



TwinStream

Resilience. Redefined.

Cross Domain as a Service – Service Definition

G-Cloud 15



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2 Cross Domain as a Service

2.1 Solution Overview

TwinStream is the UK's leading provider of Cross Domain Solutions (CDS), specialising in the design, build and ongoing support of secure information-exchange capabilities for government, defence and national security organisations.

Our CDS products are built in full alignment with NCSC patterns and principles, delivering high-assurance protection at the digital boundaries of our customers' enterprises.

Using Agile delivery methods, we develop, deploy and operate technology that enables controlled, auditable data flows between networks of differing security classifications. This provides organisations with centralised visibility of information entering and leaving the enterprise, supporting more effective governance, assurance and security oversight. By enforcing policy-driven controls, the service also enables risk to be proactively managed, reducing the likelihood and impact of data-handling incidents.

TwinStream has engineered a disruptive technical architecture that simplifies integration and streamlines operations, significantly driving down the total cost of ownership while maintaining robust security guarantees. Once live, our service is fully managed and can be seamlessly integrated with existing service-management tooling.

We work continuously with customers to evolve their CDS capabilities in line with rapidly changing mission and business objectives. Combined with our Agile ways of working, the service delivers organisational agility, scalability, flexibility and cost efficiency—while keeping compliance, assurance and security at the forefront of every solution.

2.2 Features

1. End-to-end implementation of a fully managed Cross Domain service
2. Use case agnostic (API, file transfer, email, chat, etc.)
3. Highly scalable, enterprise-grade capability
4. Implements NCSC patterns and principles for safely importing/exporting data
5. Highly resilient capability using modern cloud principles
6. Agile delivery enables rapid, flexible response to changing business needs
7. Event-driven architecture enables straightforward addition of new features and functionality
8. Easily integrated with corporate protective monitoring and compliance services
9. Incorporates best-of-breed COTS technology from a variety of vendors
10. Management information metrics available in real-time

2.3 Benefits

1. Flexible, agile capability enabling new partners to be rapidly connected
2. Reduces information security risk (malware, data loss/theft/corruption/denial of service)
3. Disruptive architecture offers huge cost savings compared to traditional approach
4. Commoditised Cross Domain capability enables reuse of mature, proven technology
5. Use of standards-based technology enables interoperability and economies of scale
6. Use of high assurance 'hardsec' technology provides state-of-the-art assurance
7. Preserves file format, maximising usability for end users
8. Enables the automation of legacy manual processes
9. Continuous service improvement driven from real-time insights
10. Access to TwinStream's highly skilled security cleared Cross Domain experts

3 Project Methodology

3.1 Agile Methodology

TwinStream adopts an agile, Kanban-based approach to software delivery that emphasises continuous flow, transparency and close collaboration with our customers. We work directly with stakeholders to elicit requirements, shape high-level solution concepts and develop coarse-grain delivery roadmaps that are prioritised strictly by customer value. These roadmaps are then progressively refined into operational backlogs, where features are decomposed into finer-grain, actionable items that any member of the delivery team can confidently implement. This structured yet flexible approach ensures that delivery remains adaptive, customer-led and consistently aligned with evolving business needs.

Our software development processes follow established industry best practice through a secure, ISO27001-aligned development framework that ensures robust governance, risk management and data protection at every stage of the lifecycle. Our teams deliver using a modern CI/CD pipeline, enabling rapid, reliable and test-driven releases while maintaining consistently high quality. We also continually evaluate and select the most appropriate technologies for each project, ensuring solutions are efficient, secure and aligned with long-term strategic needs.

3.2 Project Delivery Phases

TwinStream has developed a delivery framework based on the Government Digital Service (GDS) Service Manual. This is a model that most closely aligns with the expectations of our customers, whilst affording us the freedom to maintain our agile practices and our flexible approach to delivery. It also provides a project management framework within which we can assess security risk, capture security requirements and validate that we have met them, in line with ISO 27001 best practice.

3.2.1 Discovery

The Discovery phase is a short phase in which TwinStream will explore service user needs to develop high-level requirements. It is focused around 4 key areas:

- EXPLAIN the capabilities of our existing Cross Domain Service offering
- UNDERSTAND the business needs of the customer and the environment in which the Cross Domain Solution must reside
- AGREE the constraints and limitations that must be imposed on the proposed solution due to the nature of the customer business and the legislation/governance it is subjected to.
- EXPAND the capability design by performing a gap analysis, identifying associated risk and proposing mitigation activities for the Alpha phase

3.2.2 Alpha

Alpha is a short phase in which solutions are prototyped to meet identified user needs in order for delivery risk to be mitigated. Testing/reviewing with a small group of users or stakeholders and getting early feedback feeds into the design of the service. Developing prototypes and proving out concepts mitigates risk off the critical path of Beta and provides early feedback, which helps clarify user needs and inform the solution design. On completing the Discovery and Alpha phases, the team will have an improved understanding of the services, user needs and solution architecture and a plan for 'Beta into Live'.

3.2.3 Beta

During the Beta phase, TwinStream builds on the risk-mitigation activities completed in Alpha, validating proposed designs and approaches in real-world conditions while addressing any remaining technical or delivery uncertainties. This stage includes installing and deploying the required hardware and infrastructure, as well as expanding the functional capabilities of the service to meet identified user needs through iterative development and testing. Throughout Beta, we ensure the evolving solution is scalable, performant and maintainable, applying engineering best practice and continuous feedback to refine the service ahead of live operation. In

parallel, we also design the service management offering that will be provided during the Live phase, ensuring robust support, monitoring and operational readiness from day one.

3.2.4 Live – Sustain

Once a Cross Domain solution enters live operation, customers transition to our Sustain service: a comprehensive, ITIL-aligned service management offering designed to ensure the solution remains secure, stable, high-performing and responsive to evolving business needs. Sustain combines the rigour of established service management frameworks with TwinStream's agile delivery mindset, enabling us to adapt quickly, implement change safely and continually enhance value. Every Sustain engagement is tailored to fit the customer's environment, internal processes and operational constraints, ensuring seamless integration with existing governance, support and delivery practices.

Our Sustain Service typically includes:

- **Incident Management** – TwinStream provides a structured, multi-tier incident management model to ensure rapid and effective resolution. Customers typically perform first-line triage and direct relevant incidents to us via an appropriate ticketing system. Our onsite resolver groups act as second-line support, addressing operational and configuration issues, while complex or product-specific incidents are escalated to our third-line DevOps specialists. We apply a test-driven approach to incident resolution—write a failing test, apply a fix, verify the test passes—ensuring quality improvements are repeatable and robust.
- **Monitoring & Event Management** – Our Cross Domain solutions are instrumented with proactive monitoring and automated alerts, providing near-real-time visibility of abnormal conditions. TwinStream staff continuously observe this monitoring stack and supplement it with daily, weekly and ad hoc manual checks. Alerts are acknowledged, investigated and acted upon promptly, with tickets raised where needed to support full traceability and faster remediation.
- **Problem Management** – We regularly analyse incident trends and backlogs within Jira to identify recurring problems. Using structured techniques such as the 5-Whys, we perform root-cause analysis and propose remediation options that are sized, prioritised and fed into a continuous service improvement backlog. Approved improvements are delivered as part of the controlled change process, ensuring long-term stability and reliability.
- **Change Management** – TwinStream operates a pragmatic and risk-aware change management approach. Low-risk changes are delivered as business-as-usual within our agile workflow, while higher-risk or service-impacting changes are presented to a Change Advisory Board (CAB). Working collaboratively with the customer, we assess, plan and schedule major changes to minimise disruption and ensure continued compliance with assurance and security requirements.
- **Knowledge Management** – A shared, actively maintained knowledge base ensures that critical service information remains accurate, accessible and ready for operational use. This includes troubleshooting guides, architectural references, configuration details and runbooks. Keeping this knowledge up to date enables TwinStream resolver teams to diagnose and resolve issues efficiently, reducing mean time to resolution (MTTR) and improving overall service reliability.
- **Release & Deployment Management** – Given the agile nature of sustainment and continuous improvement work, releases and deployments are routine, well-orchestrated activities. TwinStream uses a CI/CD pipeline and automated quality gates to ensure every change is tested, validated and deployed safely. This approach builds quality into the lifecycle and enables frequent, predictable releases without increasing operational risk.
- **Service Testing & Validation** – TwinStream's testing strategy reflects industry best practice for modern software delivery. Automated testing—covering unit, feature, integration, performance, deployment, and smoke testing—ensures rapid detection of issues and reduces the cost and risk of change. Our

automated tests are self-documenting, clearly expressing setup conditions, test actions and expected outcomes, supporting both quality and maintainability.

- Configuration Management System (CMS) – TwinStream maintains a structured Configuration Management System that records the components, environments, dependencies and configuration items that make up the service. This provides assurance that the live environment is understood, auditable and reproducible, and supports efficient impact assessment for change, incident and problem management activities.
- Continual Service Improvement (CSI) – CSI is embedded into the Sustain model. We use performance data, incident metrics, risk logs, retrospectives and customer feedback to identify opportunities for enhancement. Proposed improvements are prioritised based on value and added to the CSI backlog, ensuring the service evolves alongside business needs and operational realities.
- Service Reporting & Measurement – We work with customers to define a meaningful set of KPIs aligned to service outcomes, operational effectiveness and user experience. These are reviewed in monthly service reports with key stakeholders, ensuring transparency, accountability and shared understanding of performance. KPIs are continuously refined to reflect what delivers the greatest value.

3.2.5 Retirement

In the retirement phase, TwinStream follows a structured approach to ensure that services are decommissioned safely, responsibly and with minimal disruption. We work closely with customers to plan and support the migration of users, data and processes to successor systems, ensuring continuity and regulatory compliance throughout the transition. All hardware and infrastructure assets are securely disposed of or repurposed in line with environmental and security standards. We also manage resource planning for an orderly wind-down of operational support, ensuring knowledge transfer, documentation updates and stakeholder communication are completed. This controlled, transparent process ensures that services are retired cleanly while protecting data, users and organisational value.

4 Why TwinStream?

TwinStream is the UK's leading provider of Cross Domain Solutions (CDS) and is trusted by organisations that require the highest level of security when transferring data in and out of their organisation.

Here's why TwinStream is the partner of choice for our customers and is best placed to meet all your CDS needs:



A trusted partnership which is an extension to your existing team and aligned with your goals and processes, evidenced by our track record in government, defence and national security organisations



High-assurance protection at the digital boundary of your business with CDS products built in alignment with NCSC patterns and principles



Minimal demand on your internal team as TwinStream provides the full end-to-end solution: design, build, implementation, and ongoing sustainment



Flexibility to meet your changing requirements with Agile methodology at the core of our delivery processes



Reduced cost of ownership due to disruptive technical architecture that simplifies integration and streamlines operations



Strengthen your internal team with access to 50+ technical experts with availability to work onsite, integrating with your systems and processes



Save time on lengthy clearance processes by using our security cleared staff, with various clearance levels available to meet customer needs, up to DV



Protect your data with a security-minded partner whose processes are accredited to ISO 27001 and Cyber Essentials Plus standards

