ACADEMIC SERVICES

PROGRAMME INITIATION DOCUMENT

Mobility Programme

Change Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Author</th>
<th>Version</th>
<th>Change Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/5/2012</td>
<td>Sue Milward</td>
<td>v0.1</td>
<td>Initial draft, following consultation with Exeter IT</td>
</tr>
</tbody>
</table>
Contents

1. EXECUTIVE SUMMARY .............................................................................................................. 1
2. BUDGET OVERVIEW .................................................................................................................. 2
3. RELATED PROJECTS .................................................................................................................. 2
4. PROGRAMME APPROACH AND SCOPE ................................................................................ 3
5. INFRASTRUCTURE THEME ...................................................................................................... 4
   a) Overview .......................................................................................................................... 4
   b) Budget .............................................................................................................................. 4
   c) Benefits ............................................................................................................................ 4
   d) Objectives ........................................................................................................................ 4
   e) Scope .................................................................................................................................. 4
   f) Connectivity Project .......................................................................................................... 5
   g) Service Oriented Architecture/Enterprise Service Bus Project ............................................ 5
6. CONTENT THEME ..................................................................................................................... 6
   a) Overview .......................................................................................................................... 6
   b) Benefits .............................................................................................................................. 6
   a) Objectives ........................................................................................................................ 6
   b) Scope .................................................................................................................................. 6
   c) High Level Approach ........................................................................................................ 6
   d) Project Leads ..................................................................................................................... 6
7. DEVICES THEME ....................................................................................................................... 7
   a) Overview .......................................................................................................................... 7
   b) Budget .............................................................................................................................. 7
   c) Benefits ............................................................................................................................ 7
   d) Objectives ........................................................................................................................ 7
   e) Scope .................................................................................................................................. 7
   f) Mobile Device Management Project .................................................................................. 8
   g) Device Provision Project .................................................................................................... 8
   h) Device Support Project ....................................................................................................... 8
8. DELIVERY THEME ................................................................................................................... 10
   a) Overview .......................................................................................................................... 10
   b) Budget .............................................................................................................................. 10
   c) Benefits ............................................................................................................................ 10
   d) Objectives ........................................................................................................................ 10
   e) Scope .................................................................................................................................. 10
   f) Virtual Remote Access Desktop Project ............................................................................. 11
   g) Mobile Communications Project ....................................................................................... 11
   h) Mapping Services Project ................................................................................................ 11
   i) SMS Project ....................................................................................................................... 12
9. INNOVATION THEME .............................................................................................................. 13
   a) Overview .......................................................................................................................... 13
   b) Benefits .............................................................................................................................. 13
   c) Objectives ........................................................................................................................ 13
   d) Scope .................................................................................................................................. 13
   e) Pedagogical Innovation .................................................................................................... 13
   f) Technology Innovation ...................................................................................................... 13
10. PROGRAMME RISK ANALYSIS ............................................................................................. 15
    a) Risks .................................................................................................................................... 15
    b) Issues .................................................................................................................................. 15
    c) Assumptions ..................................................................................................................... 15
1. Executive Summary

Mobility is the future. The IT analysts Gartner have stated that enterprise mobility creates new opportunities for innovating business processes, client interactions and workforce collaboration. All of these are a priority for Exeter University. However, there are significant challenges ahead. Consumer mobility innovations are so far outpacing enterprise offerings that IT Services are being forced to change IT delivery models, security and management. Exeter must be prepared to take an agile approach to Mobility as a concept and ensure that we embrace the challenges that lie ahead. By investing in this programme and being prepared to change from a controlling to an enabling support structure we will be well placed to provide a service which surpasses student expectations.

The CIO has declared mobility as a key part of the emerging University IT Strategy and one of four strands of ‘transformational IT’ (the other strands being video, cloud and connection) which will run from 2012 to 2014. ‘Mobility’ in this context defines the ability of students, staff and visitors to safely access relevant University applications, services and data from any device and any location.

The programme consists of 5 themes, which together provide a complete solution to enable the implementation of mobility at Exeter:

- Infrastructure
- Content
- Devices
- Delivery
- Innovation

Constituent projects and leads are:

Infrastructure:  
- Connectivity (Head of Networks)  
- Service Oriented Architecture / Enterprise Service Bus (Head of Corporate Systems)

Content:  
- Content (Library Assistant Director, Web Manager)

Devices:  
- Mobile Device Management (Head of IT Governance and Compliance)  
- Device Provision (Head of Desktop and Learning Spaces Support)  
- Device Support (Head of Desktop and Learning Spaces Support)

Delivery:
Native and Web App (Head of eInnovation)
Virtual Remote Access Desktop (Head of Desktop and Learning Spaces Support)
Mobile Communications (Head of Infrastructure)
Mapping Services (Head of eInnovation)
SMS (Head of Academic Systems)

Innovation
- Pedagogy Innovation (Head of eLearning)
- Technology Innovation (Head of eInnovation)

This Programme Initiation Document provides a high level overview of all the themes, their approach and funding models. It will be supported by separate detailed PIDs for each project within the programme.

The programme is built on underlying principles to ensure that the University is sufficiently agile to lead in this fast-changing world and meet expectations of staff and students while providing best value:
- We will endeavour to be device agnostic (mobile endpoint independence)
- We will endeavour to provide a ubiquitous network
- Security and risk will be managed centrally
- We will adhere to the principle of ‘Create once, publish anywhere’
- We will embrace cloud services where possible
- We will endeavour to be leading-edge innovators.

With an anticipated total budget of just under £400K over 3 years, parts of the programme are already underway.

### 2. Budget Overview

The budget for each of the themes is shown below.

Note that there is no budget available for project or programme management, or for general project support (except where stated). This is to be met from existing resource.

<table>
<thead>
<tr>
<th>Theme</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>£50K</td>
<td>£50K</td>
<td>£75K</td>
<td>£75K</td>
</tr>
<tr>
<td>Content</td>
<td>£0</td>
<td>£50K</td>
<td>£50K</td>
<td>£50K</td>
</tr>
<tr>
<td>Devices</td>
<td>£40K</td>
<td>£20K</td>
<td>£0</td>
<td>£200K</td>
</tr>
<tr>
<td>Delivery</td>
<td>£70K</td>
<td>£80K</td>
<td>£80K</td>
<td>£60K</td>
</tr>
<tr>
<td>Innovation</td>
<td>£0K</td>
<td>£0K</td>
<td>£0K</td>
<td>£0K</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>£160K</strong></td>
<td><strong>£200K</strong></td>
<td><strong>£205K</strong></td>
<td><strong>£385K</strong></td>
</tr>
</tbody>
</table>

All the budget for 2011/12 has already been allocated as follows:
- Infrastructure: £50K for ExNet Project
- Devices: £40K for purchase of Forum laptops
- Delivery: £70K for smartphone app project

### 3. Related Projects

The following projects and programmes are directly or indirectly associated to the mobility programme:
- ExNet: Provides the network connectivity to support the delivery of services to mobile devices
- Video Capability Programme: Impact on the provision of video services to mobile devices
- Connections Programme: Many overlaps in the delivery of services
- IAM Project: Identity and Access Management to ensure secure service delivery
- Cloud capabilities: Management and provision of applications, information and data as a service

Each project within the programme will maintain close contact with each of the projects above to prevent project silos and ensure continuity of approach.
4. Programme Approach and Scope

The programme is considering all the underpinning building blocks to provide a complete mobility solution. Critical to this and other projects and programmes is the scope of the services that will be delivered.

In the climate of BYOS (Bring Your Own Service), IT Departments can no longer dictate all the services that students expect to use. Increasingly students are using cloud services such as Google, Twitter, Facebook and NVivo, and have expectations of using these services for their collaborative study. While IT cannot (and indeed should not attempt to) directly support such services, it would be foolish to ignore them. IT is in a position to provide an agile infrastructure to enable inclusion of such services and the data therein.

This programme will define the boundaries by reviewing the services that will be ‘in scope’. It will then propose an API architecture that delivers existing and future needs. This is shown diagrammatically below:
The adoption of open standards will provide a future-proofed infrastructure which facilitates an agile approach to the introduction of new services.

5. Infrastructure Theme

a) Overview

The infrastructure theme will provide the essential building blocks to support the rest of the programme. The infrastructure theme includes connectivity and service oriented architecture and will be preceded by a service analysis.

All of these are essential to the successful delivery of all the other themes in this programme as well as being essential to the other transformational IT strands.

Connectivity will support the ExNet project by providing extra wifi connectivity to outside spaces, reviewing and recommending a conference and visitor guest wifi service and undertaking exploratory work on next-generation WiGig services.

SOA will be used to provide ‘data and cloud aggregation services’ to allow the provision of student, staff, visitor and course data optimized for mobile devices. This will be informed by the service analysis described in section 4 above.

b) Budget

<table>
<thead>
<tr>
<th>Project</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>£30K</td>
<td>£55K</td>
<td>£55K</td>
<td>£140K</td>
</tr>
<tr>
<td>Service Oriented Architecture</td>
<td>£20K</td>
<td>£20K</td>
<td>£20K</td>
<td>£60K</td>
</tr>
<tr>
<td>Total</td>
<td>£50K</td>
<td>£75K</td>
<td>£75K</td>
<td>£200K</td>
</tr>
</tbody>
</table>

c) Benefits

There are opportunities for direct and indirect cash benefits as follows:

- Adding a small charge to conferences for guest wifi would provide an income stream to offset costs
- An agile SOA approach to data provision will reduce developer costs and turnaround time to deliver data feeds

d) Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>To audit all current and required services</td>
</tr>
<tr>
<td>To extend and improve the iHub ESB model</td>
</tr>
<tr>
<td>To improve the external wifi service on campus</td>
</tr>
<tr>
<td>To provide a guest wifi service indirectly chargeable to conference attendees</td>
</tr>
<tr>
<td>To produce a report and recommendations on the adoption of WiGig services</td>
</tr>
</tbody>
</table>

e) Scope

i. In scope:

Connectivity across all campuses:

- Support for ExNet provision of extended external wifi service
- Cost-benefit analysis for the provision of guest wifi
- Exploratory work on the costs and benefits of next generation wifi - WiGig
Service Oriented Architecture:
- Service and API audit
- Support for the provision of a data and service aggregation architecture

ii. Out of Scope:
- Provision of mobile phone base stations (phone masts)

f) Connectivity Project

i. High Level Approach

The £140K budget will be allocated as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Service</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/13</td>
<td>Guest WiFi Service</td>
<td>£30K</td>
</tr>
<tr>
<td>2013/14</td>
<td>Guest WiFi Service</td>
<td>£10K</td>
</tr>
<tr>
<td></td>
<td>Extension of wifi to external space</td>
<td>£45K</td>
</tr>
<tr>
<td>2014/15</td>
<td>Guest WiFi Service</td>
<td>£10K</td>
</tr>
<tr>
<td></td>
<td>Extension of wifi to external space</td>
<td>£30K</td>
</tr>
<tr>
<td></td>
<td>Exploratory work on WiGig</td>
<td>£15K</td>
</tr>
</tbody>
</table>

ii. Project Lead

Roger Snelling: Head of Networks

g) Service Oriented Architecture/Enterprise Service Bus Project

i. High Level Approach

The £60K budget will be allocated as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/13</td>
<td>Audit the existing architecture and services, propose and commission the most</td>
<td>£20K</td>
</tr>
<tr>
<td></td>
<td>cost-effective and efficient open-source cloud ESB solution (internal or external e.g. RabbitMQ). Funding for research and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>training</td>
<td></td>
</tr>
<tr>
<td>2013/14</td>
<td>Hardware (£15K) and training (£5K) to enable implementation and migration from the</td>
<td>£20K</td>
</tr>
<tr>
<td></td>
<td>staff iHub to the University ESB</td>
<td></td>
</tr>
<tr>
<td>2014/15</td>
<td>Incrementally add other services</td>
<td>£20K</td>
</tr>
</tbody>
</table>

ii. Project Lead

Paul Lightowlers: Head of Corporate Systems
6. Content Theme

a) Overview

Working with colleagues from Communication and Marketing Services and the Library, this theme will ensure that content is appropriate for all mobile devices from feature phones through to tablets. It will deliver policies and guidelines for the delivery of content to mobile devices with particular reference to target consumers (students, staff and visitors). It will provide:

- Learning materials, e-resources and administrative content for students
- Role-specific content for staff
- Marketing and information (B2C) content for visitors
- Policies and guidelines to enable staff to develop content appropriate for mobile devices

b) Benefits

There are opportunities for direct and indirect cash benefits as follows:

- Clear policies and guidelines will result in less duplication of effort and LEAN processes
- Increased use of TerminalFour content management system will result in a single source of data with associated efficiencies

c) Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>To increase the use of existing University CMS for mobile content</td>
</tr>
<tr>
<td>To deliver policies and guidelines on the delivery of content</td>
</tr>
<tr>
<td>To invest in resource to create policies and guidelines which will be self-sustaining</td>
</tr>
</tbody>
</table>

b) Scope

i. In scope:

- Policies and guidelines applicable to all Campuses
- General University-wide data initially
- Focus on administrative and Library data initially

ii. Out of Scope:

- Provision of College-specific or niche data initially, although this may be included if resource permits

c) High Level Approach

Over a three year period, funding of £150K (£50K pa) has been allocated to support the content theme. It is proposed that this is split between the Library and Communications and Marketing Services to provide staff resource to develop mobile content

d) Project Leads

Jess Gardner, Assistant Director, Library
Rob Mitchell, University Web Manager
7. Devices Theme

a) Overview

This theme will provide a light-touch approach to mobile device support. It will ensure that BYOD students and staff can connect to University services and those who do not own smart devices are able to borrow suitable equipment or get advice on best equipment to buy, and possibly get significant discounts. It will almost certainly involve partnership with telephony and/or device providers.

There are three projects within the theme:

- Mobile Device Management
- Device Provision
- Device Support

b) Budget

<table>
<thead>
<tr>
<th>Project</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Device Management</td>
<td>£10K</td>
<td>£0K</td>
<td>£100K</td>
<td>£110K</td>
</tr>
<tr>
<td>Device Provision</td>
<td>£0K</td>
<td>£0K</td>
<td>£100K</td>
<td>£100K</td>
</tr>
<tr>
<td>Device Support</td>
<td>£10K</td>
<td>£0K</td>
<td>£0K</td>
<td>£10K</td>
</tr>
<tr>
<td>Total</td>
<td>£20K</td>
<td>£0K</td>
<td>£200K</td>
<td>£220K</td>
</tr>
</tbody>
</table>

c) Benefits

There are opportunities for direct and indirect cash benefits as follows:

- BYOD is expected to reduce the need for centrally provided desktop computers, realising savings in space, purchase and maintenance costs
- Partnership with device providers may offer an opportunity for revenue generation

d) Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>To develop BYOD policies for staff and students</td>
</tr>
<tr>
<td>To evaluate and implement a Mobile Device Management solution</td>
</tr>
<tr>
<td>To develop a support model for mobile devices</td>
</tr>
<tr>
<td>To review external partnership options and brokerage opportunities for device loan/purchase or resale</td>
</tr>
</tbody>
</table>

e) Scope

i. In scope:

- Provision across all University Campuses
- University and personally owned devices for staff, students and associates (including Student Guild)

ii. Out of Scope:

- Visitor devices
f) Mobile Device Management Project

i. High Level Approach

The mobile device management project aims to:

- Develop institution-wide BYOD policies to maximize safe use of personal and University-owned devices
- Introduce Mobile Device Management (MDM) software to allow management of staff devices (also available to students as an optional service), to ensure that systems and services are licenced appropriately and are sufficiently secure to protect both the user and the University.

The £110K budget will be allocated as follows:

2012/13: Evaluation of MDM software suppliers £10K
Development of BYOD policies (met from existing resource) £0K

2013/14: Implementation of policies (met from existing resource) £0K

2014/15: Full implementation of MDM software £100K

ii. Project Lead

Paul Sandy, Head of Head of IT Governance and Compliance


g) Device Provision Project

i. High Level Approach

The device provision project aims to:

- Offer a flexible range of devices for purchase at significant discount
- Offer a flexible range of devices for loan
- Review options for external partnerships to provide devices and data/network services

The £100K budget will be allocated as follows:

2012/13: Exploration of partnership opportunities (met from existing resource) £0K

2013/14: Review and recommend suitable loan devices (met from existing resource) £0K

2014/15: Purchase of devices and implementation of partnership agreement £100K

ii. Project Lead

Carolyn Jarvis, Head of Desktop & Learning Spaces Support

h) Device Support Project

i. High Level Approach

The device support project aims to:
- Produce recommendations and advice on fit-for-purpose devices for staff and students
- Use MDM software to implement a support model for devices

The £10K budget will be allocated as follows:

2012/13:  Develop device recommendations
          (met from existing resource) £0K
          Work with MDM trial to develop support model £10K

ii.  **Project Lead**

Carolyn Jarvis, Head of Desktop & Learning Spaces Support
8. Delivery Theme

a) Overview

This theme will ensure that when infrastructure, content and device management are in place, that staff and students are able to access relevant services, applications and data.

There are five projects within the theme:
- Native and Web App (project already started, see separate documentation)
- Virtual Remote Access Desktop
- Mobile Communications
- Mapping Services
- SMS

b) Budget

<table>
<thead>
<tr>
<th>Project</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual Remote Access Desktop</td>
<td>£60K</td>
<td>£50K</td>
<td>£40K</td>
<td>£150K</td>
</tr>
<tr>
<td>Mobile Communications</td>
<td>£0K</td>
<td>£30K</td>
<td>£20K</td>
<td>£50K</td>
</tr>
<tr>
<td>Mapping Services</td>
<td>£10K</td>
<td>£0K</td>
<td>£0K</td>
<td>£10K</td>
</tr>
<tr>
<td>SMS</td>
<td>£10K</td>
<td>£0K</td>
<td>£0K</td>
<td>£10K</td>
</tr>
<tr>
<td>Total</td>
<td>£80K</td>
<td>£80K</td>
<td>£60</td>
<td>£220K</td>
</tr>
</tbody>
</table>

c) Benefits

There are opportunities for direct and indirect cash benefits as follows:
- Reduce the need for centrally provided desktop computers, realising savings in space, purchase and maintenance costs
- Reduce the support requirements of fat-client provision by moving to a virtualized environment

d) Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>To deliver a student app available on all major platforms and as a web app</td>
</tr>
<tr>
<td>To provide a single global desktop solution</td>
</tr>
<tr>
<td>To increase remote login service capacity</td>
</tr>
<tr>
<td>To provide a unified communications service</td>
</tr>
<tr>
<td>To provide a centrally supported and managed geodatabase</td>
</tr>
<tr>
<td>To review the SMS service and recommend future direction</td>
</tr>
</tbody>
</table>

e) Scope

i. In scope:

- All student and staff services across all campuses and all locations
f) Virtual Remote Access Desktop Project

i. High Level Approach

The Virtual Remote Access Desktop Project aims to:

- Review current desktop management services and infrastructure (VDI, Citrix, Remote Desktop).
- Increase capacity of the remote login service (VPN) to support remote and home-working.
- Provide a single supported global desktop solution which will offer access to desktop software, data, applications and print services from any location or device.

The £150K budget will be allocated as follows:

2012/13: Audit of required services (consultancy) £20K
VPN capacity expansion £40K

2013/14: Evaluation of VRAD options £50K

2014/15: Initial rollout of VRAD services £40K

ii. Project Lead

Carolyn Jarvis, Head of Desktop & Learning Spaces Support

g) Mobile Communications Project

i. High Level Approach

The Mobile Communications project aims to:

- Provide a mobile, real-time unified communications service incorporating instant messaging, telephony, video conferencing, data sharing, and unified messaging (voicemail, email, SMS and fax).

The £50K budget will be allocated as follows:

2012/13: Exploration of unified communications options (met from existing resource) £0K

2013/14: Purchase and initial implementation of unified communications solution £30K

2014/15: Further rollout of unified communications £20K

ii. Project Lead

Steve Grange, Head of Infrastructure

h) Mapping Services Project

i. High Level Approach

The Mapping Services Project aims to:

- Provide a centrally supported and managed geodatabase accessible to all data owners and by all required services including interactive campus maps, Google Earth and Google maps.

The £10K budget will be allocated as follows:

2012/13: Provide cloud-based geodatabase £5K
Develop user-interface and support model for geodatabase £5K

ii. Project Lead

Sue Milward, Head of eInnovation

i) SMS Project

i. High Level Approach

The SMS Project aims to:

- Consolidate the existing SMS service, estimate usage and depending on the outcomes, recommend further innovative uses for SMS or alternative options for instant communications

The £10K budget will be allocated as follows:

2012/13: Audit of SMS service usage and effectiveness £5K
Invest in SMS service enhancement or plan for the migration to unified communications service £5K

ii. Project Lead

Ian Tilsed, Head of Academic Systems
9. Innovation Theme

a) Overview

This theme which will focus on discovery rather than delivery will ensure that the University continues to maintain its position as a leading technical innovator in the sector. The theme will also explore commercial opportunities arising from new innovations.

There are two projects within the theme:

- Pedagogy
- Technology

b) Benefits

There are opportunities for direct and indirect cash benefits as follows:

- New innovations may introduce as-yet unknown efficiency savings
- Working with the Commercial Director, revenue generation opportunities will be explored wherever appropriate

c) Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>To continue to support and encourage innovation across the University to the benefit of students and staff</td>
</tr>
</tbody>
</table>

d) Scope

i. **In scope:**

- All mobile-centric technical innovations

ii. **Out of Scope:**

- Non-technical innovation

e) Pedagogical Innovation

i. **High Level Approach**

The Pedagogical Innovation Project aims to:

- Work closely with Colleges to develop a ‘mobile’ TEL roadmap. Using Gartner hype cycles and Educause Horizon reports and tapping into academic expertise, it will develop pockets of innovation which will be scalable across the institution and sector and may be commercially viable.

There is no budget associated with the Innovation Theme. The project will be managed using existing resource and where appropriate will generate business cases for project funding.

ii. **Project Lead**

Matt Newcombe, Head of eLearning

f) Technology Innovation

i. **High Level Approach**

The Technology Innovation Project aims to:
• Use Gartner hype cycles and similar research sources to develop a strategic technology prioritisation map which will be used to develop new innovations of benefit across the University and which may also be commercially viable. The University Innovation Group will take a governance role for this project.

There is no budget associated with the Innovation Theme. The project will be managed using existing resource and where appropriate will generate business cases for project funding.

ii. Project Lead

Sue Milward, Head of eInnovation
10. Programme Risk Analysis

a) Risks

There are significant risks associated with this ambitious programme of work:

- Staff may not available to support the work caused by other pressures on their time and lack of appropriate skills. This will be mitigated by efficiency savings driven by reduction in desktop support services.
- Specialist project management resource will not be available, caused by lack of budget. This will be mitigated by existing staff taking lead roles and dividing the projects among existing teams.
- Insufficient funds to achieve all the project objectives caused by high software costs and training requirements. This will be mitigated by reduction in scope where essential, exploration of partnership and shared services opportunities and other revenue streams.
- Infrastructure Strategy funds are not available caused by over-allocation. This will be mitigated by project prioritization.

b) Issues

All teams involved with projects are already fully committed. Without their expertise none of the projects can move forward. This will be discussed with the service heads.

c) Assumptions

That existing staff resource can be re-allocated to manage and support the programme

That Infrastructure Strategy funds will be available