

Cydonia Cloud Platform and Operational Support for Biometrics

Lot 3 – Cloud Support Services

CACI

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1. Description of Service

ADVANCED BIOMETRIC FACE SEARCH PLATFORM

Cydonia delivers a next generation biometric face matching solution optimised for the cloud. Cydonia is built on CACI's 'Jezero' Secure Cloud Platform and is powered by Cydonia delivers a next generation biometric face matching solution optimised for the cloud.

Cydonia is integrated onto CACI's 'Jezero' Secure Cloud Platform and is powered by Paravision Search. This dynamic fusion guarantees not only flawless integration and support, but also scalability, security and a multitude of advanced AI features, propelling Cydonia to the zenith of biometric excellence.

We are a biometric agnostic supplier meaning other biometric algorithms can also be integrated into Cydonia if they are engineered to be cloud native and operate on Kubernetes.

Cydonia can be installed and supported on customers AWS owned accounts or dedicated AWS accounts securely managed by CACI as a managed service.

Licensing for Cydonia is licensed on a per transaction and use case model (e.g. 1:1, 1:n etc)

The cloud native (Kubernetes) architecture enables us to leverage the full power of AWS auto-scaling, both up and down, resulting in significant cost savings over the life of the service compared to traditional fixed compute models.

2. Our AWS Experience

CACI pairs deep AWS expertise as an AWS Premier Tier Partner with strategic, secure cloud delivery experience across defence, public services, finance, healthcare, and critical infrastructure. Our powerful capabilities include:

- First AWS Trusted Secure Enclave Vetted Partner Programme (VPP) in the UK - trusted National Security & Defence sensitive solutions
- AWS Professional Services Partner
- Other critical AWS Competencies including: Digital Sovereignty, Migration, DevOps, and Government Consulting
- Power of More ecosystem partner: 36+ strategic partners across all verticals
- SCA Collaboration Agreement: funding for migrations, proofs of concept, innovation, and marketing
- AWS ISV Accelerate Member: solutions available via AWS Marketplace
- **Jezero Landing Zone Accelerator:** AWS validated secure cloud platform enabling rapid deployment, compliance with global security standards
- **400+ AWS certifications:** held by expert CACI engineers



3. Features and Benefits

Choice of Deployment

Offered as a fully hosted SaaS service or deployable service to customers' AWS accounts.

Massive Scalability

Cydonia can handle virtually unlimited concurrency and support for galleries of up to hundreds of millions of records while maintaining its NIST-tested accuracy.

Extreme Speed

Enrol and match identities at staggering speeds to improve process efficiency and decrease user wait times. Optimised at the assembly language layer, Cydonia delivers over a million matches per second per core.

Native Elasticity

Cydonia is fully elastic, allowing programmatic adjustments in compute resources to help meet real-time demands and drive cost savings during low traffic times.

Flexibility

Architecture to help address multiple use case needs from large-scale Identity Verification (IDV) to day-of-travel passenger facilitation, with deployment flexibility and modular features.

Sophisticated Gallery Management

Works as a distributed database for biometric and vector data, allowing speedy addition and search of data, and enables definition of sub-galleries and focused search with adaptive filters.

Lightning-Fast Market Penetration

Cydonia accelerates integration, helping organisations swiftly implement the system with minimal effort.

Cost Optimisation

Optimise your SLAs around peak periods based on workloads and auto scale up and down to only use the compute you need, saving significant cost and improving sustainability.

4. Cydonia Facial Matching Service



Developed by CACI, a biometric vendor agnostic integration company, Cydonia is a next-gen face matching solution built on CACI's 'Jezero' Secure Cloud Platform and powered by Paravision Search, a top-performing facial recognition technology as evidenced per NIST's FRTE.

Key Features:

- Advanced AI-based facial recognition supporting video and still imagery
- Seamless integration with Paravision Search for cutting-edge facial recognition
- Highly scalable and cost-effective cloud-based solution
- Liveness, Deep fake and Age Detection capabilities

Customer Benefits:

- Unparalleled accuracy, scalability, and flexibility
- Deployable globally or as a managed service
- Suitable for identity management, supporting government, banking, entertainment, retail, and many more
- Delivers value-added services, cloud operating model, technical standards, and pipeline tooling

CACI conducted rigorous benchmark reviews and live trials with AWS, selecting Paravision Search for its superior performance and scalability.

5. Cydonia Performance Metrics

Cydonia delivers exceptional performance metrics, exemplified by:

- Gallery size can scale to hundreds of millions of records
- Enrols 50 million identities in less than 3.5 hours
- 1.4M matches per second per core (Intel(R) Xeon(R) @ 3.10GHz)
- 120 concurrent requests per second (16 CPUs, 100,000 templates)
- Optimised for Paravision Face recognition, repeatedly ranked #1 globally in NIST Facial Recognition Vendor Tests (FRVT)

6. AWS Reference Feedback

TIM PRECIOUS - AWS Enterprise Global Account Manager for Thomson Reuters, July 2023

"I have written this in context of the feedback I have had from the AWS lead on the Home Office as well as a very deep look at the work executed at NHS Digital - which I know you know - is held up as a beacon of success and execution by AWS exec globally.

The differentiator on TR was the breadth and depth of knowledge of AWS services that you have demonstrated, providing Thomson Reuters advice on building highly secure, scalable, cloud-native services on AWS using best practice. This thought leadership was instrumental to remediating numerous high impact concerns shared by AWS and also providing strategic direction going forward to reduce risk and optimise costs.

Also, I don't think we're finished yet. I see a considerable amount of work ahead as you help inform the TR team on the absolute criticality of right sizing, optimal architecture and the shared responsibility model we host for Cloud with our clients. That includes the automation importance you have unearthed and highlighted.

You get it. We continue to lean on you for execution of the best practice engagements you have built with and for TR & AWS"

NEIL BEET - AWS NATO Team Lead, Global National Security & Defence, February 2024

"By leveraging the AWS Trusted Secure Enclave (TSE) as its cloud foundation, NATO School Oberammergau (NSO) migrated to Amazon Web Services (AWS) in weeks whilst putting security and resilience at the core its approach.

This is a strong example of how customers are able to move at speed, made possible by leveraging AWS' unparalleled experience in working with national security and defence organisations globally, alongside deep AWS expertise from CACI Ltd as an Advanced AWS Partner."

7. Information Assurance and Security

CACI IS ISO27001, ISO9001 & CYBER ESSENTIALS+ ACCREDITED

- CACI is committed to ensuring its people, processes, information and technologies are secured in line with an industry best practice standard for security whilst adhering to our legal, regulatory and contractual obligations. CACI maintain an Information Security Policy and associated corporate policies to ensure its staff, processes, information and technologies manage the risk from threats.
- The Information Security Policy is certified to ISO/IEC 27001 best practice standard for information security. These policies are reviewed regularly by the CACI Information Security group and tested by both internal and external audits. The Business Continuity and Disaster Recovery Plan(s) are also integral to our ISO27001 accreditation. All changes in risk or interested parties' requirements are reflected in procedures across the business alongside a commitment to continual improvement and industry best practice.
- Information Intelligence Group (IIG) have secure facilities and have additional governmental controls on top of the standard CACI Security Policy.
- In addition, CACI have attained Cyber Essentials+ and ISO9001 accreditation. CACI has a very strict approach to data breaches. We are unambiguously committed to complying with GDPR with full sponsorship at Board Level.
- Staff are cleared up to Developed Vetting (DV).

8. Ordering and Invoicing Process

CACI PRIDES ITSELF IN BEING EASY TO DO BUSINESS WITH

With this in mind, we take an agile approach to all our engagements, working closely with customers and their stakeholders to design and deliver cloud services in an iterative manner. This enables us to meet specific requirements as well as delivering value and benefit for our customers as early as possible.

Prior to the delivery commencing, our Engagement Manager will work with the customer to agree the outcomes for the engagement, including:

- Defining the success criteria and ensuring the commercials align
- Agreeing specific deliverables for the engagement
- Agreeing the specific ways of working and governance for the engagement
- Understanding the security constraints and ensuring the relevant clearances are in place
- Defining and agreeing the team size/resourcing required
- Putting the commercials in place in line with the G-Cloud framework

We will then produce a proposal which contains a Services Supply Agreement, detailing the scope of work and the associated price. For details about our standard invoicing process, please refer to the Terms and Conditions document.

9. Testing and Quality Assurance

CACI TEST ENGINEERS BRING EXTENSIVE EXPERIENCE OF CLOUD-NATIVE TESTING WITH INDUSTRY RECOGNISED TOOLING

- CACI have an engineering mindset, delivering software and cloud solutions to exacting standards of performance and quality.
- Our ISTQB qualified Test Engineers have extensive experience, quality assuring and performance testing mission critical applications across the full testing lifecycle. They work in agile teams, either embedded in the customer's organisation or as part of a wider CACI team, and our Test Engineers bring a wealth of Cloud-Native Test Automation experience.
- Our testing model follows an automation by default approach and ensures continuous testing is undertaken throughout the lifecycle to help improve the quality and speed of software delivery. This includes the use of automation tooling and the implementation of Continuous Integration and Delivery (CI/CD) pipelines. Our test engineers have a DevSecOps mindset, which means they focus on quality, security and operational running when they are quality assuring a system.
- We work closely with our customers to define a Test Strategy and supporting approach to automation that is designed for services running in the cloud, be that public, private or hybrid. Our Test Engineers will work collaboratively with the business, technology and security teams to understand their requirements and associated business and technical risks. From that they define a risk-based test strategy and related test plans with automation at its heart. We can advise on the technology and tools that best meet the specific needs of each customer environment, integrating with existing systems as processes as appropriate.
- CACI Test Engineers bring extensive experience of performance testing using a range of industry recognised tooling, often processing extremely high volumes of data. We also have engineers who have experience of Data Migration and Performance Testing legacy application as they are migrated to the cloud.

10. After Sales Support and Service Levels

ITIL STYLE SERVICE OR DEVOPS STYLE SUPPORT

We provide service management and operational support for software provided by CACI and deployed in the cloud. We provide ITIL style service management capabilities alongside integrated DevOps style support. Details of the support offered are below:

- Office and extended office hours support as standard
- 24x7x365 for customers providing critical services (by agreement and additional cost)
- 1st, 2nd and 3rd line support provided as required
- Systems are in place to liaise with other support partners
- Contact via e-mail, phone and / or JIRA-based service desk ticketing system
- Custom SLAs agreed with customers to optimise the cost of service management depending on the level of support required and mission/business criticality of service
- Regular service reviews
- Focus on communications and reporting both across incident lifecycles and scheduled maintenance
- Support levels are agreed on a customer-by-customer basis to ensure the right fit to each customer's specific needs.

11. Business Continuity and Disaster Recovery Plan

OUR BUSINESS CRITICAL INFORMATION AND SYSTEMS ARE BACKED UP DAILY

- Our well established and regularly audited Business Continuity and Disaster Recovery Plans mitigates against all possible risks. The CACI Business Continuity Plan is a living and continuously updated solution which exceeds the requirements of ISO27001 accreditation. It is reviewed formally on an annual basis by external auditors as part of our ISO27001 audit and is accessible to all staff. It covers the response of the business in the case of a major incident or emergency.
- Our regular checks ensure we update our Business Continuity Plan to keep in line with emerging risks. As such it has evolved over time as we have grown as a business and taken on a broader variety of work with a range of customer requirements. The Business Continuity Plan reflects the nature of the work we do and how we would be able continue delivering the work promised to our customers in the event of an emergency or major incident. The Business Continuity Plan also considers the ever-changing threats and current political climate to ensure that our response is up to date with the threats and pressures we maybe under as a business working in the Defence and Intelligence Industries.
- The Senior Leadership Team regularly review the plan to ensure that we are aware of any changing business factors for this to remain a compliant and realistic document.
- CACI's secure connections and encrypted back-up devices are checked monthly as part of our IT Security and Encryption Procedure. In addition, the encrypted back-ups are tested and sent off site at the end of each working day to a specialist storage contractor. CACI's office in Bristol requires several systems to be operational in order to deliver the services it provide to its customers; these are tested daily by a member of the CACI Bristol Technical Team and more rigorously tested monthly by the CACI IT team as part of their Security Incident Policy and Response Procedure. The Business Continuity Plan requires these systems to be operational and effective for staff to work remotely in case of an emergency or major incident. Agreements are also in place with partner organisation, so that staff working on secure projects have back-up locations to work from.

12. Pricing Overview

WE OFFER FLEXIBLE PRICING MODELS TO ENSURE VALUE FOR MONEY

- After actively engaging with our customers to make sure our solution is the right fit, we offer a flexible commercial solution to ensure value for money. We have three typical models, namely Time & Materials, Fixed Price or Managed Service based. The following table provides more detail.
- The pricing approach for this consultancy service is set out in our Pricing Document and Lot 3 – Cloud Support Rate Card.

Model	Detail
Time and Materials (T&M)	T&M is appropriate where the requirements need further elaboration and are subject to change, or where customer consumption of certain elements, such as Architect or DevOps resource is variable. T&M is typically calculated on day rate using the Lot 3 – Cloud Support Rate Card.
Fixed Price (FP)	Fixed pricing can be offered when the statement of work requirements are clearly defined and agreed by both parties. This necessitates the availability of mature and accurate input documents so that the amount of effort to achieve the project deliverables can be calculated. In addition, any project risks, issues, assumptions or dependencies need to be stated and measured. Pricing is available on request and is based upon the day rates shown in the Lot 3 – Cloud Support rate Card.
Managed Service (MS)	Managed Services are typically delivered via CACI's 24x7, 3-tier technical support working within our ITIL aligned Service Management system. Pricing is tailored to meet the customer's Service Level Requirements and is based upon the day rates shown in the Lot 3 – Cloud Support Rate Card.

Thank you

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