

Informatics Computing Plan 2022

Version: 2022-05-11

Programme Name	COMPUTE
Programme Purpose	Sustainably address increasing demand for compute within School
Lead	Alastair Scobie
Description	There is increasing demand from both research and teaching for compute resources, particularly GPU based. There is limited scope for locating additional equipment within the School's server rooms due to limits on cooling, space and power. There is evidence that siloed ownership has resulted in poor overall utilisation of the School's combined GPU resources
Benefits	Directly benefits both teaching and research
Goals	<ol style="list-style-type: none"> 1. Finalise plan of action, produced by short-lived working group, to be agreed by Computing Strategy Group and Strategy Committee. 2. Implement those concrete actions identified by the above plan 3. Produce a plan, agreed by Strategy Committee, for addressing the increasing demand for compute, particularly GPUS, within the School 4. Implement those concrete actions identified by the above plan 5. Develop a procurement framework to procure GPU servers, with University Procurement, to improve procurement compliance, reduce purchase costs and reduce time to procure 6. Consider external consultant's recommendations and act appropriately
Programme Name	EDLAN
Programme Purpose	The replacement of the University, and School, data network
Lead	George Ross
Description	The University data network, EdLAN, is being completely refreshed. The School currently runs its own data network and treats EdLAN effectively as an ISP. It is likely that, as part of the EdLAN refresh, ISG will take over some or all of the responsibility for the School's network.
Benefits	Other than general stability improvements to EdLAN, this programme will not directly benefit either teaching or research. It is possible that it may result in reduced School costs (of both staffing and network kit replacement)
Goals	<ol style="list-style-type: none"> 1. Evaluate the various management models and produce options proposal for discussion at Strategy Committee 2. Produce a Memorandum of Understanding to be agreed with Strategy Committee and ISG, detailing the management responsibilities for the various aspects of the School's network 3. Identify any required changes to the School's computing infrastructure to accommodate the rollout of the refreshed EdLAN 4. Implement any required changes to the School's computing infrastructure to accommodate the rollout of the refreshed EdLAN 5. Rollout the refreshed EdLAN across the School
Programme Name	DATAMANAGE
Programme Purpose	Improve data management processes

Lead	Craig Strachan
Description	Produce integrated systems, processes and resources enabling data owners within the School to make best use of their data and providing the School with better oversight of its data estate. Pay particular heed to the requirements of research related data, and its users, including students conducting research
Benefits	More efficient use and management of School data resources. Increased assurance that the storage and processing of data within the School meets all legal, ethical and funding requirements.
Goals	<ol style="list-style-type: none"> 1. Produce a data asset register and develop processes for populating and maintaining this register, for example via data management plans 2. Produce a School policy on Data Management Plans, providing whatever support and resources are needed to support this plan once approved. 3. Complete work to separate backup streams for medium/high-risk (MHR) and non-MHR data to meet differing retention policies 4. Consider how best to make use of IS RDM offerings, producing use case guidance 5. Complete academic staff data security exercise and review and act on lessons learned.
Programme Name	SEP
Programme Purpose	Engage with Service Excellence Programme (Finance and HR transformation)
Lead	Tim Colles
Description	The first deliverables of the Service Excellence Programme - HR, Finance and Procurement - will roll out from 2020. This has implications for both systems (e.g. data feeds) and processes used by the School.
Benefits	This programme will not directly benefit either teaching or research.
Goals	<ol style="list-style-type: none"> 1. Identify and implement the changes required to systems and processes necessitated by the SEP rollout to Payroll and Guaranteed Hours 2. Identify and implement the changes required to systems and processes necessitated by the SEP rollout for Procurement 3. Identify and implement the changes required to systems and processes necessitated by the SEP rollouts for Finance
Programme Name	FLEXIBLEWORKING
Programme Purpose	To plan and implement any changes identified by the School's "Future Working Group"
Lead	TBD
Description	TBD once Future Working Group has proposed changes
Benefits	
Goals	1.
Programme Name	STREAMLINING
Programme Purpose	To review current School computing services with a view to adopting more central IS services.
Lead	Tim Colles
Description	This programme will review current School computing activities, identifying which could be dropped and where equivalent IS services could be adopted.
Benefits	Effort would be released to support more Informatics specific services
Goals	<ol style="list-style-type: none"> 1. Review current computing activities, produce options paper 2. Discuss options paper at Computing Strategy Group

	<ol style="list-style-type: none"> 3. Produce implementation plan 4. Implement plan 5. Re-structure Theon into a suite of micro-services to improve both maintainability and GDPR compliance
Programme Name	WEB STRATEGY
Programme Purpose	Produce a School web strategy
Lead	Craig Strachan
Description	<p>The current School web estate consists of a large number of web sites, hosted on many web servers (some self-managed) using a variety of different web technologies - maintained by numerous content owners. This presents a number of problems :-</p> <ul style="list-style-type: none"> • significant security risk (particularly world visible self-managed web servers) • difficulty in achieving compliance with legislation (eg cookies, accessibility) • effort <p>A further driver is the launch of the University's refreshed web platform in late 2022. This programme will produce an agreed School web strategy, closely aligned with the University web strategy.</p>
Benefits	Improve compliance with web legislation, manage costs and reduce threat from hostile actors.
Goals	<ol style="list-style-type: none"> 1. Complete audit of current web estate 2. Produce a SWOT analysis of current web provision, including consideration of usability 3. Produce an agreed School web strategy
Programme Name	SECURITY
Programme Purpose	Improve the resilience of the School's computing systems to hostile attacks such as ransomware attacks.
Lead	Stephen Quinney
Description	The threat to University business from hostile attacks such as ransomware attacks has increased substantially in the last 18 months. This means that the School must reassess the most appropriate balance of functionality/security/usability.
Benefits	Improve the resilience of the School's computing systems to hostile attacks such as ransomware attacks.
Goals	<ol style="list-style-type: none"> 1. Implement recommendations from University Internal Auditors 2. Reassess threat model and current security approaches 3. Develop plan for improving the School's resilience to eg. ransomware attacks 4. Implement any low hanging fruit changes 5. Implement plan
Programme Name	DICE SERVER PLATFORM
Programme Purpose	Update the DICE server platform
Lead	Alastair Scobie
Description	The current DICE server platform is based on Scientific Linux 7 (SL7), which in turn is based on Redhat 7. Redhat 7 is now only receiving security patches. This programme will re-base the DICE server platform to a more recent Linux distribution (most likely Ubuntu) and is unlikely to be completed until end 2023.
Benefits	This activity is required to maintain the DICE server platform which underpins all the School managed computing systems. However, there will be few directly visible benefits to users.

Goals	<ol style="list-style-type: none"> 1. Confirm that Ubuntu meets our requirements of a server platform 2. Develop an LCFG managed DICE server platform based on new distro 3. Upgrade all existing LCFG components to new platform 4. Upgrade all DICE servers to new platform
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Additional activities

Theme	Activity
Security	Convert all web sites from HTTP to HTTPS
Services	Review whether the existing network file system is still appropriate for School's requirements and identify possible alternatives
Services	Review current school use of Sharepoint and produce a strategy for future use
Facilities	Update the AV facilities in the Informatics Forum - and adapt for hybrid meetings and seminars
Teaching	Reduce the number of submissions systems to the minimum required
Admin	Review PGR application scraper code, improve and document as required
Admin	Refactor Theon database into multiple micro databases to improve maintainability and GDPR compliance. (Added May 2022)
Sustainability	Improve recharging of computing staff time to research grants
Sustainability	Succession planning