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Service



Operating model in a hybrid cloud

GCloud Service Description Document

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Operating model in a hybrid cloud

1.1 Short Service Description

Our hybrid-cloud service is a proven approach, re-designing and implementing an innovative target operating model to transform service delivery for hybrid and multi cloud environments. Aligning needs of digital citizens, existing capabilities and innovative cloud services, helping organisations with complex technical estates deliver effective and agile multi-cloud public services.

1.2 Key Service Features

1. Bespoke operating model based on organisational needs and capabilities
2. Holistic thinking delivering “business designs” for transformational public services
3. Scalable – applicable to pathfinder initiatives to whole departmental functions
4. Recognised integrated framework covering citizens, capability and outcomes design
5. Identifies ways of working using commoditised hybrid cloud services
6. Optimal organisation strategy to leverage agile hybrid cloud technologies
7. Collaborative approach, co-defining and co-designing operating models alongside you
8. Expertise and specialist knowledge of commoditised hybrid cloud services
9. Required capabilities are tailored to your organisation’s business objectives
10. Provides a roadmap to implement the target operating model

1.3 Key Service Benefits

1. Improved business design delivers effective and efficient public services
2. Rapid innovation and transformation, giving citizens relevant digital services
3. Embeds the ability to manage new cloud technologies effectively
4. Supports use of integrated on-premise and public cloud solutions
5. Facilitates integration of services provided by multiple cloud vendors
6. Innovative design, enabling organisations to leverage cutting edge technology
7. Increased operational efficiency (Lean, Agile) operating model performance improvement
8. Produces modular, adaptable operating models to handle evolving cloud services
9. Delivers flexible capacity to respond to real-time changes in demand
10. Reduces complexity by identifying and combining common processes

1.4 Service Definition

Hybrid cloud environments are fast becoming the approach of choice for organisations looking to leverage cloud services without fully committing to a single vendor. Heavily regulated private sector organisations have chosen to leverage hybrid models to host highly restricted infrastructure in on-premises solutions whilst taking advantage of scalable cloud capabilities. Private sector organisations are also adopting hybrid cloud solutions to take advantage of the best services available from different vendors whilst avoiding propriety lock-in and high costs of switching from one vendor to another.

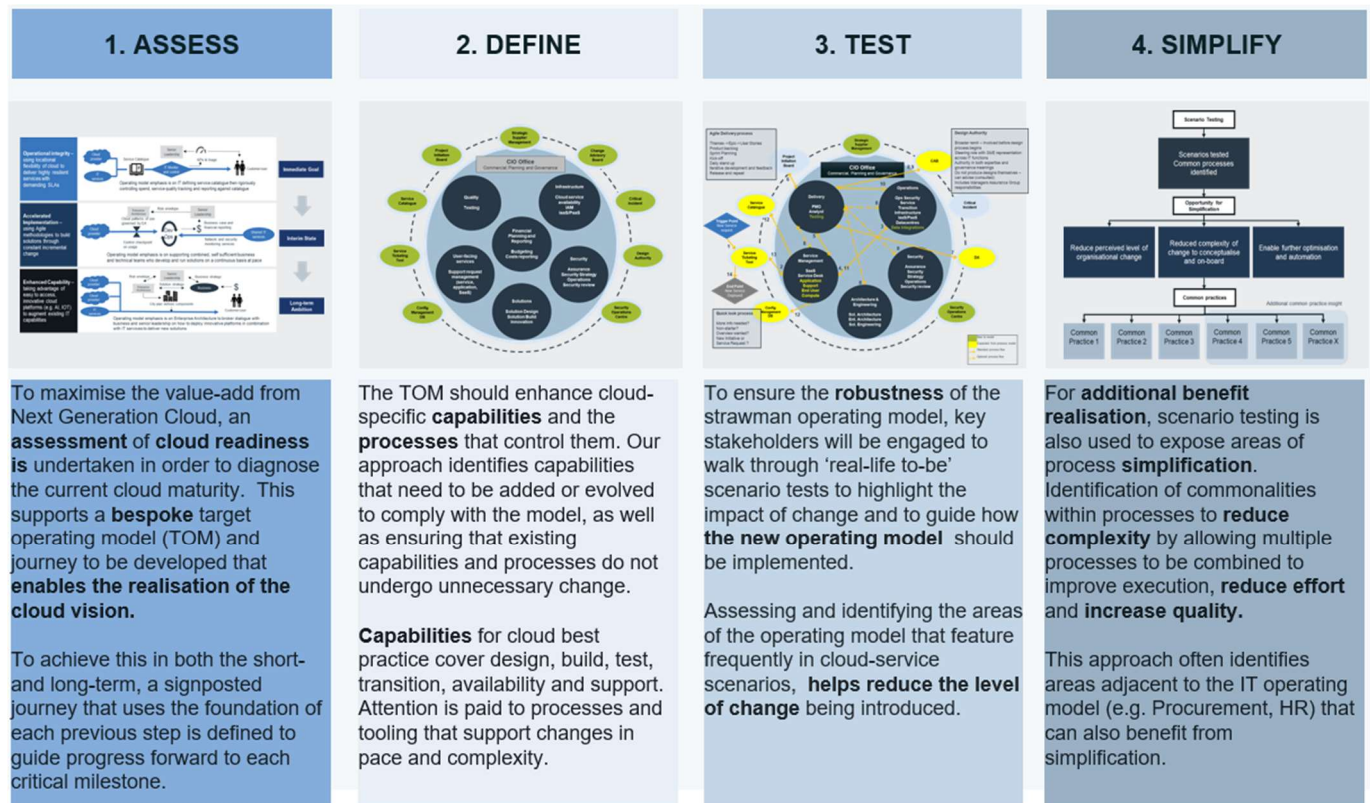
- We recognise that taking advantage of hybrid cloud services is about delivering effective, convenient and scalable services efficiently, and that for public sector organisations, safe secure infrastructure is paramount. Managing hybrid cloud environments is complex and the reality is that most public sector business operating models aren't designed to take full advantage of the disruptive potential that can clearly be seen developing within the most innovative private sector organisations.
- Our 'Operating model for a hybrid cloud environment' service assesses the opportunities to combine commoditised cutting edge cloud services with new business model thinking that re-designs the way in which your department organises its internal capabilities to deliver services to the public, making the best use of technologies from basic situational awareness tools such as road traffic intelligence to processing real-time visual feeds using machine learning algorithms.

We will bring with us a wealth of experience in designing operating models to leverage hybrid cloud technology and will work with you to understand your current state starting position and your appetite for adoption of cloud services.

It is critical to understand whether an organisation or function is trying to digitally enable existing services using cloud technologies or fundamentally change the services they offer based on cloud opportunities and therefore, change the value proposition. This starting point has fundamental implications for the use of cloud technologies: is your organisation adopting cloud technology with the constraints of existing legacy environments, or is it building a brand-new organisation or function from the 'ground up'?

The 'Operating model in a hybrid cloud' service leverages PA's world-class Business Design capability based on academic research developed in conjunction with Henley Business School and Ashridge Management College. Over 250 PA Consulting "design thinkers" have undertaken a year-long bespoke development programme run in conjunction with Henley and Ashridge that combines analytical and creative thinking to facilitate the right outcomes and deliver value to your organisation. The Business Design framework is shown in Figure A, below.

Figure A. An overview of PA's business design framework

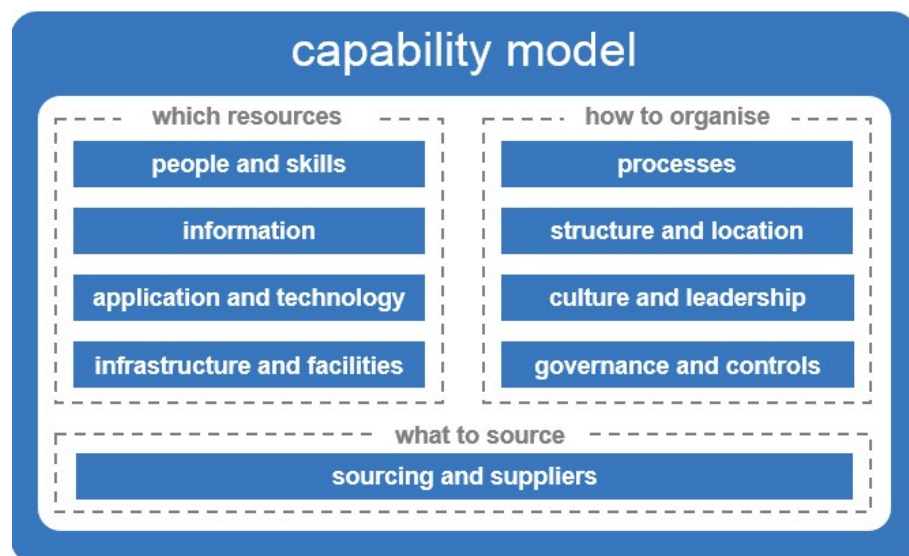


Our framework has a number of benefits over other industry approaches including:

- Clear links between the governance model and the capability model, ensuring that any decisions to use hybrid cloud-based technology are robustly grounded in how your department will generate value to the public
- Develops a strawman which is tested and refined to ensure it can be deployed within your organisation with minimal amounts of disruptive change.
- Introduces efficiency and reduces complexity through the identification of common trends across the capability map.

With this positioning understood we will work with you to define a target operating model based on cloud technologies. This is shown below in more detail in Figure B.

Figure B. Overview of PA's capability model



We use the capability model to answer key questions in relation to using cloud technologies as part of your future business operating model, including:

- Which resources do we need to deliver the overall operating model? This includes people, skills, information and applications, with a particular focus on technology opportunities offered to the Public Sector through G-Cloud.
- How do we organise ourselves to deliver the new model? Considerations here include new ways of looking at organisation structure, governance controls, culture, leadership, processes and operating locations, all aligned to maximising the potential offered by cloud products or services. For example, processes will need to be flexible to respond to real time changes driven by information from the cloud and facilitate multi-disciplinary team working.
- What to source internally and from external suppliers? The proliferation of digital ecosystems and IT commoditised services derived from cloud technologies in particular provides significant leverage opportunities for public sector organisations.
- Through linking these different aspects of our framework, we can co-design innovative target operating models with you that fundamentally alter the way that some or all of your department operates, not only to take advantage of the cloud capabilities available to you today, but to adapt and take advantage of future cloud capabilities as they emerge.

1.5 Why PA Consulting Group (PA)?

A trusted partner for cloud, AI, and digital technologies

PA Consulting Group (PA) is a leading technology and innovation consultancy and one of the UK government's most trusted advisors, combining strategy, delivery assurance and deep engineering to turn complex ambition into assured outcomes. We bring end-to-end capability across cloud architecture, data and AI, cyber, and advanced technology R&D, backed by a track record of scaling innovation in the public and private sectors.

Our UK work is anchored by secure, standards-led delivery. PA maintains ISO/IEC 27001 certification across global operations, demonstrating disciplined information security and operational control, and applies UK government good practice (GDS, NCSC CAF) across cloud and digital programmes.

We combine consultancy with real engineering. At our Global Innovation & Technology Centre (Cambridge), 300+ scientists, designers and engineers operate extensive labs and studios to prototype and industrialise solutions, bridging physical and digital from concept to production.

1.5.1 Why PA for cloud, data and AI

- **Hyperscaler alliances without vendor lock-in.** PA is Premier Tier with **Google Cloud** (13+ years; 150+ certifications; specialisations in infrastructure, data analytics, app dev and security) and holds deep **AWS** and **Microsoft** credentials, accelerating secure data foundations and generative AI at scale while keeping advice independent and outcome-led.
- **Responsible AI you can trust.** Our Responsible AI framework, governance toolkits, and risk policy make AI adoption transparent, auditable, and compliant, embedding lifecycle controls, model documentation, and human-in-the-loop safeguards aligned to evolving regulation.
- **Impact beyond pilots.** We help organisations become *intelligent enterprises*, using data and agentic AI to create and protect value, with pragmatic roadmaps from use-case selection to scaled operations.
- **Proof through delivery.** Our client stories span enterprise data platforms, IoT and analytics (e.g., Rentokil Initial), and product innovation at scale (e.g., Unilever) where PA has put data and AI at the heart of continuous, market-leading improvement.

1.5.2 Cloud capability (assess, design, build, assure, run)

PA applies an assured cloud delivery approach to complex government and regulated environments, blending client-side delivery assurance, multi-cloud architecture, and resilient operations:

- **Strategy & readiness.** Maturity assessments, target operating models for hybrid/multi-cloud, and cost/benefit modelling; proportionate GDS compliance and ISO 27001 controls embedded upfront.
- **Design & architecture.** Secure, well-architected patterns across Azure, AWS, and Google Cloud; data platforms, identity and access, and cross-domain solutions for sensitive estates.
- **Build & deploy.** Cloud-native engineering, DevSecOps (CALMR), CI/CD, infrastructure-as-code; automated testing and quality assurance to accelerate safe release.
- **Migration & modernisation.** Legacy transformation, platform reviews, and workload migration tuned to resilience and cost; pragmatic FinOps to keep spend predictable and efficient.
- **Operate & optimise.** Observability, incident management, performance tuning, backup/restore, and change management, maintaining business continuity and reducing total cost.
- **Client-side delivery assurance.** Forward-looking, risk-based assurance that keeps complex programmes on track, covering governance, architecture, testing, migration, service readiness and cutover. See our *IT Delivery Assurance* service.

1.5.3 AI, ML and data (from strategy to scale)

- **Strategy & governance.** AI blueprints, operating models, and policy; enterprise data governance; regulatory readiness; centre-of-excellence setup and change adoption.
- **Engineering & MLOps.** Data platforms on Azure/AWS/GCP, pipelines and feature stores; robust ML lifecycle with monitoring, drift detection and auditability.
- **Generative & agentic AI.** Secure integration of LLMs (including Copilot) into workflows for measurable productivity and quality gains, using guardrails, system cards and ROI framing.
- **Responsible AI.** Lifecycle controls and assurance tooling to manage bias, security and transparency.

1.5.3.1 Quantum and emerging technologies

PA's applied physics and quantum engineering teams help clients unlock near-term value, combining quantum techniques with classical systems for decision support, advanced sensing and secure communications:

- **Decision support & optimisation.** Hybrid quantum/classical algorithms to accelerate complex planning, routing and resource allocation where speed and quality of decisions matter.
- **Quantum sensing & RF.** Novel quantum radio and Rydberg-based sensing to enhance spectrum use, detection sensitivity and resilience in contested environments.
- **Commercialisation insight.** Advisory at the “whole-stack” level, hardware, supply chain, interfaces, and ethics, to move from lab to market within national strategies.

These capabilities are industrialised at our Cambridge centre, turning concepts into robust prototypes and pre-production systems across sectors like defence, energy and transport.

1.5.4 Cyber security and digital trust

Digital trust is central to PA's approach. We design security into architecture, operations and culture, aligning to NCSC CAF and GovAssure, and delivering testing, red-team, SOC design and OT/IoT security:

- **Transformation & architecture.** Secure-by-design patterns, cloud security, identity, and cross-domain data protection (including NCSC-approved Oakdoor data diode products).
- **Assurance & regulation.** CAF/GovAssure alignment and pragmatic remediation plans for government organisations.
- **Testing & resilience.** CREST-aligned penetration testing, red-teaming, incident readiness, and operational resilience.

1.5.5 What PA will bring

Ideation & Strategy

- Cloud strategy and advisory services
- Cloud readiness assessments
- Cost/benefit and ROI modelling
- Security and compliance by design.
- AI/ML and data strategy (blueprints, operating model, governance) with Responsible AI policy and guardrails.
- Quantum opportunity framing and whole-stack commercialisation roadmaps.

Design & Architecture

- Bespoke enterprise and cloud architectures
- Integration with existing IT infrastructures
- Hybrid/multi-cloud design
- Continuity and disaster recovery
- Data platforms and MLOps patterns
- Security, privacy and resilience embedded by design in technical designs
- User-centred-design
- Secure cross-domain solutions and high-side/low-side integration where required.

Development & Deployment

- Cloud-native engineering
- Containerisation, microservices and serverless
- DevSecOps (CALMR) with CI/CD and automated testing
- Generative AI and Copilot enablement with measurable productivity outcomes and run-controls.

Implementation & Migration

- Data migration and legacy modernisation
- Vendor selection and management
- Infrastructure-as-code with progressive, low-risk cutover.

Operations & Management

- Observability, incident management, SIEM/SOC design
- Performance optimisation and cost management (FinOps)
- Backup/restore
- User training and change adoption.

Innovation & Scaling

- Scalable cloud infrastructure to support growth
- AI/ML implementation and scaling
- IoT integration
- Ongoing innovation sprints and R&D, supported by our Cambridge engineering labs for rapid prototyping and pre-production.

1.5.6 PA is fully equipped to manage any challenges or requirements you may present

Across strategy, design, build and run, PA blends independent advice with hands-on engineering, operating to ISO 27001 and UK government standards, and backed by hyperscaler partnership depth. Whether the brief is modernising a sensitive cloud estate, industrialising AI responsibly, or de-risking a quantum-adjacent programme, we bring the multidisciplinary team to get from idea to reality, safely, quickly, and at scale.

1.6 A Genuine commitment to Social Value

At PA, we believe in the power of ingenuity to create a positive human future. Central to this ambition is our commitment to developing high-quality opportunities that enable individuals to acquire leading-edge skills, all within an environment that supports personal wellbeing and growth. We invest in our people through comprehensive training and development, ensuring they are fully prepared to tackle our clients' most complex challenges and advance their own careers.

We recognise that diversity drives innovation. Therefore, our recruitment practices are inclusive, welcoming individuals from all backgrounds. Every member of our team is empowered to reach their full potential through inclusive policies, processes, and a culture that is continuously improved using robust data.

We are passionate about creating genuine opportunities for those facing significant barriers to employment. Since 2023, our Digital Apprenticeship Programme has offered a Digital and Technology Solutions Degree through the University of Roehampton or Northumbria University. Our apprentices typically include first-generation professionals, college leavers, and individuals from ethnic minority backgrounds, many living in deprived areas. Additionally, we offer summer internships for undergraduates entering their final year, hosted at both our central London office and the Global Innovation and Technology Centre in Cambridge.

Economic responsibility is integral to our purpose. PA is accredited as a Living Wage employer, and where relevant, we ensure that our suppliers and subcontractors are paid at least the minimum living wage. We are also a signatory to the Prompt Payment Code, demonstrating our commitment to fair and responsible payments to suppliers.

Our carbon reduction targets have been validated by the Science Based Targets initiative (SBTi). We have a published carbon reduction plan and are committed to achieving carbon net zero by 2040, in alignment with PPN 06/21 criteria for UK public sector contracts exceeding £5 million. In 2024, we achieved a silver EcoVadis rating, reflecting our ongoing progress in sustainability.

We are dedicated to delivering targeted social value and will collaborate with you to determine the most effective approach for you, ensuring our efforts have the greatest possible impact.

1.7 Security Clearance

PA are fully compliant with industry best practices for information security, which includes compliance with the UK MOD Industry Personnel Security Assurance (IPSA) standard, against which we are independently audited every three years. PA also has multiple sites with FSC (previously List X) where our dedicated in-house Security Vetting team are based. This allows PA to achieve security vetting of its employees in a time effective manner ensuring the correct processes are always followed (In accordance with the Security Policy Framework/GS007). As a matter of standard process, PA puts all its eligible employees through the Baseline Personnel Security Standard (BPSS), set out by the Cabinet Office. Those employees working on, or planning to work on, government projects are automatically put forward for SC clearance which are processed via UK-SV (formally the Defence Business Services – National Security Vetting). PA also process DV vetting through the UK-SV and other agencies, these are generally client sponsored.

PA currently have a large pool of cleared individuals (80% of UK Staff). Should a resource be identified where clearance is needed, the PA Security Vetting team will then process the individual through the relevant clearance procedure. The team will also be able to validate all existing clearances held by PA employees when requested.

1.8 Next Steps

This service is intended to help customers develop and deliver successful outcomes regardless of the life cycle stage they are at. PA prides itself on working with clients and helping them to deliver outcomes whilst also providing them the ability to 'stand on their own' so that they can move their solutions forward without future involvement. Please contact us on GCloudFramework@paconsulting.com to discuss your needs further.



About PA.

We believe in the power of ingenuity to build a positive human future.

As strategies, technologies, and innovation collide, we create opportunity from complexity.

Our diverse teams of experts combine innovative thinking and breakthrough technologies to progress further, faster. Our clients adapt and transform, and together we achieve enduring results.

We are over 4,000 strategists, innovators, designers, consultants, digital experts, scientists, engineers, and technologists. And we have deep expertise in consumer and manufacturing, defence and security, energy and utilities, financial services, government and public services, health and life sciences, and transport.

Our teams operate globally from offices across the UK, Ireland, US, Nordics, and Netherlands.

PA. Bringing Ingenuity to Life.

Discover more at paconsulting.com and connect with PA on [LinkedIn](#) and [X](#).

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