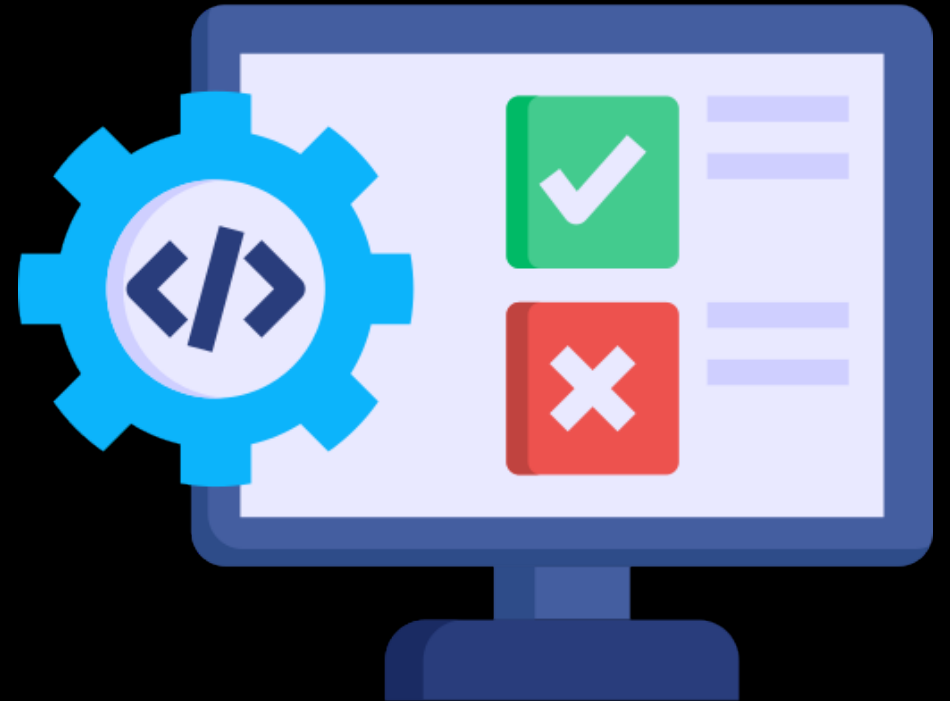


Higher Education: Test Environment & Test Data Management



Higher Education: Test Environment & Test Data Management

Service Overview

- Effective Test Environment Management (TEM) and Test Data Management (TEM, TDM) are critical elements in the success of a HEI's test function, with both areas often challenged by inefficiencies and a lack of specialist skills and knowledge to ensure optimal set-up and management.
- We offer a comprehensive service in this area staffed by specialist resource with the experience and expertise, supported by technology and tooling to cover your requirements from a short assessment and roadmap engagement through to a managed test environment and data service.

Service Features

- Range of services from short, sharp assessment through to managed service offering for both test environments and test data.
- Experienced test environment and test data management practitioners.
- Proven processes and methodologies.
- Access to, and experience in, all leading enterprise and open-source tools and technology.
- Range of services from short, sharp assessment through to managed service offering for both test environments and test data.

Business Benefits

- Reduce total cost of environment provisioning and management.
- Reduce downtime and blockages due to environmental issues leading to reduced time to market and cost.
- Increase test coverage leading to higher quality products delivered into production.
- Reduce time and cost in provisioning suitable test data.

Test Data Management (TDM)

- Obtaining realistic test data at sufficient volume and complexity – while adhering to GDPR – can often be a major issue impacting test timelines and/ or test coverage and product quality for Higher Education Institutions. Typical test data challenges include:
 - **Timeliness:** Delays in test data provision extending test cycles ultimately leading to a risk of go-live delay.
 - **Data Risk:** Sensitive data across the enterprise is hard to find and identify for data protection compliance requirements.
 - **Data Richness:** Using old or incomplete data sets can lead to gaps in test coverage and so an operational risk post go-live.
- We offer a comprehensive TDM service based around leading test data management professionals to set up the required processes and tooling to enable the demands of your testing to be met through combining elements of data sub-setting, masking and on-demand data generation.
- We will take a six-step process to set up your test data management function for success:
 1. **Baseline Discovery:** Analyse your TDM requirements together with your current test data management function
 2. **Plan and Design:** Design the solution to meet your requirements covering people, processes and technology
 3. **Build:** Choose the right tools for your TDM needs
 4. **Pilot:** Undertake a pilot to prove that the new TDM will meet requirements and deliver intended benefits.
 5. **Deploy:** Undertake the full deployment based on the roll-out plan
 6. **Realise:** Measure benefits and support and train client staff as part of handover (if required)

Higher Education: Test Environment & Test Data Management

Test Environment Management (TEM)

- Test environment creation and management is a critical, and often costly, element in the overall test effort for a Higher Education Institution.
- Typical test environment challenges include:
 - **Cost:** Test environments can be expensive to build and maintain often consuming a significant portion of the budget.
 - **Control:** Ineffective control of the environment configuration can lead to numerous issues and delays increasing cost and time to market.
 - **Resource:** Available resource with the specialist skills to effectively create, maintain and control environments can be hard to find.
- We offer a comprehensive TEM service based around specialist test environment practitioners who can review and assess existing practices for improvement opportunities through to taking ownership of the Test Environment function (including build, management, de-commissioning) via a managed service offering.
- Our environment design and build is undertaken with direct engagement and consultation of vendors, architects and engineering disciplines.
- It provides for environment configuration and software release management and will help you manage environment access and scheduling across different programmes and teams.



Higher Education: Test Environment & Test Data Management

Test Environment Tooling

Test Environments consist of a large number of configurable items (CIs) that must be managed as a single source of truth.

Test Environment Management (TEM) tools can provide centralised access to:

- Environment Knowledge Base
- Environment Booking System
- Environment (Infrastructure) Orchestration
- Build & Deployment Tools
- Infrastructure Configuration Tools
- Environment Shakedown Tools
- Service Support Tools (Incident & Change)
- Environment Health Dashboards

Often the information and control of these elements can sync with existing enterprise tools (e.g. Service Now for CMDB or Jenkins for Build Management).

Example tools include:

- Plutora
- Enov8
- Apwide (JIRA Addin)
- Xebia (Release Orchestration)
- In addition we can review and repurpose your existing tools to help build the visibility i.e. SharePoint, Power BI, etc

Test Data Tooling

In any system, data is stored in different formats, types, and locations with different rules are applied to this data.

Effective TDM tools can enable:

- Locating the appropriate test data
- Extracting a subset of data from the data collected from multiple data sources
- Apply masking for sensitive test data, such as PII data
- Perform a comparison between the actual data and baseline test data to check the accuracy of the application
- Refresh test data for re-use

Example tools include:

- Datprof
- CSI Test Data Automation
- Informatica
- Delphix

Partners & Clients

Our Higher Education Clients



Our Partner Ecosystem



A Selection Of Our Higher Education Projects & Benefits

Client	Project Brief	Infuse Services Provided
University College London	Tribal SITS-to-Cloud project to manage, plan, implement testing strategies, tools, automation and frameworks around functional, non- functional testing across the test lifecycle. Enhance the UCL team Benefit: Automate 90% of testing and reduce regression testing on SITS to under 5-hours	Test Management, Functional Test Delivery, Continuous Testing, Performance Engineering and NFT
King's College London	Managed services across several projects: VLE, ERP, Access systems,, R&D, Curriculum, LMS, CRM and Student lifecycle. Benefit: 40 projects since 2018; saving 35% on testing costs since start of work	Development Lifecycle Review, Test Management, Functional Test Delivery, Continuous Testing, Performance Engineering and NFT
University of East Anglia	Managed services across several projects: Admissions, Curriculum, Tribal SITS, Tribal SITS-to-Cloud and Test Strategies. Benefit: Automated 200 tests across SITS and reduce regression testing to 3 hours	Test Management, Functional Test Delivery and Continuous Testing,
London Southbank University	Architecture and Test Lifecycle support for LSBU's LEAP programme encompassing the rollout of Salesforce, ESB, Identity management and a new cloud-based student record system since 2020	Architecture Review, Full Stack Development, Test Management, Functional Test Delivery, Continuous Testing, Performance Engineering and NFT
Queen Mary University of London	Re-architecture of the Moodle environment on Azure and performance testing of the clearing process and telephony systems (functional and non-functional) simulating 400 call agents since 2020. Testing of WiFi network throughout the university Benefit: Mitigated issues that would have stopped 75% of calls getting to the clearing agents 2 years in a row	Architecture Review, Performance Engineering and NFT
Edinburgh Napier University	DevOps maturity with recommendations in process of being implemented	ICM Assessment, DevOps roadmap, business case and transformation roadmap
University of Exeter	Performance Testing projects across VLE migrations and upgrades Benefit: Mitigate issues related to Moodle during enrolment and exams during the Pandemic	Performance Engineering and NFT
University of Aberdeen	DevOps (ICM) transformation assessment, test automation POC and tool chain assessment for Applications Management team	Infuse Capability Modelling/TMMi Model for DevOps
Anglia Ruskin University	Enterprise architecture consultancy around recommending integration roadmap of 100+ subsystems using Event Streaming	Architecture Review
University of Bristol	myERP the new integrated Finance, HR, Payroll and Procurement system Student Lifecycle Support Programme which will transform how students interact with the university Save over £1m in testing costs across the programme	Test Management, Functional Test Delivery, Continuous Testing, Performance Engineering and NFT
University of Bradford	Bradford are re-implementing Tribal SITS and have no test process, team or tools.	Test Management and Functional Test Delivery

Our Education Community Contributions

Event	Content Title/Link	Summary
UCISA CISG Dec. 2023	<u>Learn how Southampton Solent University (SSU) recently delivered a challenging student transformation programme on time and on budget</u> Aaron Tyler, SSU Programme Manager, Southampton Solent University	In this video (presented at UCISA CISG-2023), SSU Programme Manager Aaron Tyler presents how SSU rescued a challenging Student Record transformation programme that went live successfully in August 2023.
UCISA Webinar Nov., 2022	<u>UCISA Webinar - Why Non-Production Environment Management (NPEM) is critical to Digital Transformation success.</u> Jessica Roberts, Head of Transition & QA, King's College London	Learn how King's College London (KCL) approach Non-Production Environment Management (NPEM) using the Infuse NPEM model., giving them long term benefits in terms of time, cost, and better quality.
UCISA CISG Dec. 2022	<u>Learn how King's College London is leveraging the power of Cloud and Automation to deliver software continuously</u> Jessica Roberts, Head of Transition & QA, King's College London	Learn about KCL's continuous testing journey covering 35 projects across Testing, Non-production environments, Development lifecycle consulting, Test Automation, Performance Engineering
UCISA Leadership Mar 2022	<u>Are you ready for Clearing ?</u> Rupa Dey, Deputy CIO, Queen Mary University of London	Learn how QMUL handled clearing in 2021 and plan to handle clearing in 2022
UCISA CISG Nov. 2021	<u>Having your cake and eating it!</u> Ian Robotham, Assistant Director, University of Aberdeen	Learn how the University of Aberdeen plan to reduce cost, improve productivity, and improve student/staff UX through streamlined enterprise architecture
UCISA CISG Nov. 2020	<u>Storming and Performing with Covid-19</u> Richard Young, Assistant Director, Queen Mary University of London Jessica Roberts, Head of Transition & QA, King's College London Mark Sanders , Program Manager, University of Exeter	Learn about how University of Exeter (UoE), King's College London (KCL) and Queen Mary University of London (QMUL) successfully accelerated their digital transformation projects.
UCISA CISG Nov. 2019	<u>How King's College is utilizing Load and Performance testing on Moodle</u> John Newman, Senior Project Manager, King's College London	Learn how King's College London (KCL) approach Performance Testing on Moodle.
HE Strategy Forum Oct. 2019	<u>Streaming – A Field Report in partnership with Anglia Ruskin University</u> Paul Gallagher, Assistant Director, Anglia Ruskin University	Learn how Anglia Ruskin are transforming their system integration architecture to solve legacy point to point integration challenges.
HE Strategy Forum Feb. 2019	<u>Origami and Architecture in partnership with Anglia Ruskin University</u> Paul Gallagher, Assistant Director, Anglia Ruskin University	Learn how Anglia Ruskin are approaching innovation in Architecture
Video Case Study Nov 2018	<u>University of Bristol - Video Case Study</u> Nigel Summers, Test Manager, University of Bristol (SLSP Program)	Learn how the University of Bristol saved a significant amount in testing costs by using continuous testing

Why Infuse ?



Experience and Credibility

Established in 2002 with over 21 years of experience in software delivery and quality engineering consulting having helped successfully deliver over 500 projects around the globe.



Higher Education Specialists

We have successfully deployed test services on over 35 HEI clients so we understand your business drivers and ways of working. We have experience with systems such as Moodle, Tribal SITS, CourseLoop, SAP and have delivered services ranging from functional test delivery to test automation, performance testing, test environment management, and process optimisation.



Multi-disciplinary Team

We leverage experts across our practice to provide you with an end-to-end delivery capability from experienced test managers to scrum masters, agile coaches, architects, developers, and manual & technical testers.



Test Expertise & Team Integration

All our resource are ISTQB foundation certified and bring expertise in testing together with experience and energy to quickly integrate with your existing team. We have a history of enhancing existing test teams to accelerate progress and are comfortable delivering within and managing a mixed team including in-house, contractor and third-party resource.



Highly Motivated & Delivery Focused

Our team are highly motivated and delivery focused, and will go above and beyond expectations to ensure the successful delivery of the test workstream. We have demonstrated our commitment to success on numerous previous test engagements.



Competitive Delivery Model

We effectively deploy resource onsite, onshore and offshore on many of our engagements. Our experience of delivering from multiple locations provides you with a cost competitive proposition together with the ability to flex resource when required.



Technical Innovation

We have expertise across a wide range of innovative products from our own script-less test automation tool – useMango™ – to leading enterprise and open-source tools, through to our delivery accelerators.

Company Overview

Who We Are

- We are a team of 100+ engineers and consultants spread globally with a passion for modern software design, engineering and delivery.
- We possess deep expertise across Architecture, Agile, DevOps, Cloud Transformation, Quality & Performance Engineering.
- Since 2002, we have been helping companies of all sizes design, develop and deploy high quality software.
- Since 2018, we have been focused on supporting HEIs resolve their technology challenges as part of their digital transformation and cloud migration agenda.

Our Areas of Market Eminence

Consulting

Development
& DevOps

Quality
Engineering

Test
Environment
Management

useMango™
Test
Automation

Our Vision and Values

Be the first choice for our clients for their
technology delivery challenges



Be at the forefront of technical innovation

Champion and empower our
people



Build long term, trusted adviser relationships with
our clients



Act with honesty and integrity in all we do



If you would like further information on our service, please contact us.



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