

Service Definition Document:

heata Compute: Sustainable GPU & CPU Compute Orchestration (Lot 2a: iSaaS)

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1. Introduction

The Sustainable Compute Platform is a SaaS-based orchestration platform designed to automate Data Science, Accelerated Computing, AI, Machine Learning, and High-Throughput workloads across a distributed, zero-carbon infrastructure.

We provide a unified API, intelligent scheduling, and granular carbon reporting, enabling public sector teams to seamlessly decarbonise containerised CPU/GPU workloads without the complexity of managing underlying physical hardware.

2. Key Features and Benefits

2.1 Service Features

- Smart Orchestration: Automated scheduling of Batch, ML & AI workloads across a distributed network.
- Universal Compatibility: Native support for OCI-compliant containers (Docker, Singularity).
- Infrastructure: supports both CPU and GPU workloads
- API-First Control: Full programmatic control via comprehensive REST API and CLI.
- Real-Time Visibility: Unified dashboard for monitoring performance, cost, and carbon savings.
- Granular Billing: Precise per-second billing with automated budget cap enforcement.
- Secure Isolation: Software-defined network isolation with encrypted execution environments.
- Sustainability: Waste heat from servers is captured and reused to heat residential homes.

2.2 Service Benefits

- Decarbonisation: Significantly reduce carbon emissions of compute workloads.
 - Social Value: Direct reduction of domestic energy bills for UK households via heat reuse.
 - Cost Efficiency: Significant cost savings compared to traditional hyperscale cloud providers.
 - Resilience: Platform-managed redundancy ensures job completion despite node availability.
 - Zero Lock-in: Built on open standards ensuring workloads remain portable across any cloud.
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- Audit Readiness: Automated, exportable reporting on cost, carbon, and social value metrics.
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3. Technical Specifications

3.1 Infrastructure & Deployment

- Deployment Model: Public Cloud (SaaS) delivered via a distributed UK-wide network.
- Fault Tolerance: Our 'Automated Scheduling Engine' detects node unavailability and rapidly re-schedules workloads to healthy nodes.
- Cloud Bursting: Automated failover to Tier-1 public cloud providers ensures 100% committed capacity is always met.

3.2 System Requirements & Integration

- Interface: Secure Web Console (HTTPS) or native CLI (Windows, macOS, Linux).
- Identity: Supports Enterprise SSO (SAML 2.0 / OIDC) including Azure AD and Okta.
- Storage: Native integration with S3-compatible and Azure Blob storage.
- Automation: Fully documented OpenAPI/Swagger reference for CI/CD integration.

3.3 Workload Suitability & Constraints

The heata compute platform is purpose-built for high-performance, sustainable processing. To maintain efficiency and resilience across our distributed network, the following constraints apply:

- Stateless Architecture: The service is (ideally) optimised for stateless workloads. Applications should not rely on local persistent storage across restarts.
 - Fault Tolerance: workloads are ideally fault-tolerant and capable of being rescheduled. We recommend the use of checkpointing for long-running batch jobs.
 - Non-Suitable Workloads: This platform is not intended for legacy 'monolithic' stateful applications or databases requiring constant, high-availability synchronous disk replication.
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4. Security & Information Assurance

4.1 Compliance & Governance

- Certification: Fully certified to Cyber Essentials Plus.
 - Vetting: Staff vetted up to Security Check (SC) level where required.
 - Penetration Testing: Annual IT Health Checks performed by CREST-accredited providers.
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- Data Residency: All data storage and processing occurs within the United Kingdom.

4.2 Operational Security

- Access Control: Mandatory Multi-Factor Authentication (MFA) and Role-Based Access Control (RBAC).
- Encryption: Data is encrypted at rest (AES-256) and in transit (TLS 1.2+).
- Vulnerability Management: Weekly automated scanning with a 14-day remediation SLA for Critical/High vulnerabilities.

Service Management & Support

5.1 Availability (SLA)

- Control Plane Uptime: 99.9% monthly uptime for API and Management Console.
- Committed Capacity: 99.5% availability for scheduled compute resources.

5.2 Support Levels

Heata provides three distinct support levels to match the technical criticality of the Buyer's workload:

Feature	Standard	Professional	Enterprise
Access Channel	Online Ticketing & Documentation	Email & Online Ticketing	Direct Phone, Slack/Teams & TAM
Response (S1/P1)	2 Business Days	1 Hour	1 Hour
Support Hours	9am-5pm, Business Days	9am-5pm, Business Days	24/7, 365
Support Type	Reactive (Bug fixes)	Reactive (Specialist Engineer)	Proactive (TAM Partnership)
Service Reviews	N/A	Annual	Monthly

Monthly Fee	Included	5% of Spend (Min £500)	10% of Spend (Min £3,000)
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6. Onboarding & Offboarding

6.1 Onboarding

Public sector users can become operational in minutes via our secure self-service portal. We provide:

- **Documentation & Tutorials:** Comprehensive guides and "Quick Start" code templates in our GitHub repository.
- **Specialist Support:** Free one-to-one setup sessions with our Cloud Support Engineers for initial architectural reviews and containerization strategy.

6.2 Offboarding (Zero Lock-in)

- **Data Portability:** All job metadata, logs, and billing history are exportable via API (JSON) or Web Console (CSV).
 - **Data Mobility Waiver:** To support the UK Government's multi-cloud strategy, all data egress transferred between the Platform and other UK Public Sector cloud environments is provided **free of charge**.
 - **Secure Exit:** A 30-day grace period is provided for final data extraction post-termination, followed by permanent cryptographic erasure of all metadata.
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7. Social Value and Net Zero

Our service directly supports the UK Government's Social Value Model (Outcome 3: Fighting Climate Change). We provide buyers with a transparent audit trail of:

1. Carbon saved (gCO₂eq) compared to standard grid-powered compute.
 2. Social Impact: Financial savings delivered to UK households through our heat-reuse technology.
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Section 8: Regulatory Compliance & Transparency (New Section)

8.1 Procurement Act 2023 Compliance

Heata acknowledges the Buyer's transparency obligations under the Procurement Act 2023. We provide full access to records and data necessary for the Buyer to verify compliance with security, financial, and data protection obligations under the G-Cloud 15 Framework.

8.2 Security Principles

Our security framework is aligned with the 14 NCSC Cloud Security Principles. We maintain Cyber Essentials Plus certification as a mandatory requirement for G-Cloud 15 Lot 2a.