
Technology & Information Services

EA-STR-008 – Enterprise Architecture Into the Cloud Strategy

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Document Control

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Executive Summary

In order to thrive in the realm of digital business, IT infrastructure for Plymouth University will move into the Cloud, utilising Software as a Service (SaaS) wherever available with predominant use of public Cloud. These models will be supported by professional service management from managed service providers, enabling the concentration of existing resource on business as usual activities. All systems and services shall be designed correctly, operate correctly and take account of security, legislative and regulatory concerns under University governance structure.

Purpose

The purpose of this document is to set out the strategy for using 3rd party Cloud hosting solutions to deliver storage and compute infrastructure, platform and software services as the core of Information Technology at Plymouth University.

Scope

Following direction from the University Executive Group (UEG) and IT and Digital Committee, all systems, servers, applications and data services will be migrated to into the Cloud. The systems and services that are required to be constrained to a specific campus location will be managed by exception and, where practicable, transformed to a delivery mechanism more closely aligned to the enterprise architecture.

Into the Cloud

Into the cloud describes the transformation from on premise infrastructure to the Cloud, providing high resilience, availability, scalability and clarity of cost and alignment with the University strategic pillar of sustainable infrastructure. Within the context of Into the Cloud, 'hosted solutions' and 'Cloud' refer to Software as a Service, Platform as a Service and Infrastructure as a Service operated from public, private and community data centres.

Current Architecture

For many years Plymouth University has operated its own data centres; there are currently two in place, one located within the Babbage Building on the main Plymouth campus, the other located approximately 7km away at Plymouth Science Park, which utilises leased space to house University owned equipment. The majority of University services are held at these locations, however within the past four years some key systems have been placed in other locations and consumed through an As a Service model.

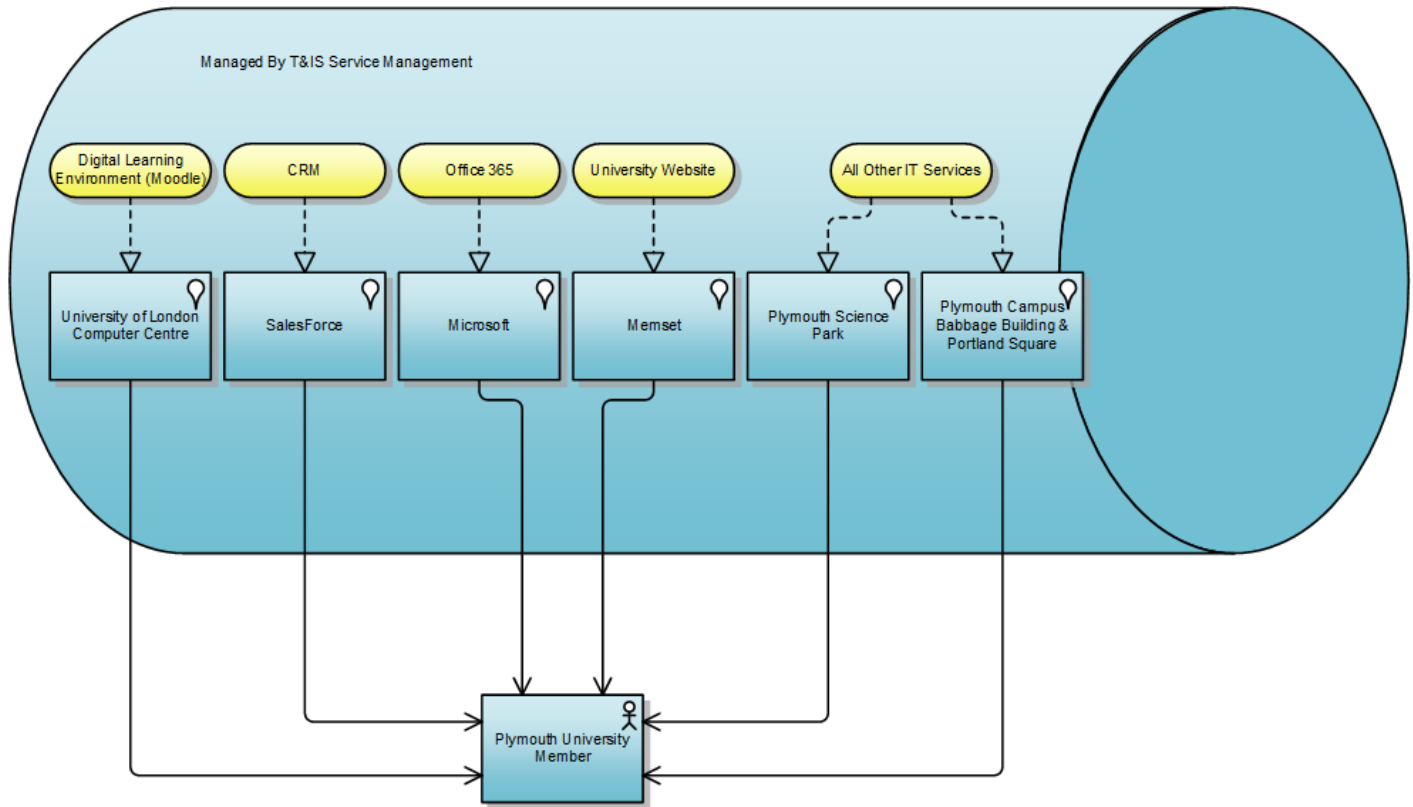


Figure 1: Current Architecture

Future State

There are three transformational priorities: governance, security and service provision.

Governance

For the University to realise the benefit of cloud technologies; to reduce impact of ad-hoc solution choices; and achieve economies of scale; approval and adoption of strategy documents at University level is essential.

Future infrastructure solutions must align to the University approved and supporting documents; in order to enable a sound platform to be laid and built upon, proposed solutions will be validated and documented by the Enterprise Architecture team.

Success Criteria

- IT strategy, policy and other governance documents are approved at University level to ensure organisational adoption and acceptance of the future state of IT provision at Plymouth University
- Sound business decisions will be taken based on solid information in terms of business, application, technology and security architectures

Security

All solution decisions validated by the Enterprise Architecture team will take into account the security policies currently in place and those in development, and will comply with relevant legislative and regulatory guidance.

Success Criteria

- **Security considerations will be addressed within any the decision making process that leads to the delivery of any service**
- **All services and supporting systems will be aligned to the security architecture both in place and in development**

Service Provision

What

All systems, servers, applications and data services will be migrated to into the Cloud. The systems and services which must be constrained to a specific campus location will be managed by exception,

Once identified, these systems must be fully documented to ensure they are fit for purpose and that there isn't a different way of meeting the business requirements. We aim to minimise these exceptions to under 1% of the overall estate.

Where

Immediate term

The first phase should place all storage, compute and integrated network functions into an off-site data centre which benefits from high levels of security. To reduce risk in the short term, this facility must be procured as Infrastructure as a Service with professional services support in order to enable consumption of Platform as a Service. The infrastructure procured must be comparable to that currently in place on premise, so as to enable smooth adoption; the pricing model should be comparable to that available from public cloud vendors.

Medium term

Once secure, transformational work will begin immediately to ensure financial and infrastructure sustainability.

Each service, system or application will be individually analysed for information security, interoperability and dependencies and authentication needs with as many systems, services and applications as possible moved into the public cloud.

Provision of services will be in the priority order:

1. Software as a Service (SaaS)
2. Platform as a Service (PaaS)
3. Infrastructure as a Service (IaaS)

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By undertaking this model, the transparent cost of IT infrastructure provision and maintenance will enable improved financial forecasting for the University.

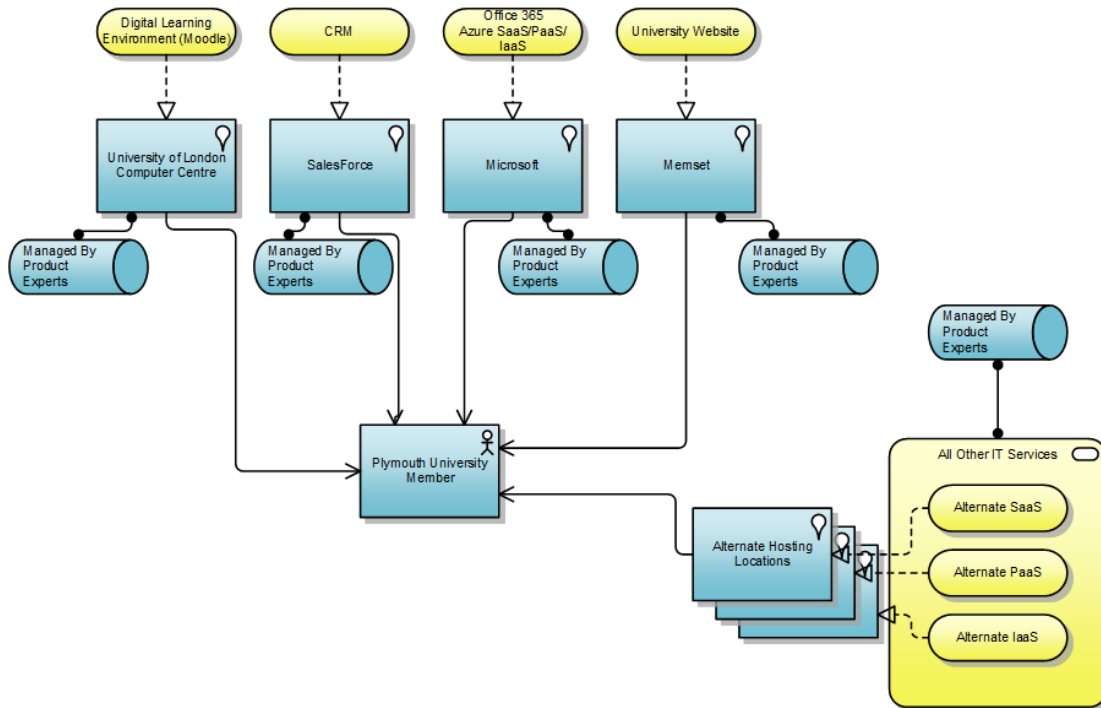


Figure 2: Future State Architecture

Who

Services consumed from the cloud will be supported by the managed service provider with internal resource committed to managing the relationship with the provider to ensure that University requirements are met.

When

It is imperative that work begins in the immediate term. In addition to direction from both UEG and the IT and Digital Committee, infrastructure could fail catastrophically at any time with unknown consequences to data and services.

Success Criteria

- At least 99% of all systems and services shall be migrated into the Cloud
- Only systems which require physical connections to sensors and/or other equipment shall remain on site
- The end result shall be realised by a combination of As a Service offerings, prioritised:
 1. Software as a Service
 2. Platform as a Service
 3. Infrastructure as a Service
- We shall contract professional services from a trusted partner to oversee the migration and subsequent operation of these As a Service solutions
- A two-step migration approach:
 1. Secure everything in the Cloud
 2. Transform individual services and solutions into a sustainable offering
- The use of Public Cloud shall be prioritised over the use of others
- Community cloud solutions preferred over private cloud