
Technology & Information Services

EA-STR-003 - Enterprise Architecture Collaboration Strategy

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Executive Summary

This document outlines the vision for collaboration at Plymouth University within the context of services offered by Technology and Information Services (TIS) to the wider organisation in response to identified requirements gathered from all areas of the business by TIS Business Partners. This document shows that collaboration in this context is a wide reaching area of operations and impacts on, or is impacted by many other services either in production or in need of future development. This vision is aligned with the Architectural Roadmap approved by the TIS IT Management Team and IT Director on 16 October 2014, which provides a steer towards “Pervasive Service Consumption” as a goal, it is our intent that our services will be consumable on any modern platform or device from any suitably connected location.

A suitable collaboration platform is one of the main requirements for delivering this capability of the future and will include a platform for consumers to store and share documents (both internally and externally) with other authorised parties, including other associated functionality like the ability to create workflows.

Email provision for staff and students will be aligned allowing presence information to be seamless across the institution.

More traditional collaboration techniques such as telephony and video conferencing will also be included in the resultant platform allowing for higher productivity to be achieved by facilitating communications, productivity and collaboration wherever the customer needs them including access to voice and video mailboxes from their computing device of choice. By developing and utilising a truly converged platform of technologies such as this, that goal of Pervasive Service Consumption as identified to meet articulated business need is a step closer to reality.

Purpose

The purpose of this paper is to outline the opportunities in and around enhancing the technology applications and processes, which lead to an increased ability for members of the University and it’s partners to work and communicate collaboratively using systems designed with the actual requirements the business and individuals have identified.

Scope

The focus of this paper is the identification of capabilities and services, at the highest level, which can contribute to providing a collaboration platform suitable to support our customers in the way they wish to work. Although what is written is the identification of many systems and services which collectively will make effective collaboration a reality, many are on the periphery of this work and should be developed as separate work areas and will therefore fall out of scope, this document will identify many of these.

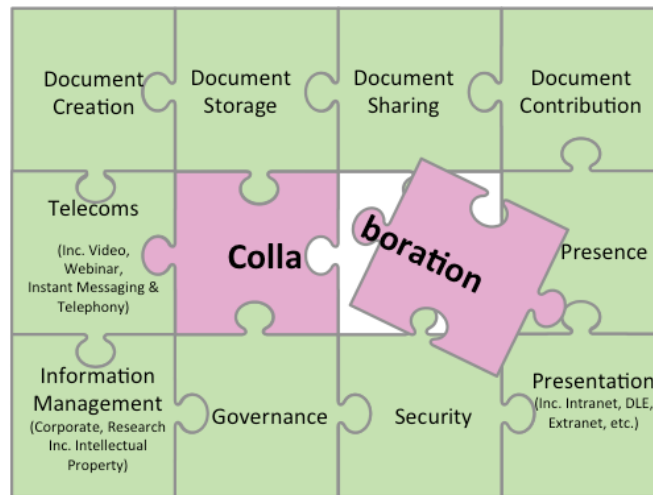
What Is Collaboration

A dictionary definition of collaboration is “the action of working with someone to produce something”.¹ In the context of Information Technology at Plymouth University this means (in it’s simplest form) an individual is able to create a document (for example) either independently or in conjunction with another person or

¹ <http://www.oxforddictionaries.com/definition/english/collaboration?q=Collaboration>

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persons, store it securely in a location that could then be shared (for information or further contribution) with others. In reality, collaboration has many facets and impacts or is impacted by other services, technologies, capabilities and development streams. The diagram below shows how collaboration *fits* with other areas of Information Technology and associated components.



The extent of interdependencies extends far beyond those illustrated; however, these are certainly to be considered the main ones. It would be inconceivable to embark on any single piece of work that encompasses all of these areas in their entity, it would be simply too vast. Instead the work to introduce a new and contemporary collaboration platform for Plymouth University will need to encompass only some of these elements, draw on work from some and provide direction to others. To simplify this concept, broad subject areas will be considered throughout the strategy and interdependencies will be highlighted. The subject areas to be used are productivity suite, file and document management, communications, presentation, security and governance.

The illustration that follows highlights these areas and how they interlink; note that although collaboration is the subject of this paper, governance and security surround everything we do within Technology and Information Services and the wider University. The strategy, which is detailed in the next section, will examine each of these areas in turn; articulate the required outcome, areas for priority focus and recommended actions.



Collaboration Strategy

Vision

“By 2017, Plymouth University will be an exemplar in the use of a secure integrated collaboration platform encompassing communications, productivity and sharing which keeps people at the heart of its business”

Mission

“ To provide a fully integrated cyberinfrastructure² capable of delivering meaningful cross-platform, location independent communication and collaboration functionality which is secure and relevant to the needs of Plymouth University, its members and partners and is able to adapt and scale appropriately as demands change.”

Strategic lines of development

In order to develop and provide a contemporary and forward-looking collaboration platform that aligns with University ambitions and at least meets the requirements of our customers, the collaboration strategy will require tangible improvement and development in the following six key areas designated as SLoDs:

- Productivity Suite;
- File and Document Management;
- Communications;
- Presentation;
- Security; and
- Governance.

It is vital that all of these areas are within scope (at least in part) of a development plan to deliver collaboration, otherwise the result will be a disjointed array of systems which are unlikely to do what our customers need, in a way that is consistent across the organisation or which support information security standards.

² “Cyberinfrastructure is a rapidly growing and expanding component of information technology focused on distributed computing, data, and communications technology.” - <http://www.educause.edu/ecar/ecar-working-groups/cyberinfrastructure>

Productivity Suite

A productivity suite in the context of collaboration is the collective software application set used to create documents and includes things like a word processor, spread sheet software, graphic creation tools, note taking tools, email clients etc., in essence, it is the main software the majority of people need to carry out their duties or studies. For many years members of the University, have in the main, been using Microsoft Office deployed on centrally managed computers to carry out these tasks, this can sometimes cause issues when needing to work collaboratively with external contributors, particularly on large or complex documents. Today, many more options exist to be able to deliver this functionality to our users and in the process also deliver a greater flexibility in how, where and when they work. In line with our roadmap towards Pervasive Service Consumption, our strategic intent is to provide a productivity suite of applications that will make use of cloud technologies and consume software and platform as a service (SaaS and PaaS) technologies.

Required outcome

- Identification of suitable software solution platform(s) which meets the identified functional requirements of our customers
- The identification of a suitable cloud platform solution that will allow functionality to be consumed on any modern device or platform from any suitably connected location.

Areas for priority focus

- Identification of suitable cloud platform productivity tools and based on high level identified user requirements
- Options analysis to be undertaken for selected software and cloud platform; this to be done in the context of collaboration as a whole.
- Ensure cloud solution selected for implementation is aligned with UK Government Security Classification and accreditation, satisfies the University requirements in relation to the Patriot Act, the US-EU Safe Harbor and supports the University's vision in relation to ISO27001 accreditation.

Recommended actions

It is essential that the following elements are carried out in parallel with other SLoD work to ensure integration is possible and effective and continues to be relevant to identified needs.

- Consolidate and confirm customer requirements
- Undertake a market survey of available solutions
- Carry out options analysis of identified suitable solutions
- Confirm suitability with stakeholders
- Implement solution

KPI

- Increase in successful and productive connections/sessions to delivered environment from mobile or remote locations.
- Number of compatible devices able to be used to create content will increase and be consistent with market leaders.
- Productivity tools will be available for use from cloud solutions, including an offline mode for when no Internet connection is available.

File and Document Management

File and document management in this context is about how documents and other files etc. produced using the productivity suite and other software is stored and shared securely from a known and understood location. Historically, Plymouth University makes use of a variety of platforms to realise this capability; SharePoint, shared network storage, PC hard Drives, the intranet, Exchange public folders, other document management systems and repositories, etc. These are the ones officially recognised by TIS, other systems known to be in use are personal cloud solutions such as Drop Box, Google Drive and the like. In order to remain aligned with Plymouth University's enterprise architecture, it is essential that homogeneous solutions are sought which will satisfy the requirements of our customers and ensure both physical and information security concerns are addressed. In doing so, the interoperability with other potentially separate content or document management systems within the TIS service portfolio will afford the flexibility desired and the security levels required. Information and its associate Intellectual Property (IP) is a real asset to Plymouth University and should be protected; we must drastically improve our capability in this area and provide an integrated platform from which to develop our document storage and sharing needs in alignment with the ever-evolving needs of the business; this will allow for the safe exploitation of this information. Technology convergence will play a large part in the development of this capability; not only must the document management system operate seamlessly with the productivity platform and other content management systems, if required, it must also look to realise the drivers towards Pervasive Service Consumption, such as reduced ICT footprint, reduced carbon emissions and maximise efficiency for example, whilst ensuring the security concerns are mitigated. To this end, our strategy for file and document management is to employ PaaS and SaaS technologies to deliver the majority of our document storage capability on the Internet or in the cloud. In addition, and only for the information as classified under our Information Management policies as unsuitable for cloud storage, we must deliver secure storage on premise in an appropriate manner to be able to protect and secure this information.

Required outcome

- In conjunction with the work being undertaken for the productivity suite, suitable documentation management solution(s) should be identified to meet the functional requirements of our customers.
- The identification (above) must be for a suitable cloud solution that will allow functionality to be realised on as many different platforms and operating systems as possible.
- The selected platform must be accessible from both onsite and from external networks with little or no additional configuration required by the consumer to access the system.
- The selected platform must support IT security and Information Security policies and procedures for information sharing.
- The solution must be able to secure our information and at the same time allow information collaboration to occur between members of the university and known and suitably identified partners or collaborators.
- The system must deliver both cloud data storage and a reduced onsite facility.
- Any University information stored on customer devices (corporate or personal) must be automatically removable when access to that information is no longer required.

Areas for priority focus

- Identification of suitable document management systems based on identified business and user requirements.

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- Suitable SaaS and PaaS vendors and suppliers must be identified along with appropriate capabilities and typical service level agreements (SLA's).
- Options analysis to be undertaken for selected software; this is to be done in the context of collaboration as a whole.
- Ensure cloud solution selected for implementation is aligned with UK Government Security Classification and accreditation, satisfies the University requirements in relation to the Patriot Act, the US-EU Safe Harbor and supports the University's vision in relation to ISO27001 accreditation.

Recommended actions

It is essential that the following elements are carried out in parallel with other SLoD work to ensure integration is possible and effective and continues to be relevant to identified needs.

- Consolidate and confirm customer requirements
- Undertake a market survey of available solutions
- Identify cloud vendors and partners
- Identify capabilities and SLA's for potential suppliers
- Carry out options analysis of identified suitable solutions
- Confirm suitability of converged homogeneous solution with stakeholders
- Implement solution

KPI

- Improved security audit results due to suitable and appropriate storage platforms
- Stored content will be secure and aligned with Government standards
- Access and sharing will be auditable and traceable
- University information will be automatically removable from client devices when it is no longer needed or out-dated
- The majority of our information will be stored and secured within cloud solutions
- Increased number of customers able to access shared content from remote locations
- The systems introduced must have a low administrative overhead, thus empowering staff to be more productive.
- The number of compatible devices able to access and consume content will increase and be consistent with market leaders.

Communications

Communications when relating to collaboration is very far reaching and includes email capability, telephony, instant messaging, video conferencing, webinar solutions and integrated presence information. Perhaps traditionally telephony would be treated as a separate entity from the rest of IT services; however, today, lines are becoming blurred and the ability to integrate all of these capabilities is now a reality. The benefit of doing so is a real productivity boost to the consumer and the ability for them to work and communicate with others from wherever they like and on whatever device is suitable for them when they need to do so. Incorporating an integrated communications system within the work to deliver collaboration really puts people at the centre of what we intend to deliver.

It is without doubt that the need for technical convergence is higher within communications than any other individual topic. It is communications that pulls it all together, after all collaboration is the ability to communicate and work together effectively. With this in mind, it is our strategy to deliver a people centric communications platform which allows communications to occur between people on any modern device and from any suitably connected location. It will also be possible for users of this service to change how they communicate and what they are using to do so during the session. For example, a call on a desk style handset could turn into a mobile call or into video or indeed be instant messaging or screen sharing at the same time. In essence, we need to provide a mechanism to afford dynamic communications that may morph in requirements during the required time. Given the step change in technologies and increase in functionality in this area we will also look to radically reduce the number of fixed IP phones present on peoples desks in favour of soft clients or mobile clients. Call centre and switchboard functionality will also be part of the technology convergence; there is a real need for this to allow the University to operate as normal. Email provision will also be streamlined; at present the University uses two partially joined email solutions for staff (on premise) and students (in the cloud), these will be consolidated onto one platform in the cloud in order to provide a better experience for all, it is anticipated that to meet compliance requirements, some email mailboxes will need to remain on site, where this is the case, an integrated solution, from the same vendor will be employed so as not to reduce functionality to the customer. In order to facilitate this level of convergence we will look to employ PaaS and SaaS technologies wherever possible.

Required outcome

- A fully integrated email, telephony, instant messaging, video conferencing, web enabled communication solution hosted on the internet, which also allows presence information to be published to all users if desired.
- The ability for consumers of this service to be able to communicate collaboratively and effectively from any suitably connected location using any modern device of choice.

Areas for priority focus

- Identification of suitable communications platform(s) systems based on identified business and user requirements.
- Options analysis to be undertaken for all selected solution(s); this to be done in the context of collaboration as a whole.
- Ensure cloud solution selected for implementation is aligned with UK Government Security Classification and accreditation, satisfies the University requirements in relation to the Patriot Act, the US-EU Safe Harbor and supports the University's vision in relation to ISO27001 accreditation.

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Recommended actions

It is essential that the following elements are carried out in parallel with other SLoD work to ensure integration is possible and effective and continues to be relevant to identified needs.

- Consolidate and confirm customer requirements
- Undertake a market survey of available solutions
- Identify cloud vendors and partners
- Identify capabilities and SLA's for potential suppliers
- Carry out options analysis of identified suitable solutions
- Confirm suitability with stakeholders
- Implement solution

KPI

- All communication channels will be integrated and interchangeable
- Communications will be able to be transmitted or received on any modern computing device
- Communications will no longer be location dependent
- Email and Instant messaging will be hosted within clouded solutions
- Telephony, video and web communications will have at least part of their infrastructure supplied from cloud solutions
- Presence information will be uniform across our estate
- Communications will be secure

Presentation

The presentation layer is very important for the adoption of any new service; questions like “how do I access...”, “where do I find...” etc. are common place, and they shouldn’t be. Any collaboration platform introduced must be easy to find and easy to use. Traditionally, a variety of platforms have been used to store and share information; SharePoint (Collaborate, Tulip, Emily and the intranet etc.), public folders provided by the Exchange system, private and shared network file stores and others have all been used in the past. So in answer to a “where can I find...” question, a commonplace answer would be “oh, it’s on the portal.” This is not very user friendly. A common interface for access to the collaboration platform should be adopted, whether that is a revamped intranet or a bespoke point of entry is up for debate, however, wherever it is it must be simple to access and benefit from single-sign-on technologies and have links provided to the user from other well known systems.

Required outcome

- A readily identifiable and recognisable point of entry to the adopted collaboration platform
- A plan to consolidate points of information storage under a single user interface.

Area for priority focus

- Identification of all current, centralised storage areas
- A migration plan to encompass them within a collaboration storage system
- Publicity campaign to be developed around the changes

Recommended actions

Unlike the other areas above, it is recommended that the bulk of this work be undertaken independently from that to deliver a collaboration platform. In essence, this work is to establish a new intranet, which in itself is a massive undertaking. However, the following actions are recommended:

- Consolidate and confirm customer requirements
- Identify locations of data
- Create a data migration plan
- Create a publicity campaign to inform customers of the changes ahead.

KPI

- Access points will be identified and incorporated into existing points of presence
- Existing information storage area will be identified and migrated to the new platform
- A far reaching informative campaign will be instigated to keep customers aware of the changes
- Recommendations for the future of the intranet will be made in relation to this work and the strategic TIS roadmap.

Security

As mentioned previously, information is a key asset to Plymouth University. As such every effort must be taken to secure it and the systems on which it sits. Once again, security is simply too big to be addressed in its entirety within collaboration, and impacts everything else too. Therefore in the context of collaboration, data, information and access security will be implemented to protect our data assets and people accessing those systems.

Required outcome

- A platform solution which is protected from unauthorised access
- Access Single-Sign-On capability integrated with our identity solutions
- Auditable access logs managed, maintained and monitored by the solution provider and be viewable and accessible by Plymouth University.
- A system which can easily have permissions revoked and University information purged from local copies (where made)
- Auditability of shares and collaborators
- Help the University mover towards ISO 27001 accreditation status
- Suppliers to be aligned with UK Government Security Standards and be accredited as such

Area for priority focus

- Identification of different data types and their data classifications
- Continued work throughout selection process to ensure compliance with existing and future security architecture
- Ensure cloud solution selected for implementation is aligned with UK Government Security Classification and accreditation, satisfies the University requirements in relation to the Patriot Act, the US-EU Safe Harbor and supports the University's vision in relation to ISO27001 accreditation.

Recommended actions

- Continue data classification activities
- Emphasise security within every decision and discussion

KPI

- All system entry points will be secure and employ single-sign-on technologies to allow ease of access for our customers
- Documents will be removed from devices should access permissions be revoked
- All transactions will be auditable and reportable
- All suppliers will be accredited to UK Government Security Standards
- This work will move us closer to the strategic ambition of being ISO27001 accredited

Governance

Once more governance is key to everything. It is far bigger than the collaboration work. That said, policies and procedures already in place must be aligned to and any which are missing must be developed throughout the project.

Required outcome

- An approved set of governance procedures and policies that relate to collaboration activities at Plymouth University.
- A single repository for all the University's internal (standard) and restricted policies and procedures with appropriate access permissions.

Area for priority focus

- Identification of existing relevant documentation
- Identification of missing documentation
- Creation of missing documentation

Recommended actions

- Continue governance review within Enterprise Architecture and TIS
- Create additional material where appropriate, which flows from Architectural direction, security best practice and legal or regulatory compliance.

KPI

- All implementations will be compliant with Plymouth University's enterprise architecture policies, procedures and standards
- The collaboration project will be aligned to and move us farther along the TIS strategic roadmap
- New policies, procedures and standards will be produced, where appropriate, to support best practice and enhanced operation of the service.

Summary

Regrettably, the current offerings from TIS in are outmoded and not terribly well integrated or capable of being integrated. By setting out on a journey to deliver a contemporary and forward looking collaboration platform as described within this strategy which is aligned with what our customers have identified as requirements to make their work, learning and teaching better and with how they wish to do things will catapult the University to within touching distance of meeting objectives outlined within many of it's top level strategies. By combining the many facets together, in an integrated manner, it will be much easier for members of the University, its partners and other collaborators will be able to work together in a much better way, and allow the flexibility to work and communicate for (almost) anywhere, using a device which is both familiar and comfortable for the individual.

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Document Control

Version	Author	Position	Details	Date/Time	Approved by	Position	Date/Time
0.1	Craig Douglas	Enterprise Architect	Initial Document	07/11/2014			
0.2	Craig Douglas	Enterprise Architect	Revised Layout	20/11/2014			
0.3	Craig Douglas	Enterprise Architect	Updated following peer review	21/11/2014			
0.4	Craig Douglas	Enterprise Architect	Updated following feedback	24/11/2014	Adrian Hollister	Head of Strategy & Architecture	25/11/2014
1.0	Craig Douglas	Enterprise Architect	Updated following IT Director Feedback	04/12/2014	Paul Westmore	IT Director	03/12/2014