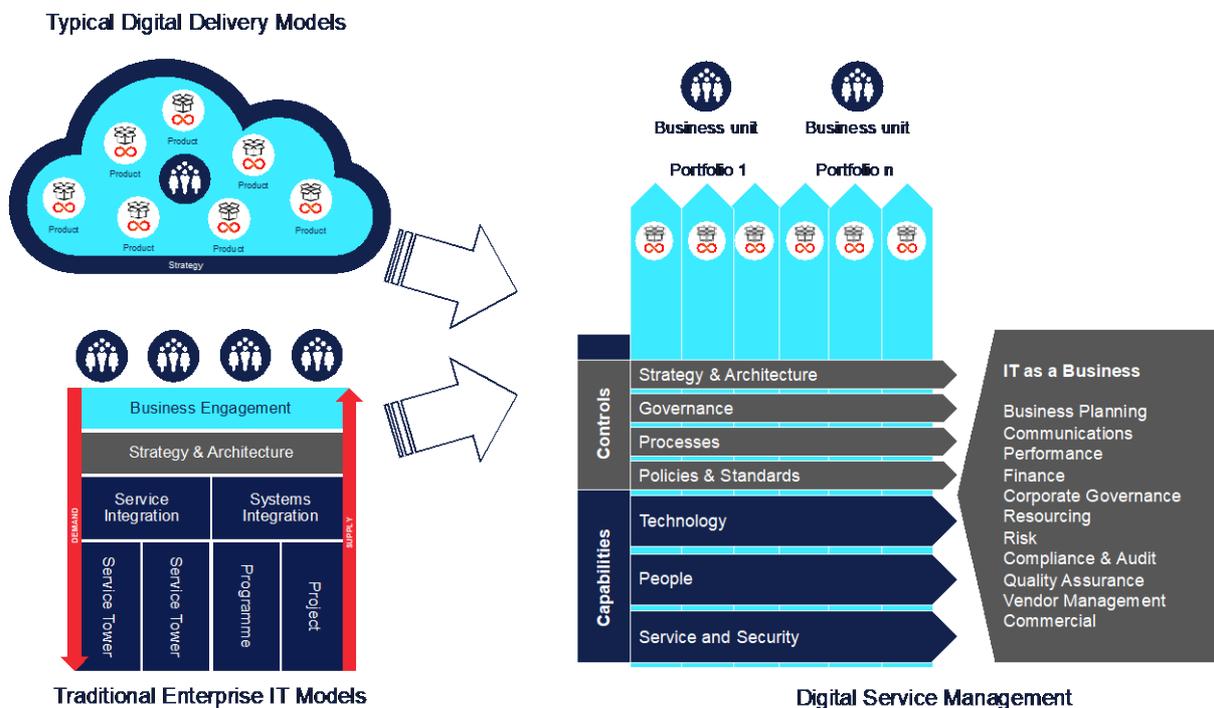

Figure 2: The Digital Service Management model

The Dynamic IT Organisation

DSM is based around a simple matrix concept, with two orthogonal dimensions. The 'vertical' dimension comprising a series of customer-facing product groups which own the entire value chain and life-cycle of product development from concept through to design, development and operation. The 'horizontal' dimension comprises common capabilities, processes, tooling, architecture, governance and standards.

DSM ensures:

- Digital development, producing outputs that are business critical and need to be fully resilient, are fully supported throughout their lifecycle;

- Service Management enables, rather than frustrates, change with Enterprise teams able to accept the pace of change that the business demands and the Product teams do not get swamped with treacly governance;

- That the whole IT community is ahead of the game, anticipating customer needs and issues before they manifest themselves

DSM introduces frictionless delivery between decision makers, product and digital delivery and the enterprise service management teams:

We have also described the key eight steps to implementing DSM:

1. *One Team*: Building clarity of the vision and how it is to be implemented is fundamental.
2. *Product Ownership*: Identify and integrating Product Owners into the business.
3. *Agile Methods*: Use Agile methods for management of every activity.
4. *Standard Capabilities*: Appointing all resources into a common capability aligned to their own skills and attributes.
5. *Dynamic assignment:* Continual assessment and assignment of staff from the capability groups into the Product Teams.
6. *Automation:* Use tools to automate delivery.
7. *Measure:* Continually measure the performance of both dimensions.
8. *Implementing the approach in an Agile way:* Use the Agile techniques to build this new approach.

DSM is described more fully in separate white papers. If you would like to read these, they can be found here: http://mozaic.net/thinking/.

In this new white paper, we investigate why Automation is not just important, but a fundamental requirement of this new delivery approach.

Why automation is key

DevOps teams, by their nature, automate in order to more quickly and consistently accomplish tasks that they regularly perform such as:

- Developing the code
- Testing it
- Deploying the test infrastructure
- Running end-to-end tests
- Deploying the code
- End-to-end orchestration of the DevOps pipeline

These are focussed on the production of the product, enabling teams to work together in unison to deliver the business functionality.

Service Management teams have used tooling to control and manage the enterprise, focussing on:

- Standardising delivery workflows across the Enterprise
- Maintaining a full and accurate record of the estate
- Managing the risk of change and protecting the estate

However, the standard processes that this tooling and automation supports in the Service Management environment are traditionally focussed at managing the production estate and often do not fit naturally with the level of rapid change that the DevOps delivery cycles demand. This "ITIL friction" both impacts the time to market and frustrates the change teams.

However, by considering and a single work flow across these different domains, we can remove this friction by automating the delivery. Effectively bringing the concept of Service Management as Code into the build lifecycle in the same way as development teams have thought about both functional builds and infrastructure as code for their own product deliveries. In determining where automation can practically be applied, Mozaic has architected based on the principle that "if you can model you can automate".

The three areas that this workflow need to consider

Within the DSM model, we can consider three areas that an integrated workflow needs to consider; Product Delivery, Enterprise Delivery and Managing IT as a Business.

Within Product Delivery, the workflow should connect the understanding of the Demand from the business and their market, through the Product Owner, to the planning cycle, into the create (development) activities, testing, packaging, releasing and deploying, running, monitoring, reporting and continual feedback into the planning cycle. As shown in the diagram below:
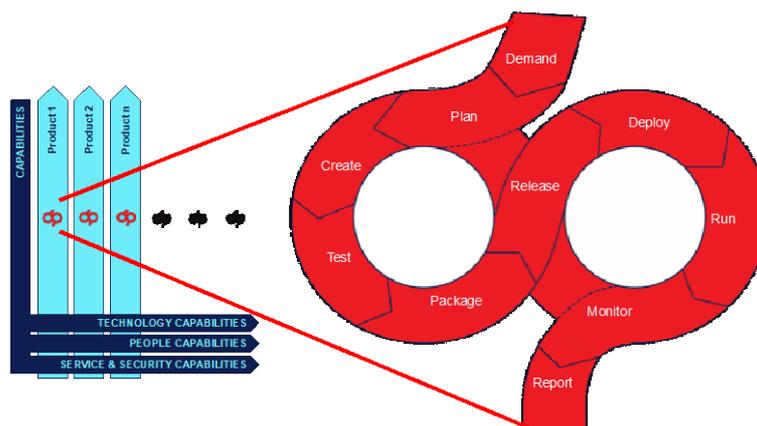

Figure 3: The product delivery lifecycle

Key attributes of this product delivery lifecycle are:

- Rapid cycle times with constant engagement with the business and market to ensure relevancy
- Product Strategy and Customer Engagement drives the Product Roadmap, Product Planning, Business Relevancy.

The Dynamic IT Organisation

- Automated integration, test and build processes reduce the time to deliver changes
- Automated testing is applied through the delivery lifecycle to assure delivery at all times
- Packaged builds are automatically deployed to any target environment without manual intervention, all changes are fully audited
- Service Management design and transition is built into the delivery lifecycle and is manage as code in the same way as function and infrastructure
- Environments self-monitor, self-heal and self-size.

The aim of automating this part of the workflow is to:

- Accelerate Time to Market
- Ensure that we build the most relevant Product for the market
- Improving Productivity and Efficiency
- Delivering reliable Releases
- Improving Product Quality
- Improving Customer Satisfaction

Within the Enterprise Delivery lifecycle, we consider workflow that manages and reports across the whole portfolio of products, standardises ways of working across the enterprise to drive efficiency and effectiveness and improve inter-team working and communication, whilst maintaining full insight across the estate to manage risk. This is shown in the diagram below:
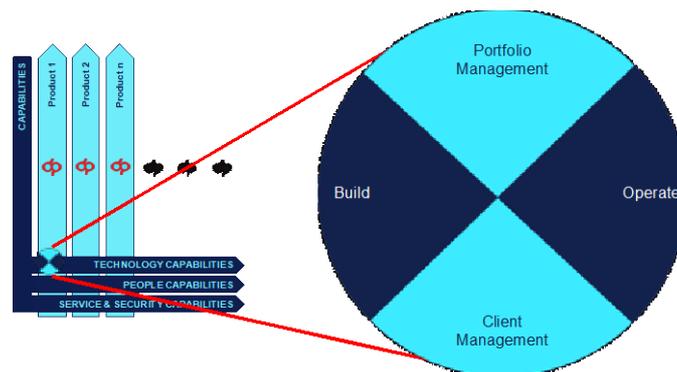

Figure 4: The scope of Enterprise Management

Key attributes of the Enterprise Management lifecycle, relating to Portfolio and Client Management include:

- Demand is managed across the enterprise
- Investment and work is prioritised with the business
- Reporting is focussed on each product and portfolio and is therefore relevant to their consumers

Key attributes of the Enterprise Management lifecycle, relating to Build and Operate (including the Technology, People, Service and Security Capabilities), include:

- Common ways of working enable leveraging of resources and enable visibility and control across the enterprise
- Standard engagement with users and customers enables strong, consistent communications
- Standard delivery capabilities offered to support interoperability and reusability
- Service Management drives efficiency, effectiveness, and operational surety

Benefits of automating this aspect of the workflow include:

- Accelerated stand-up of new Product Teams
- Leveragability of skills and resources
- Full visibility and control of the Enterprise
- Reduced delivery friction
- Reduced Failure Rate
- Higher and earlier First Time Fix
- Reduced cost
- Faster scaling of Product delivery approaches
- Significantly faster delivery

To actively manage these two dimensions of the DSM model, we need to consider running IT as a business in its own right. The workflow in this area needs to facilitate the sharing of innovation from one team to another, measure performance across the estate and drive continual improvement, as shown below:
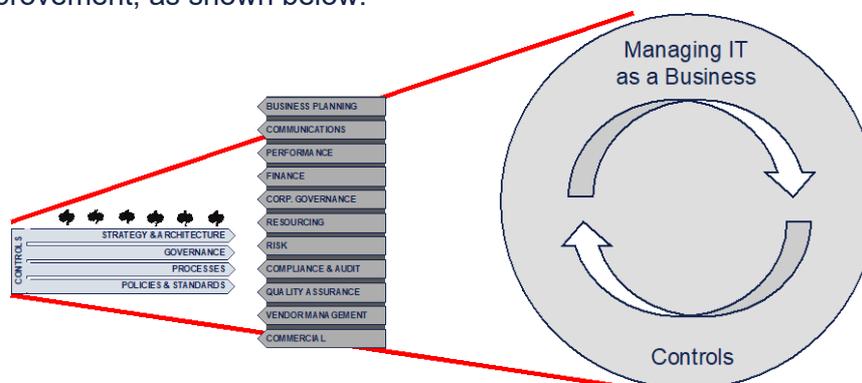

Figure 5: Managing IT as a Business

Key attributes for this workflow include:

- Provision and governance of architectures, standards and enterprise lifecycle processes
- Building of communities that share new ideas and innovations
- Measurement to drive continual improvement
- Active management of resources across the two dimensions both managing careers and building communities
- Auditing to manage risk
- Alignment with corporate capabilities, including; HR, Finance, Commercial, Legal and Corporate Governance

Benefits of automating these elements of the work flow include:

- Support standardisation
- Active management of resourcing to align with greatest need
- Manage and mitigate risks
- Continually improve
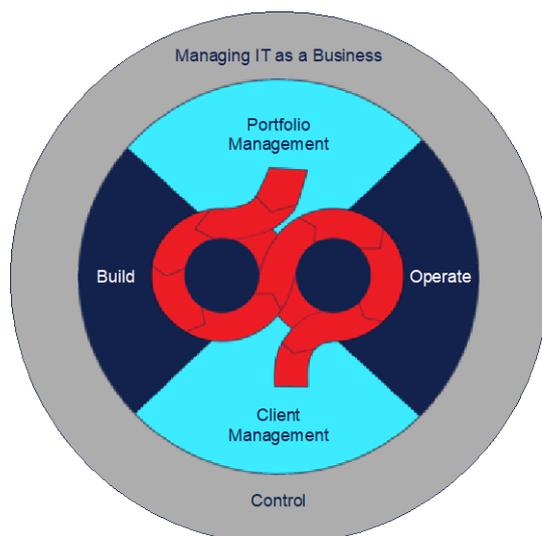- Ensure regulatory approval

Figure 6: The Mozaic automation framework

Building each of these aspects of the workflow together into a single tooling and automation architecture is an essential and fundamental enabler to frictionless delivery, to provide:

- Significantly faster delivery cycles
- Reduced effort
- Control
- Standardised ways of working
- Insight
- Measurement
- Repeatability

One workflow, three workflow engines

Although for many years in IT Service Management there has been an acceptance of using a single tool to manage consistency, this has not been the norm in Product delivery. DevOps teams have gained significant benefit through their ability to use the specific technologies and their related tools to deliver the specific needs. Whilst this freedom to innovate should be applauded and retained, within a DSM model there is a need to better integrate these tools into a standard flow of work that will drive alignment and reduce the friction between the Product and Enterprise teams.

Looking at this from a tooling perspective, we can consider three different styles of Workflow engines to bring about this single, integrated, flow of work:

1. Portfolio Management: Allowing for common understanding of demand, clear communications and reporting and enabling prioritisation of work and investment to be undertaken at the right level within the organisation. In this space, commonly used tools come from Atlassian and Microsoft.

2. Product Delivery: Supporting the continual delivery within the Product lifecycle. Uses workflow engines such as ElecricFlow from Electric Cloud or XebiaLabs DevOps Platform provides the backbone for integrating the specific tooling required within that lifecycle as well as seamlessly connecting to Enterprise Delivery and Portfolio Management. These engines can support automation of activities such as:

   - Automated Provisioning; to deliver computing capacity on-demand without manual intervention.
   - Metering & Usage Monitoring; to ensure that the deployed capability is being effectively utilised.
   - Build & Continuous Integration; where developers regularly merge their code changes into a central repository, after which automated builds and tests are run
   - Continuous Delivery; where services are released into live in a control manner without need for manual intervention.
   - Test & Vulnerability Automation; to evaluate quality at every step of the Continuous Delivery process; testing early and testing often.

- Service Monitoring; to understand the performance and status of applications by intelligently monitoring, analysing and managing the cloud, on-premise and hybrid applications and IT infrastructure components
- Micro-Service Discovery; to understand and make available the configuration of the set of running service instances as they change dynamically.
- Self-Healing; building the ability of systems and environments to detect and resolve problems automatically.
- Workload and Capacity Tuning; to optimise the environment at all times.
- Knowledge Management; ensuring that an understanding of the product is shared with all involved teams

3. Enterprise Delivery: IT Service Management platforms such as those provided by ServiceNow, Ivanti, BMC, Cherwell and many others have a strong heritage in driving consistency across the Enterprise. Maturing these capabilities to drive stronger Agility, less friction and improve efficiency should be considered key to the implementation of DSM. These workflow engines can support automation of activities such as:

- Self Service & Self-Help Portals; Providing users with easy access to log incidents, raise requests, gain access to knowledge and tools to resolve their own questions and have up to date information on the status of the services that they use or requests that they have made.
- Service Monitoring; Providing support staff with up to date information on the status of the estate enabling rapid, focussed and/or automated response to incidents as they happen.
- Cognitive Processing; Where input from users is robotically triaged and/or resolved.
- Predictive Analytics; Where information from the estate is used to proactively identify and resolve problems before they impact users.
- Automated Discovery; Where the configuration of the estate is continually assessed and made available to support teams and automated processes to aid delivery.
- Security & Risk Monitoring; Where the estate is continually assessed for vulnerabilities against the latest threats and automatically resolved where possible.
- Run-Book Automation; Where standard operational tasks are run and checked without manual intervention.
- Self-Healing; Where standard activities are automated to resolve identified issues within the estate.
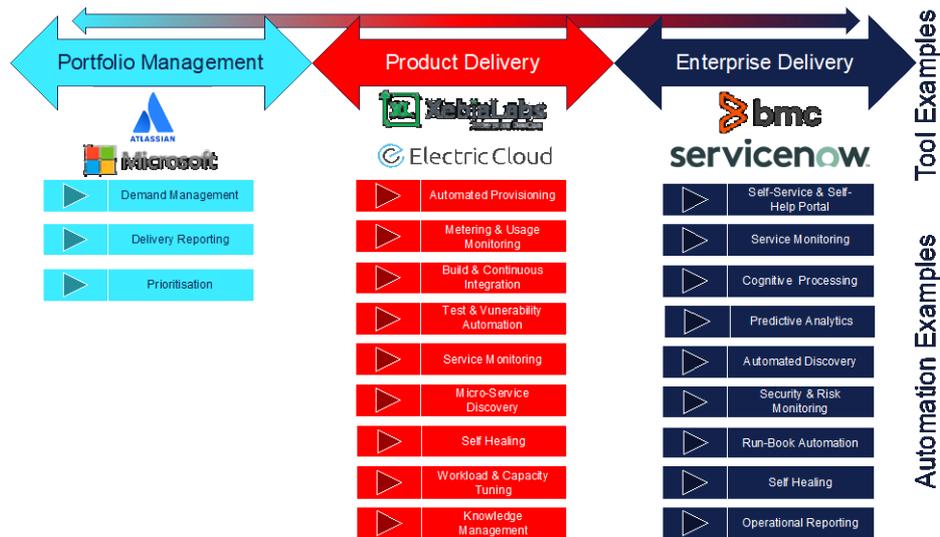- Operational Reporting; Producing and communicating the financial, service and other performance metrics.

Figure 7: One workflow, three workflow engines

These three engines need to closely integrate, whilst also connecting with a broad set of tools, many of which may be selected by each of the Product Teams. Selecting workflow engines that build and maintain connection to the continually evolving marketplace of technology specific tools should be an important consideration. The diagram below shows how these tools may integrate into each of these three engines:
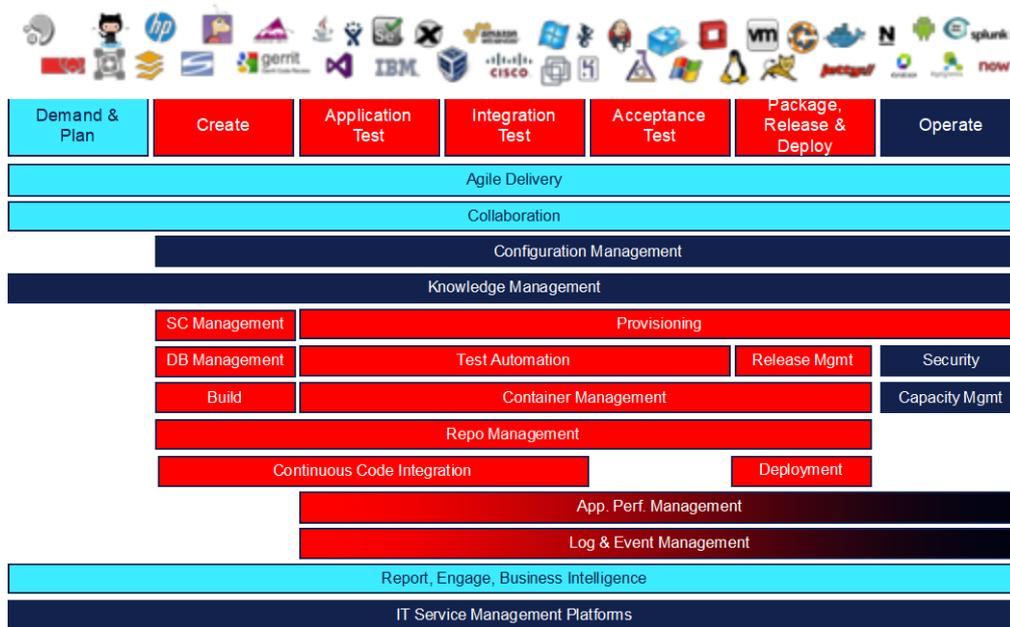

Figure 8: Tooling components aligned to the single workflow

Measurement drives improvement

Implementing a model such as DSM is often transformational in nature. It may have aspects of cultural, organisation, process, governance, data, tooling and sourcing change. Measuring current performance and creating achievable targets for each area of the DSM model as shown below will be a powerful tool in the transformational journey. Please look out for the next White Paper in the Mozaic DSM series which details each of these measures:
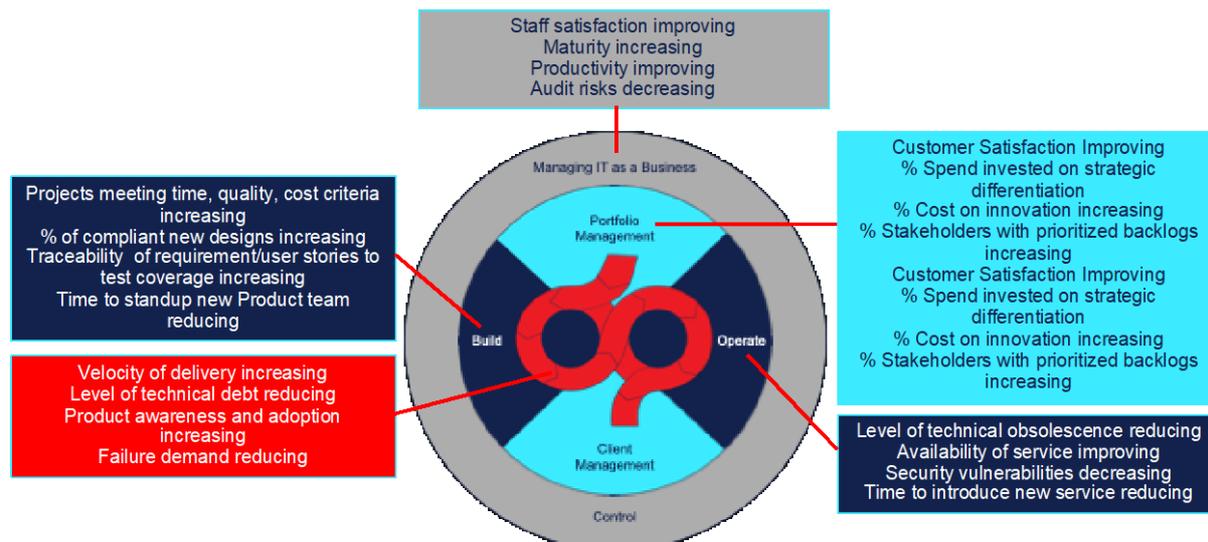
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Figure 9: Measurement drives success

Conclusion

DSM, with strong automation at its heart will deliver significant benefits, allowing the pace of change that the business demands whilst maintaining control over the estate. Please contact Mozaic to discuss how we can help you on this journey; wether it be on specific elements of this automation delivery or on broader Operating Model design and change.

About Mozaic

Mozaic is a specialist in IT Consultancy. We offer client-side advice and operational support, always acting impartially to best serve our client's needs.

Mozaic believe we have four characteristics which make our approach a good fit with our clients:

Specialisation - We specialise in IT assessment, operating model design and transformation. Our models and methods have been proven and refined in the field. We are independent, which means our approach is unbiased and recommendations are always focussed on delivering maximum value to our clients.

People - Our people have a healthy balance of operational and delivery knowledge and consulting experience. We are very comfortable working alongside clients to help identify the right recommendations and gain buy-in and acceptance with client teams.

Established materials and method – we use these to quickly understand how you manage IT today, confirm and optimise the form of your future roadmap, and value the benefits that transformation will deliver.

Demonstrable track record – We have experience in working effectively at senior levels in complex organisations, across a wide range of industry sectors.

Please call us on +44 (0)203 709 1625 to discuss your thoughts on our white paper; we would be delighted to hear from you.