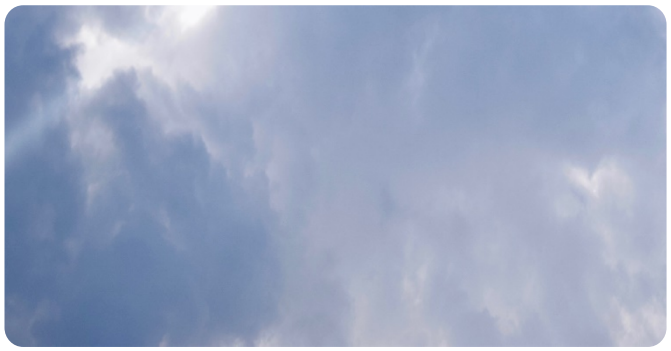

Crown Commercial Service

PA

Cloud Data Platforms & Migrations

GCloud Service Description

Bringing Ingenuity to Life.
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1 CLOUD DATA PLATFORMS AND MIGRATIONS

1.1 Short Service Description

Many of our customers would realise significant benefits by migrating their data platforms to the cloud as a significant step in the delivery of cloud adoption strategies. This service utilises PA's Cloud Data Platform Migration Teams to enable customers to rapidly, and safely move data platform workloads to the cloud.

1.2 Key Service Features

1. Migration of data workloads from on premise to cloud
2. Expertise with on premise burning, and legacy data platforms
3. Defined methodologies, with accelerators for key data platforms
4. Experience of working across the data platform supplier community
5. Multiple cloud vendor support (AWS, Azure, & GCP)
6. Support migration of existing workloads to new build platforms
7. Integrated service bringing together cloud, on premise, and COTS
8. Plan/restructure resources across cloud and on premise services
9. Access to PA's extensive range of services & insights
10. Drawing on a 300 strong pool of Architecture professionals

1.3 Key Service Benefits

1. Proven methodology using PA's Cloud Governance framework
2. Shelve upgrades of on premise databases, and analytics tooling
3. Move workloads off legacy, and end of life hardware
4. Resolve contractual support risks with on premise hardware
5. Safe delivery of Data Platforms to Cloud, mitigating risks
6. Ready-made accelerators to migrate your data platforms at pace
7. Enable accelerated cloud deployment for key reporting workloads
8. Provide access to cutting edge cloud data management tooling
9. Accelerate access to Machine Learning and big data at scale
10. Enable usage of AI data tooling with existing datasets

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1.4 Service Definition

PA has an extensive track record of support our clients to move their enterprise data platform to the cloud. We have experience with multiple on-premise data platforms, and are agnostic, and independent about the target cloud platform.

While our independence is key, we are partners with the major cloud vendors, and are gold or equivalent partners.

We are experienced in dealing with complex on-premise data platforms that typically have grown organically over time, and are poorly documented or governed. We are also used to operating to tight timescales that can be imposed by EOL (end of life) dates for on-premise hardware.

Key features of the service include:

- Provide architectural assurance on the target cloud architecture, the migration architecture, and the on-premises infrastructure underpinning the delivery from a security, resilience and networking point of view
- Validate that the target data platform is resilient & performant
- Design a pilot, and document the pilot learnings, turning these learnings into an actionable plan that draws on our experience of previous deliveries
- Use the pilot learnings to enable the early identification, and mitigation of risks
- Align the business solutions for the migration, ensuring that existing security guardrails and security standards are maintained
- Identify and document upstream/downstream technology impacts of the pilot and any implications for the larger scale migration
- Work with your suppliers to ensure they can deliver their role, and activities as required to complete the migration successfully.

Following the migration, clients are empowered to ring-fence their legacy data, and data-products on a cloud platform. This provides the opportunity to separate legacy from future data products, helping our clients to increase the pace of change, and leverage the new capability that the Cloud offers such as machine learning and AI, and the capabilities required to enable big data at scale. This occurs alongside the legacy data platform allowing much greater capability to migrate products off the legacy platform, and to a new cloud native data platform.

Example: Teradata Vantage to Google Cloud Platform Migrations

We developed the runbook for Google on how to successfully migrate Teradata-to-GCP (using Vantage) – writing seven definitive chapters spanning critical considerations, steps to migrate Teradata and setting-up a scalable & resilient platform, and sustainable operations.

Top-level considerations are:

- **Identity and access management.** Choosing the right authentication option from the traditional authentication options (e.g., Kerberos, LDAP) to federated authentication and SSO integration with existing identity provider.
- **Security.** With large volumes of Confidential or Highly Confidential data in scope, it is critical to ensure that the appropriate controls are in place to protect and manage access to data. We will work with your Cloud Services, Security and IAM teams to ensure the solution complies with established and evolving policies and guardrails.
- **Migration approach.** The large number of jobs and workloads requires careful planning to ensure a smooth transition. Our runbook provides guidance on the pre-migration technology and content assessment required to choose the right migration strategy.

We will bring independent insight and share leading practice throughout the pilot to help collectively solve fundamental Teradata, GCP, security and DR challenges. Our insight is based on:

1. Our Teradata and Google Cloud Platform experience
2. Our knowledge of enterprise data governance, and architecture and its processes & standards,
3. Our prior experience of having done this type of migration before and knowing the key pitfalls.

To safeguard delivery and provide you with regular code deliveries during the pilot, we will use our expert teams working hand in glove with yourselves and Teradata, as well as our guide to GCP security and our Teradata-to-GCP runbook.

Access PA's tried and tested methodology

We have developed an established methodology for the migration of workloads to the cloud, this is dependent on the technology chosen, and the cloud provider. The example below is from Teradata to a cloud hosted Teradata Vantage hosted on GCP.

This methodology has been tried and tested with numerous clients, including large and complex client environments.

Capture your application and data

Select an application, or platform to run the pilot on. Understanding the as-is performance and what changes need to be made in order to maintain this will be key.

We will work alongside your business and technology teams to understand the current architecture, data jobs & batch schedules – and identify critical scheduling overlaps.

Secure access to data

Building on the catalogue of data sources and security policies, we will develop secure patterns to ingest data into Teradata.

From experience, ensuring that TLS is enabled and that the Teradata services are suitably upgraded to support this will be key in ensuring the secure performance of the new platform.

Validate your solution architecture

We will work with your teams to understand the performance characteristics of the application as it responds to the movement of data across the interconnect and identify opportunities for improvement on the Teradata VantageCloud Enterprise environment.

We will work alongside your business and technology teams to validate user access and user experience on the new platform.

Secure your platform

We will work with you to the security framework, and controls for the new platform. We will work with your Cyber teams to understand your security standards, and concerns.

We will validate these and how they are applied in the pilot so we can ensure secure architecture patterns are embedded based on our best practices and experience in delivering complex solutions on Google Cloud.

Rapid prototyping and delivery

We will de-risk our design and build activity through rapid prototyping and using our engineers' deep experience in building on GCP.

Our experience of working in large public sector organisations means we know many of the approvals the platform design and build must go through to be ready for the migration.

Preparing for migration

One of the key goals of the pilot will be to prepare a migration plan with the right activities and team members identified to ensure success.

We will work closely with your team to optimize the plan, conduct technical proof points to validate the migration and iterate with you and our partners, Teradata to ensure we have captured all the capabilities needed to accelerate the migration.

1.5 Why PA?

PA Consulting Group (PA) is a leading IT consultancy and one of the largest advisors to the UK government. We work as a trusted partner to help the UK Government apply an assured cloud delivery approach when developing their most complex information systems and cloud solutions.
PA is well placed to work with clients to help assess readiness, design, build, deliver, and test, to take advantage of cloud solutions. We will bring:

- Leading experience in identifying the costs and complexity drivers for moving existing or new IT services to cloud environments.
- Experience and knowledge to challenge the client organisation to ensure the key stakeholders are aligned ahead of the move to a Cloud solution.
- Access to the latest cloud vendor migration developments, ensuring a best-in-class approach, based on our work with major clients in both the public and private sector in the UK and overseas.
- Experience supporting cloud, in-house and hybrid systems side-by-side

More specifically we will bring:

Ideation & Strategy:
- Cloud strategy and advisory services
- Assessment of cloud readiness
- Cost-benefit analysis and ROI modelling
- Security and compliance assessment

Design & Architecture:
- Custom cloud architecture design
- Integration with existing IT infrastructure
- Multi-cloud and hybrid cloud solutions
- Disaster recovery and business continuity planning
- Robust solution delivery meeting GDS best practice and ISO27001

Development & Deployment:
- Cloud-native application development
- Containerization and microservices & serverless architecture
- DevOps practices and CI/CD pipeline setup
- Automated testing and quality assurance

Implementation & Migration:
- Data migration to the cloud
- Legacy application modernization
- Cloud service provider selection and management
- Implementation of Infrastructure as Code (IaC)

Operations & Management:
- Continuous monitoring and incident management
- Performance optimization and cost management
- Backup and restore operations.
- User training and change management.

Innovation & Scaling:
- Scalable infrastructure to support growth.
- Implementation of AI and machine learning capabilities
- Internet of Things (IoT) integration
- Ongoing innovation workshops and R&D

1.5.1 Social Value

Building a positive human future is at the core of PA's organisational purpose and we live this value as a key advisor and partner to the UK public sector and by delivering tangible benefits to communities and society.

We are passionate about the positive impact PA can have on wider society, making a significant contribution to efforts in tackling inequality, wellbeing, online safety and ensuring effective stewardship of the environment and fighting climate change.

We are committed to maximising Social Value by using our specialist knowledge and skills to develop firm-wide health, well-being and, diversity and inclusion initiatives for our own people, project-specific initiatives with our clients and wider community benefits. We can work with you to deliver measurable improvements across your key social value initiatives.

1.5.2 Security Clearance

PA are a government List X accredited company who have a dedicated Security Vetting team. 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). 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.

1.5.3 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 Twitter.

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