



**NOTTINGHAMSHIRE**  
**Fire & Rescue Service**  
*Creating Safer Communities*

Nottinghamshire and City of Nottingham  
Fire and Rescue Authority  
Finance & Resources Committee

# **INFORMATION COMMUNICATIONS TECHNOLOGY STRATEGY**

Report of the Chief Fire Officer

**Date:** 11 July 2014

**Purpose of Report:**

To present the current strategy for ICT to this committee to inform thinking around such areas as capital planning etc.

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## **1. BACKGROUND**

At the Finance and Resources Committee meeting in April 2014 Members requested that the Head of ICT attend a future meeting of the committee to present his strategy for ICT for discussion.

## **2. REPORT**

2.1 The ICT Strategy was approved by the Fire Authority in December 2013 and therefore this presentation provides an update to progress on the strategy as well as allowing members to hear a presentation from the Head of ICT.

2.2 For reference a copy of the written strategy is included as Appendix A to this report.

2.3 The presentation covers a number of key areas within the strategy. These are:

- The aims of the strategy;
- What needs to be done;
- Aspirations for ICT;
- High priority projects.

In addition there is some discussion around the new telephones project which to a large extent encompasses many of the aspirations of the strategy.

2.4 The Head of ICT will be available to answer any questions Members may have.

## **3. FINANCIAL IMPLICATIONS**

There are no financial implications in this report beyond those implications which arise from the individual projects which are provided for within the Authority's budgets.

## **4. HUMAN RESOURCES AND LEARNING AND DEVELOPMENT IMPLICATIONS**

There are no human resources or learning and development implications arising directly from this report.

## **5. EQUALITIES IMPLICATIONS**

An equality impact assessment has not been undertaken because this report is not associated with a policy, function or service. Its purpose is to explain variances to the approved budget, which reflects existing policies.

## **6. CRIME AND DISORDER IMPLICATIONS**

There are no crime and disorder implications arising from this report.

## **7. LEGAL IMPLICATIONS**

There are no legal implications arising directly from this report.

## **8. RISK MANAGEMENT IMPLICATIONS**

There are no risk management implications arising from this report.

## **9. RECOMMENDATIONS**

That Members note the contents of this report

## **10. BACKGROUND PAPERS FOR INSPECTION (OTHER THAN PUBLISHED DOCUMENTS)**

None.

John Buckley  
**CHIEF FIRE OFFICER**



**NOTTINGHAMSHIRE**  
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Fire and Rescue Authority

# INFORMATION AND COMMUNICATIONS TECHNOLOGY STRATEGY

Report of the Chief Fire Officer

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**Agenda Item No:**

**Date:** 13 December 2013

**Purpose of Report:**

To seek the approval of the Fire Authority to the proposed Information and Communications Technology Strategy.

## CONTACT OFFICER

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## 1. BACKGROUND

- 1.1 The Information and Communications Technology (ICT) Strategy for Nottinghamshire Fire and Rescue Service (NFRS) has been produced in response to the Strategic Review of ICT and the Information and Communications Technology (ICT) Strategy Report produced by Cronins, on behalf of NFRS.
- 1.2 The document is intended to provide a clear and deliverable strategic direction for the Service's ICT infrastructure and support, determined by the operational and strategic goals of NFRS, the Strategic Business Requirements (SBRs) provided by Cronins and in line with the key imperatives and principles for ICT provision that will be followed.
- 1.3 The document summarises both the current state of ICT within NFRS in the form of a gap analysis, highlights the current risks in ICT and provides a suggested approach to improve ICT provision.
- 1.4 From the strategy will flow the detailed ICT Departmental Plan and associated business cases and budgets, which will drive the specific ICT projects and initiatives that will be pursued to support the Service in achieving its organisational strategy and goals, as detailed in the Service Plan 2010-2013.
- 1.5 This strategy has already been reviewed and accepted by the Corporate Management Board.

## 2. REPORT

- 2.1 The overall aim of the ICT Strategy for NFRS is to achieve a balance of organisational efficiency and new innovations:

To reduce organisational risk by creating a foundation of *standardised*, *resilient* and *integrated* systems with *simplified* processes; delivered by cost-effective ICT services and solutions that are focussed on the needs and objectives of NFRS.
- 2.2 To deliver the ICT Strategy 30 high-priority ICT projects have been identified for delivery by 31 March 2015. These projects break down into 6 broad work areas as set out below:
  - Upgrading the ICT infrastructure;
  - Implementing unified communications;
  - Modernising applications;
  - Improving ICT governance;
  - Providing professional ICT management;
  - Improving the User Experience.

2.3 It is recognised that the successful delivery of ICT services across NFRS demands more than the implementation of technology. The approach and attitude of ICT staff is key to ensuring a professional service and as a consequence the NFRS ICT Department will endeavour to embrace the principles of 'IT as a Service':

"IT as a service (ITaaS) is an operational model where the IT organisation of an enterprise is run much like a business, acting and operating as an internal service provider.

In this model, IT simplifies and encourages service consumption, provides improved financial transparency for IT services, and partners more closely with lines of business.

This type of IT transformation is business focused rather than cost focused, leading directly to improved levels of business agility."

2.4 ICT staff within NFRS are striving to embrace the principles of IT as a Service (ITaaS) and have set themselves the task of delivering a service that is seen to be:

- Making a positive contribution to running and transforming NFRS;
- Customer focused and striving to deliver excellence to meet the needs of staff and the service;
- Highly available and resilient so that the ICT infrastructure becomes invisible;
- Embracing appropriate innovation;
- Demonstrably value for money;
- Helping to drive through transformational change to improve NFRS;
- Outward looking, owning problems, proactive and communicating well;
- Empowering staff to make best use of their ICT facilities.

2.5 The successful delivery of the portfolio of ICT projects will therefore generate a number of benefits to NFRS, the chief amongst them being:

- Improved communication between ICT and the organisation, aligned to strategic requirements.
- Enhanced business collaboration, through the use of a unified Communications system.
- Integrated enterprise applications, facilitating enhanced productivity and the removal of task duplication.
- Strong ICT Governance that will encourage planning and resource management and enable a service-oriented project / change management culture.
- Single database technology with reduced complexity and improved supportability.
- Automated management information on the ICT infrastructure that is useful and meaningful.
- Reduced cost to maintain and support the ICT infrastructure and users;

- Maintainable and supportable ICT infrastructure, with established, low effort upgrade path.

2.6 The full ICT Strategy is given as Appendix A to this report.

### **3. FINANCIAL IMPLICATIONS**

All the initiatives set out within this strategy are covered by existing budgets, with the exception of £450,000 required to meet the costs of the new PABX telephony system and Microsoft Enterprise wide licencing. These items will require approval as part of the capital budget to be presented to the next Fire Authority meeting.

### **4. HUMAN RESOURCES AND LEARNING AND DEVELOPMENT IMPLICATIONS**

There are no human resources and learning and development implications arising directly from this report. However the Authority remains committed to the development of staff as set out in the IRMP and this requires that staff are appropriately trained in order to get the best out of ICT systems.

### **5. EQUALITIES IMPLCATIONS**

Whilst there are no equalities implications arising from this report, the Authority will continue with existing policies for maintaining access to ICT systems as well as showing a continuing commitment to the procurement and development of accessible systems.

### **6. CRIME AND DISORDER IMPLICATIONS**

There are no implications for crime and disorder arising from this report.

### **7. LEGAL IMPLICATIONS**

7.1 The review of the needs for a Microsoft Enterprise Volume License Agreement and current Microsoft licensing arrangements within NFRS may expose that the service is under-licensed with regards to some enterprise applications. This issue will be dealt with through the purchase of the appropriate level of licenses required using the most cost-effective software purchasing method available.

7.2 There are no other legal implications arising directly from this report.

### **8. RISK MANAGEMENT IMPLICATIONS**

8.1 The ICT strategy as well as seeking to improve and develop services also seeks to minimise risks which arise due to technical obsolescence and

changing software versions. There are no particularly new risks identified but the expiry of various software support arrangements and licences creates an opportunity to upgrade various systems.

8.2 The risk of obsolescence continues to be met by existing budgets and rolling renewals programmes already in place.

8.2 The two areas of risk which have not been included in previous plans are the replacement of the PABX system which is now 15 years old and needs to be replaced to maintain a service and the purchase of Microsoft Enterprise licences which will enable the implementation of wider initiatives such as Business Process Automation.

## **9. RECOMMENDATIONS**

That Members note the contents of this report and agree to adopt the ICT Strategy.

## **10. BACKGROUND PAPERS FOR INSPECTION (OTHER THAN PUBLISHED DOCUMENTS)**

None.

Frank Swann  
**CHIEF FIRE OFFICER**





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**ICT Strategy**



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# **Information & Communications Technology (ICT) Strategy**

August 2013



## Document Control Sheet

**Project Title**            Enabling Nottinghamshire Fire & Rescue Service to deliver its ICT vision, to deliver higher performing and more effective ICT

**Report Title**            Information & Communications Technology (ICT) Strategy

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**Status**                 Draft following discussions with members of ICT, SMT & CMB between May and July 2013

**Control Date**         20/08/2013

### Record of Issue

Issue	Status	Author	Date	Changes	Checked/ Authorised	Date
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V1.0	First issue	Gavin Harris	17/07/13	First issue	N Timms	08/07/13
V2.0	Second issue	Gavin Harris	25/07/13	Updated Executive Summary and addition of Appendix D	N Timms	25/07/13
V3.0	Third issue	Gavin Harris	20/08/13	Minor spelling and grammar corrections	CMB Members	

### Distribution

Organisation	Contacts	Copies
Nottinghamshire FRS	Neil Timms, Assistant Chief Officer and Director of Finance and Resources	CMB members



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## Executive Summary

The overall aim of this Information and Communications Technology (ICT) Strategy for Nottinghamshire Fire and Rescue Service (NFRS) ICT Strategy is to achieve a balance of organisational efficiency and new innovations:

To reduce organisational risk by creating a foundation of **standardised**, **resilient** and **integrated** systems with **simplified** processes; delivered by cost-effective ICT services and solutions that are focussed on the needs and objectives of Nottinghamshire Fire and Rescue Service.

To deliver this strategy 30 high-priority ICT projects have been identified for delivery by 31<sup>st</sup> March 2015:

### Upgrade the ICT Infrastructure

- 1) Migrate to a new PSN-compliant Wide Area Network (WAN)<sup>i</sup> by December 2013
- 2) Migrate all desktop and laptop PCs to Windows 7 / Office 2010 by 31<sup>st</sup> March 2014
- 3) Complete the migration from Microsoft Exchange 2003 to [Exchange 2010](#) by 31<sup>st</sup> March 2014
- 4) Implement a SharePoint back-up server and test environment, to improve resilience
- 5) Conduct a review of the existing Wi-Fi<sup>ii</sup> provision across the NFRS estate
- 6) Implement a new two-factor authentication<sup>iii</sup> system for remote access by 31<sup>st</sup> March 2014

### Implement Unified Communications

- 7) Negotiate a new contract for the provision and support of mobile telephony with [EE \(Orange\)](#)
- 8) Undertake a mobile telephone signal coverage audit of the HQ buildings with [EE \(Orange\)](#)
- 9) Implement [Microsoft Lync 2010](#) across NFRS, to increase collaboration and communication
- 10) Review the options for upgrading or replacing the Telephony System (PABX)<sup>iv</sup> with a modern system that will leverage Unified Communications technology

### Modernise the Applications

- 11) Implement [Microsoft Project Server](#) within the ICT Department, to improve Project Delivery
- 12) Introduce widespread use of [SharePoint 2010](#) Team Sites and Document Management
- 13) Complete a review of [CITRIX](#)<sup>v</sup> applications / systems by 31<sup>st</sup> March 2014

### Improving ICT Governance

- 14) Publish monthly ICT performance metrics on SharePoint
- 15) Agree an Operational Level Agreement<sup>vi</sup> for all ICT Services
- 16) Implement the [ISO 27001](#)<sup>vii</sup> information security management framework, to become GSI ready
- 17) Initiate a programme of documenting all ICT Standard Operating Procedures to create a comprehensive Service Knowledge Management System (SKMS)<sup>viii</sup>
- 18) Implement PRINCE2<sup>ix</sup> fundamentals through targeted training within ICT
- 19) Review requirements for file, data and laptop encryption systems
- 20) Implement [Microsoft System Center 2012](#) to embed the [Microsoft Operational Framework](#)<sup>x</sup> within ICT and replace the existing system before Microsoft end support on 8<sup>th</sup> July 2014
- 21) Agree an official ICT Department 'Out of Hours Support' policy / process



### **Professional ICT Management**

- 22) Review current contract with [Danwood Group](#) for the provision and maintenance of printers
- 23) Assess the needs for a [Microsoft Enterprise Volume License Agreement](#) to leverage cost-effective software purchasing, efficient software upgrades and additional benefits
- 24) Assess the existing skill-set of the ICT Department and look for partners who can offer cost-effective managed services to fill the skills gaps, as required.
- 25) Undertake Data Protection Act training for the ICT Department
- 26) Implement an ICT training and skills matrix, with a programme of training to improve skills

### **Improving the User Experience**

- 27) Implement a user education program of the ICT 'Self Service' portal
- 28) Introduce a schedule of 'Surgery Visits' and training sessions to all remote sites and fire stations to bring the NFRS user-community closer to the ICT Department
- 29) Roll-out [Microsoft OneNote 2010](#) on laptops and [iPad tablet](#) devices
- 30) Consider options for organisation-wide training on ICT applications and systems for users

The successful delivery of ICT services across NFRS demands more than merely the implementation of technology. ICT staff within NFRS are striving to embrace the principles of IT as a Service (ITaaS)<sup>xi</sup> and have set themselves the task of delivering a service that is known as:

- 1) Making a positive contribution to running and transforming NFRS ;
- 2) Customer focused and striving to deliver excellence to meet the needs of staff and the service;
- 3) Highly available and resilient so that the ICT infrastructure becomes invisible;
- 4) Embracing appropriate innovation;
- 5) Demonstrably value for money;
- 6) Helping to drive through transformational change to improve NFRS;
- 7) Outward looking, owning problems, proactive and communicating well;
- 8) Empowering staff to make best use of their ICT facilities.

The successful delivery of the portfolio of ICT strategy projects will therefore generate a number of benefits to NFRS, the chief amongst them being:

- 1) Improved communication between ICT and the organisation, aligned to strategic requirements;
- 2) Enhanced business collaboration, through the use of an Unified Communications<sup>xii</sup> system;
- 3) Integrated enterprise applications, facilitating enhanced productivity, the removal of task duplication and enabling mandatory process adoption;
- 4) Strong ICT Governance employing ITaaS, ITIL, MOF, IEC/ISO 20000, IEC/ISO 27000 and PRINCE 2 as appropriate, that will encourage planning and resource management and enable a service-oriented project / change management culture;
- 5) Single Microsoft SQL database technology with reduced complexity and improved supportability;
- 6) Automated management information on the ICT infrastructure that is useful and meaningful;
- 7) Reduced cost to maintain and support the ICT infrastructure and users;
- 8) Maintainable and supportable ICT infrastructure, with established, low effort upgrade path.



## **1. Introduction**

### **1.1 Background**

- 1.1.2 This Information and Communications Technology (ICT) Strategy for Nottinghamshire Fire and Rescue Service (NFRS) has been produced in response to the Strategic Review of ICT (V3.0, dated 12/10/2012) and the Information and Communications Technology (ICT) Strategy Report (V1.0, dated 08/02/2013) produced by Cronins, on behalf of NFRS.
- 1.1.3 This document is intended to provide a clear and deliverable strategic direction for the Service's ICT infrastructure and support, determined by the Operational and Strategic goals of NFRS (see Appendix A), the Strategic Business Requirements (SBRs) provided by Cronins (see Appendix B) and in line with the key imperatives and principles for ICT provision that will be followed.
- 1.1.4 It summarises both the current state of ICT within NFRS in the form of a gap analysis, highlights the current risks in ICT and provides a suggested approach to improve ICT provision.
- 1.1.5 From this strategy will flow the detailed ICT Departmental Plan and associated business cases, which will drive the specific ICT projects and initiatives that will be pursued to support the Service in achieving its organisational strategy and goals, as detailed in the Service Plan 2010-2013.

### **1.2 Status of this ICT Strategy**

- 1.2.1 This version of the ICT Strategy has been derived from the Strategic Review of ICT (V3.0, dated 12/10/2012) and the Information and Communications Technology (ICT) Strategy Report (V1.0, dated 08/02/2013) produced by Cronins and discussions conducted by the NFRS Head of ICT with NFRS senior staff, users and members of the ICT Department.
- 1.2.2 Following a review by the Assistant Chief Officer and Director of Finance and Resources, the document will be amended as necessary and tabled to the Corporate Management Board for formal endorsement.
- 1.2.3 Thereafter the approved ICT Strategy will be actively implemented, whilst being viewed as a dynamic document.
- 1.2.4 It will formally be reviewed and updated on an annual basis.



## 2. Business Needs

### 2.1 Organisational Strategy and Goals

2.1.1 The Service Plan 2010-2013 (see Appendix A) identifies six organisational objectives:

- 1) Prevention
- 2) Protection
- 3) Response
- 4) Resilience
- 5) Diversity and Workforce
- 6) Governance and Improvement

2.1.2 This Strategy recognises that ICT as a whole, and the ICT departmental activities underpin all these objectives whether it be the provision of computer systems or the provision of various technology, information, data and communications systems.

2.1.3 Whilst the most significant contribution from the ICT department is in the support of objective 3 - Response, increasingly the department is required to support objective 6 – Governance and Improvement; particularly in respect of improvement.

2.1.4 The ICT department will play an increasingly important role in the selection and provision of computing and communications technology. With significant changes in operations and structure being planned, ICT as a whole is seen as a key component in the development of the information and support services required to support the sixth objective.

### 2.2 Key Drivers for Change in ICT

The IT Industry is being transformed by various trends, which are driving down cost, delivering significant efficiencies and increasing flexibility to businesses and organisations. This strategy seeks to respond positively to these key trends and also consider appropriate drivers within Local Government and UK Fire Services. The most significant of these being:

- 2.2.1 **Business Processes Re-engineering** – ICT can be used as a powerful lever to automate and help transform business processes within the NFRS. As standard, ICT implementations must include process transformations in order to realise the business benefits from these investments.
- 2.2.2 **BYOD<sup>xiii</sup>, Mobility & Flexible Working** – The revolution in mobile computing continues and with it a growing expectation that one can access ICT systems and information from anywhere. The move towards the ‘Consumerisation of IT’ and the wish to seamlessly use a single device (often owned by the user) to perform multiple (if not all) business tasks are all parts of this trend.
- 2.2.3 **Changing Expectations of Users** – As users utilise more sophisticated and ‘intuitive’ devices in the personal lives, their expectations are that all computing equipment will require very little training. Users also expect ICT staff to be highly knowledgeable when it comes to advances in technology and be able to offer advice on how these can be utilised within the organisation. The gap between user expectations and the ability of ICT to deliver against them needs to be bridged.



- 2.2.4 **Data-centre Consolidation & Virtualization**<sup>xiv</sup> – The development of desktop and server virtualization brings opportunities in terms of speed of deployment and economies of scale, as well as challenges in terms of the flexibility and the different management skills required.
- 2.2.5 **Alternative ICT Delivery Models** – Increasingly ICT services and systems are being hosted from the ‘Cloud’<sup>xv</sup> using a variety of delivery models such as Infrastructure as a Service (IAAS)<sup>xvi</sup>, Software as a Service (SAAS)<sup>xvii</sup> and Platform as a Service (PAAS)<sup>xviii</sup>. The influence of ‘Cloud’ services has also opened up new opportunities to provide flexible and cost-effective solutions using a ‘Pay As You Go’ model.
- 2.2.6 **Outsourcing & Managed Services** – Outsourcing is increasingly the means by which services, infrastructure and expertise are being delivered. The role of a central ICT department is increasingly becoming one of management of third parties and integration of third party systems, as well as developing solution requirements for external consultants to deliver.
- 2.2.7 **‘Big Data’ Storage demands** – As information becomes increasingly rich and diverse in structure the demand for managed and organised storage of this data is increasing significantly. Furthermore, there is growing pressure for NFRS documents, data and information to be managed professionally in a secure manner.
- 2.2.8 **Network Connectivity & Bandwidth** – The same factors that are pushing the growth in demand for storage are also driving the growth in demand for network bandwidth and these are amplified by the need to use the same network to provide resilience, disaster recovery, audio and video communications services. Trends within the industry are pushing significant advances in networking connectivity through the use of MPLS<sup>xix</sup> and fibre-optic solutions. This increased capacity provides an opportunity to review the existing telephony systems to leverage solutions such as Voice Over Internet Protocol (VOIP)<sup>xx</sup>, SIP Trunking<sup>xxi</sup> and Video Conferencing.
- 2.2.9 **Information & Data Security** – There remains a significant and growing threat from malicious external agencies which would seek to compromise NFRS ICT systems and seek to access our sensitive data. As NFRS staff become more mobile in their computing practices the means by which data and ICT systems are secured becomes more complex, resulting in the need for more sophisticated management systems and frameworks being employed.
- 2.2.10 **Business Continuity & Disaster Recovery** – The maintenance of ICT systems and services that are reliable and highly available is increasingly seen as a prerequisite to the continuing business of NFRS. ICT service continuity will continue to be an important factor in the delivery of ICT services and systems will be designed to be resilient, regularly backed-up and with appropriate duplication and redundancy.
- 2.2.11 **Governance & Service Management Principles** – Industry-standard service management processes and frameworks, in particular ITIL, ISO20000<sup>xxii</sup>, ISO27001, Microsoft Operational Framework (MOF) and PRINCE2, have been widely adopted across the industry to ensure professional working practices underpin the delivery, support and security of ICT systems.
- 2.2.12 **Tightening fiscal environment** – With the world-wide financial crisis forcing Local Government to review spending, it is important to identify and focus upon priority areas for investment. This will drive the requirement to demonstrate value for money and sound business cases for investments, making decision from a strategic, rather than tactical perspective.





### 3. Principles for the delivery of ICT

In developing this strategy a number of underpinning imperatives and principles have been identified that will guide the decision making and investments in ICT over the coming years. These are:

#### 3.1 Vision and Mission

- 3.1.1 To reduce organisational risk by creating a foundation of **standardised, resilient** and **integrated** systems with **simplified** processes; delivered by cost-effective ICT services and solutions that are focussed on the needs and objectives of Nottinghamshire Fire and Rescue Service.

#### 3.2 Imperatives & Principles

- 3.2.1 Embed a culture of IT as a Service (ITaaS) within the ICT Department to align the needs of the organisation with the delivery of technology services and solutions;
- 3.2.2 Move towards greater user empowerment through self-service and process automation systems;
- 3.2.3 Endeavour to develop ICT staff so they are seen as knowledgeable and trusted professionals;
- 3.2.4 Enhance organisational collaboration through the use of technology solutions, leveraging mobile telephony, mobile computing and distance-working solutions as appropriate;
- 3.2.5 Move towards greater standardisation of NFRS ICT software, hardware and services wherever possible, to drive up quality of service whilst driving down the cost of delivering this service;
- 3.2.6 Utilise affordable, integrated and resilient architecture to facilitate productivity and efficiency;
- 3.2.7 Strive for single vendor technology using a Microsoft-based architecture, deploying COTS (Commercial Off The Shelf)<sup>xxiii</sup> solutions to reduce complexity and improve systems management;
- 3.2.8 Strive for the ICT Infrastructure and systems to be periodically refreshed to ensure it continues to be capable of delivering to our users requirements;
- 3.2.9 Ensure ICT projects are professionally scoped and planned up-front using best-practice methodology to determine scale, cost and relevance in-line with our users requirements;
- 3.2.10 Consider value-for-money, whole life costs, dynamism and flexibility to all procurement decisions;
- 3.2.11 Employ cost-effective business continuity solutions, to ensure continued service operation;
- 3.2.12 Ensure that all services are maintainable and supportable, with reliable upgrade paths;
- 3.2.13 Embed the Microsoft Operational Framework and PRINCE2 methodology into ICT standard operating procedures to ensure that industry best practice is leveraged as much as possible;
- 3.2.14 Leverage 'Cloud' based, out-sourced or managed service solutions where appropriate to improve functionality, business continuity and reduce on-going support costs.



### 3. Gaps in ICT Support

This section will discuss where gaps exist between the current state of ICT within NFRS and the desired state of ICT, guided by the following strategic imperatives of:

- 1) Standardisation
- 2) Resilience
- 3) Integration
- 4) Simplification

The section is divided into analyses of the Application Direction, Infrastructure Direction, and IT Organisation Direction programs.

#### 3.1 Application Gap Analysis

Using the guiding principles outlined above, the following gaps have been identified in the current suite of applications used within NFRS:

- 3.1.1 **Windows 7** – the roll-out of the replacement desktop operating system is only partially complete (40% of the estate), meaning that the ICT Department are forced to support both Windows 7 and Windows XP. Support from Microsoft ends for Windows XP and Office 2003 on [8<sup>th</sup> April 2014](#), so this project needs to be completed before this date to ensure we are still able to obtain support from the vendor. Completing this project would have the benefit of a simplified and consistent desktop across the service which would be much easier to support moving forwards;
- 3.1.2 **Exchange 2010** – the migration to Exchange 2010 from 2003 has been partially completed and needs to be implemented as soon as possible. Microsoft end support of Exchange 2003 Enterprise on [8<sup>th</sup> April 2014](#), so this project needs to be completed before this date to ensure we are still able to obtain support from the vendor. Once complete, many more functions within MS-Outlook 2010 can be enabled and other Microsoft enterprise applications such as Lync and SharePoint can be connected with the system to create an integrated application architecture;
- 3.1.3 **ICCM e-Service Desk** – the current ICT Service Management System (ICCM e-Service Desk) is at least four versions behind the vendors' current offering and although it aligns strictly to ITIL principles it does not integrate easily with other management tools used by ICT. The user-portal is functional, but is based strictly on the principles of Incident Management and Request Fulfilment which are not easily understood by the NFRS user-community;
- 3.1.4 **System Centre 2007 R2** – both System Centre Configuration Manager (SCCM) and System Centre Operations Manager (SCOM) are used by the ICT Department to manage the current assets and infrastructure, but these could be deployed in a more integrated way using System Centre Service Manager (SCSM). Microsoft end support of the System Center 2007 R2 suite on [8<sup>th</sup> July 2014](#), so this application needs to be upgraded which will achieve significant efficiencies;
- 3.1.5 **SharePoint** – the NFRS SharePoint implementation has been focussed on the provision of an intranet system for the service and does not utilise the many other enterprise features of the solution. Team sites are used in a very limited way and not by all departments. Fewer than ten workflows have been created to enhance business process automation. Document Management has been introduced in a very limited way and meta-data has not been extensively collected. Business Intelligence and reporting services are not utilised at all;



- 3.1.6 **Track** – the current project management tool is not well regarded by management and is not used by ICT, although MS Project is used to some extent to manage projects. The implementation of a solution such as Project Server could embed PRINCE2 project management best-practise initially within ICT and then across NFRS;
- 3.1.7 **Application Integration** – the landscape of applications is extremely diverse and there is very little application integration; resulting in silo working practices under-pinned by departments having ‘their own system’. A more structured and ‘joined up’ approach to the purchase and implementation of applications must be adopted moving forwards.

## **3.2 Infrastructure Gap Analysis**

Using the guiding principles outlined above, the following gaps have been identified in the current ICT infrastructure of NFRS:

- 3.2.1 **Wide Area Network (WAN)** – the current WAN configuration is slow and has been based on the premise that a solution should be cheap; resulting in a technically innovative system that does not provide adequate bandwidth at HQ or a number of station sites. There is extensive use of multiple ADSL providers for internet connectivity at HQ, which offers resilience but without download speeds that would be expected for a site with over 100 administration staff;
- 3.2.2 **Telephone System (PABX)** – the existing telephone system was supplied by BT in 1998, but is stable and has a BT maintenance contract. The architecture is based on the use of a PSTN network and ISDN, provided by Daisy. The implementation of a VOIP / SIP system with the capability to integrate with Microsoft Active Directory, Exchange and Lync would provide an up-to-date Unified Communications solution generating significant cost-savings and process efficiencies through the reduction of travel, telephone call charges and e-mail storage costs.
- 3.2.3 **Mobile Telephony** – the support contract with EE (Orange) has now expired, resulting in old and damaged mobile devices being ‘recycled’ beyond their intended operational lifespan. The network coverage within NFRS HQ is also poor, meaning staff often have to go outside to make calls on their mobile phones. Apple iPads (wi-fi only) have been provided to a number of staff without any real business case, project plan or agreed configuration;
- 3.2.4 **Video Conferencing** – there is no video conferencing system utilised within the Service, which means that meetings are held via telephone or in person (thus requiring travel). There is currently a trial of Microsoft Lync (using Office 365 licences) underway, but there is no project plan or scope of work. The implementation of an up-to-date Unified Communications solution, such as Lync, would offer significant operational efficiencies and save money in terms of travel;
- 3.2.5 **Wi-Fi Network** – the current HQ Wi-Fi networks are good and offer acceptable security levels. Elsewhere in the estate Wi-Fi coverage is not as good; particularly within fire station appliance bays. The Red Kite asset tracking system relies upon a Wi-Fi connection to the internet to function and in many stations coverage is a real issue;
- 3.2.6 **Disaster Recovery (DR)** – there is no viable single solution for DR and the multiple solutions that are currently in-place need to be streamlined, to increase efficiency. No IT Recovery Plan has been written and it is not clear in what set of circumstances DR systems would be invoked;
- 3.2.7 **SQL Database Servers** – the Service have already taken the decision to utilise a single database technology in the form of Microsoft SQL Server, which is sensible. The current system is based on SQL 2003, which is solid but is now two versions behind the current offering from Microsoft; the new HR System requires SQL 2010 as a minimum to operate. Back-up routines



and log-shipping are in place, but could be improved. In-house skills to provide support of the system need to be improved and diversified;

- 3.2.8 **Storage Area Network (SAN)** – the SAN is getting old and the application software that controls replication does not work very well. Archiving of data has been considered and a plan is in place to reduce the use of network drives within NFRS, to remove the reliance on SAN storage.

### 3.3 ICT Capability Gaps

Using the guiding principles outlined above, the following gaps have been identified in the capabilities of the NFRS ICT department:

- 3.3.1 **Project Management** – the ICT team have had no exposure to PRINCE 2 project management principles and there is currently no formal project management processes in place. Although NFRS does have a document on the management of projects within the service, ICT does not appear to follow these guidelines. Projects are managed and delivered in an ad-hoc way by individuals with no single methodology or reporting structure, meaning that it is very difficult to understand progress against targets and milestones;
- 3.3.2 **Out of Hours Support** – there is no official ICT Support outside of standard office hours, leaving the Service exposed. Two individuals within the team undertake support outside of normal hours, but this is done in an unstructured manner;
- 3.3.3 **Knowledge Diversification** – Enterprise-level technical knowledge is currently provided by Andy Burns of Protologic and Gareth Harrison of Motion IT, meaning that there is no in-house expert on many of the enterprise-level systems deployed within NFRS. In-house skills to provide support of key systems, such as SQL Server and Exchange need to be improved and diversified through the team. There is a culture of the ‘in house expert’ resulting in ‘suspension of service’ when staff are unavailable;
- 3.3.4 **Resource Composition & Culture** – the ICT Service Desk has only one member of staff, the Service Desk Manager, resulting in the first-line response technicians having to provide cover when the Service Desk Manager is unavailable. There is a reactive culture within the department as a result of ‘just enough’ resourcing, meaning the staff do not feel they have enough capacity to be proactive or creative in the service they provide. Decision-making is made under the pressures of being ‘too busy’ and as a consequence a reactive and tactical service provision methodology is the norm;
- 3.3.5 **Department Training** – the provision and maintenance of training is almost non-existent within the ICT Department. Team members have previously received training but this has not been reviewed and so the skills that were learned have become outdated and in some cases irrelevant. The Department needs to implement a skills matrix supported by a training and development plan to ensure that the skills within the team remain appropriate to the systems that are being supported;
- 3.3.6 **Organisational Training** – there has been some training on new systems for users, most notably during the rollout of Office 2010, but there is little evidence of a coordinated and centralised programme of IT user training. There will be a need to provide a significant amount of training to users on systems such as SharePoint, Lync, Outlook and i-Trent over the coming years and a structured method of furnishing this knowledge throughout the service needs to be found and agreed.



### 3.4 ICT Organisational Gaps

Using the guiding principles outlined above, the following gaps have been identified in the organisational structure of the NFRS ICT department:

- 3.4.1 **ICT Strategy** – there is no coherent ICT vision, policy or strategy. This has meant that the ICT function has become largely focused on reactive technical support, ignoring the need for proactive development of the ICT function as a professional service provider to NFRS;
- 3.4.2 **Alignment with the Service** – there appears to be a ‘disconnect’ between the Service and ICT, in terms of service provision, understanding business requirements and the establishment of any terms of reference. This unstructured environment results in the same level of service being seen as either ‘excellent’ or ‘unsatisfactory’; depending upon the point of view of the recipient. Consistency in service delivery is difficult to achieve, or measure, as no guidance as to what should be provided has been established;
- 3.4.3 **ITIL implementation** – the implementation of an ICT Service Desk and a supporting software system has introduced some elements of ITIL best-practice (Incident Management and Request Fulfilment), but no other element of the framework has been considered;
- 3.4.4 **Measures & Targets** – there are currently over 180 different services provided by ICT to NFRS and none of these services have any form of target or measure against them. There are no targets set, no service appointed owner, service agreed availability windows and so on, meaning that ICT have no way of planning resource and skills requirements;
- 3.4.5 **Change Management** – NFRS ICT do not follow any form of structured change management and there is not agreement with the Service on maintenance windows. This creates a large amount of risk to NFRS as there is no assessment or prioritisation of changes from a business or technical perspective and no consideration as to the most appropriate time to perform system maintenance or implement changes;
- 3.4.6 **Information Security** – there needs to be a complete review of the processes and procedures that are in place to manage both data security and system access, to ensure that NFRS are prepared for Government Secure Intranet (GSI) and Public Sector Network (PSN);
- 3.4.7 **Document Management** – there is not enough documentation of the current systems and procedures and there are very few policies in place. The Service have invested in an expensive Microsoft SharePoint solution, however it is principally used as an intranet;
- 3.4.8 **Service Knowledge Management System** – there is no SKMS deployed within ICT, meaning that system knowledge and standard operating procedures are retained within a staff ‘neural network’. There is not enough sharing of information within the team and this does not permeate down to the user-community in the form of systems training and user guides;
- 3.4.9 **Department Structure** – there has been some work to re-organise the department structure, as a result of a more general restructure of the Service. This has resulted in a reduction of morale within the ICT Team and a loss of focus in key areas of support;
- 3.4.10 **Contract & Supplier Management** – with the retirement of the Communications Manager the management and administration of ICT support contracts, licence agreements and suppliers has been passed to the Service Desk Manager.



### **3.5 ICT Risks**

The most significant ICT-related risks that have been identified as part of the strategy review are:

- 3.5.1 The BT Telephone System (PABX) is 15 years old (installed in 1998)
- 3.5.2 There is no Microsoft Enterprise Licensing Agreement in place, which could restrict NFRS in implementing significant change to the current application and server architecture in a cost-effective manner
- 3.5.3 Microsoft will end support of both Windows XP and Office 2003 on [8<sup>th</sup> April 2014](#)
- 3.5.4 Microsoft will end support of Exchange 2003 Enterprise on [8<sup>th</sup> April 2014](#)
- 3.5.5 Microsoft will end support of System Center Configuration Manager 2007 R2 on [8<sup>th</sup> July 2014](#)
- 3.5.6 Microsoft will end support of System Center Operations Manager 2007 R2 on [8<sup>th</sup> July 2014](#)
- 3.5.7 ICCM e-Service Desk support and licensing agreement expires on 30<sup>th</sup> September 2013
- 3.5.8 No official 'Out of Hours' ICT Support is in place for a 24/7/365 Fire Service
- 3.5.9 Disaster Recovery systems still need to be fully implemented and tested
- 3.5.10 SAN Replication software is not working properly
- 3.5.11 Back-up of the SharePoint solution is untested
- 3.5.12 There is no test environment for the SharePoint system
- 3.5.13 Lack of detailed ICT documentation and standard operating procedures
- 3.5.14 No structured contract management or supplier management in place
- 3.5.15 Lack of an Information Security Policy
- 3.5.16 The mobile telephone contract with EE (Orange) has expired
- 3.5.17 There is no physical copy of the printer support contract with Danwood Group
- 3.5.18 The provision of user-dedicated system and application training needs to be coordinated by ICT

These risks will be prioritised and dealt with by the implementation of initiatives and projects.



## 4. Suggested Approach

Having identified the key trends and challenges for NFRS, this strategy proposes the following initiatives and projects are prioritised and implemented by 31<sup>st</sup> March 2015.

### 4.1 ICT Initiatives

#### 4.1.1 Business Processes Re-engineering

- 1) Leverage Microsoft integration functionality by placing SharePoint 2010 at the heart of NFRS enterprise application architecture, underpinned by SQL Server Reporting Services
- 2) Introduce widespread use of SharePoint 2010 Team Sites and Document Management
- 3) Implement Microsoft Project Server within the ICT Department, to improve Project Delivery
- 4) Review all NFRS forms to determine if they can be automated using SharePoint workflows
- 5) Roll-out [Microsoft OneNote 2010](#) and provide basic user training

#### 4.1.2 BYOD, Mobility & Flexible Working

- 1) Undertake a mobile telephone signal coverage audit of the HQ buildings, with EE (Orange)
- 2) Review the provision of mobile telephony and determine the viability of BYOD for users
- 3) Review the provision of laptops and tablets to ensure they meet with the needs of NFRS
- 4) Encourage the use of Exchange 2010 'Outlook Web App' for remote access to e-mail
- 5) Implement Microsoft Lync 2010 across NFRS and federate with LFRS and DFRS
- 6) Roll-out Microsoft OneNote 2010 on laptops and [iPad tablet](#) devices
- 7) Evaluate Windows 8 Surface Pro devices in comparison to Apple i-Pad devices

#### 4.1.3 Changing Expectations of Users

- 1) Agree an official 'Out of Hours Support' policy / process
- 2) Agree an Operational Level Agreement for all ICT Services provided to NFRS
- 3) Publish monthly ICT performance metrics on SharePoint
- 4) Implement an ICT training and skills matrix, with a programme of training to improve skills
- 5) Introduce a schedule of 'Surgery Visits' and training sessions to all remote sites and fire stations to bring the NFRS user-community closer to the ICT Department
- 6) Implement a user education program of the ICT 'Self Service' portal
- 7) Consider options for organisation-wide training on ICT applications and systems for users

#### 4.1.4 Data-centre Consolidation & Virtualization

- 1) Upgrade Desktop / Laptop PC operating system to Windows 7, by 31<sup>st</sup> March 2014
- 2) Upgrade the existing CITRIX system, in line with the upgrade to Windows 7
- 3) Upgrade the NFRS virtualised server environment
- 4) Upgrade to MS System Centre 2012 suite to improve ICT infrastructure management

#### 4.1.5 Alternative ICT Delivery Models

- 1) Consider and evaluate 'Cloud' solutions for new or refreshed services
- 2) Assess the viability of Office 365 for e-mail, Lync and SharePoint (Intranet & 'My Site' docs)
- 3) Rationalise NFRS hosted services, through virtualisation and 'Cloud' hosting



#### **4.1.6 Outsourcing & Managed Services**

- 1) Rationalise the existing IT Supplier base to drive down cost and improve performance
- 2) Assess the existing skill-set of the ICT Department and look for partners who can offer cost-effective managed services to fill the skills gaps, as required.

#### **4.1.7 'Big Data' Storage demands**

- 1) Upgrade the current SAN to improve performance, efficiency and storage capacity
- 2) Look at 'Cloud' solutions for archiving, back-up and data storage solutions.

#### **4.1.8 Network Connectivity & Bandwidth**

- 1) Implement the new PSN-compliant WAN Design to improve bandwidth and connectivity
- 2) Continue to review the bandwidth and Internet connectivity requirements at fire station sites
- 3) Conduct a review of the existing Wi-Fi provision across the NFRS estate
- 4) Develop a Unified Communications Strategy and review options for upgrading or replacing the Telephony System (PABX) and lines to enable VOIP functionality and SIP Trunking; to improve functionality and drive-down costs

#### **4.1.9 Information & Data Security**

- 1) Implement the ISO 27001 information security management framework, to become GSI ready
- 2) Implement a new two-factor authentication system for remote access
- 3) Review requirements for laptop encryption and data encryption systems
- 4) Undertake data Protection Act training for the ICT Department

#### **4.1.10 Business Continuity & Disaster Recovery**

- 1) Implement a 'Sand pit' test environment for the safe development of SharePoint 2010
- 2) Implement a fully operational back-up solution for SharePoint 2010
- 3) Review the current SQL Server environment and implement a SQL 2012 instance
- 4) Complete the migration to a resilient Exchange 2010 infrastructure, by 31<sup>st</sup> March 2014

#### **4.1.11 Governance & Service Management Principles**

- 1) Implement a new ICT Department structure that cultivates 'IT as a Service'
- 2) Develop an ICT Service Catalogue with individual Service Level Agreements (SLA)
- 3) Introduce a formalised approach to Change and Projects, replacing the 'ICT Steering Group' with an 'ICT Change Advisory Board' to provide structured ICT-Business engagement
- 4) Implement PRINCE2 fundamentals through targeted training within the ICT department
- 5) Implement MS System Centre 2012 Service Manager, to replace the current ICCM e-Service Desk system by 1<sup>st</sup> September 2013, when the current contract expires

#### **4.1.12 Tightening fiscal environment**

- 1) Assess the needs for a Microsoft Enterprise Volume License Agreement to leverage cost-effective software purchasing, efficient software upgrades and additional benefits
- 2) Negotiate a new contract for the provision and support of mobile telephony with EE (Orange)
- 3) Review the current contract with Danwood Group for the provision and maintenance of printers and photocopiers





## 4.2 Strategy Roadmap & Prioritised Projects

The following 30 high-priority ICT projects will be filtered down into the ICT Departmental Plan for delivery by 31<sup>st</sup> March 2015 and a business case created as appropriate:

- 1) Migrate to a new PSN-compliant Wide Area Network (WAN)<sup>xxiv</sup> by December 2013
- 2) Migrate all desktop and laptop PCs to Windows 7 / Office 2010 by 31<sup>st</sup> March 2014
- 3) Complete the migration from Microsoft Exchange 2003 to [Exchange 2010](#) by 31<sup>st</sup> March 2014
- 4) Implement a SharePoint back-up server and test environment, to improve resilience
- 5) Conduct a review of the existing Wi-Fi<sup>xxv</sup> provision across the NFRS estate
- 6) Implement a new two-factor authentication<sup>xxvi</sup> system for remote access by 31<sup>st</sup> March 2014
- 7) Negotiate a new contract for the provision and support of mobile telephony with [EE \(Orange\)](#)
- 8) Undertake a mobile telephone signal coverage audit of the HQ buildings with [EE \(Orange\)](#)
- 9) Implement [Microsoft Lync 2010](#) across NFRS, to increase collaboration and communication
- 10) Review the options for upgrading or replacing the Telephony System (PABX)<sup>xxvii</sup> with a modern system that will leverage Unified Communications technology
- 11) Implement [Microsoft Project Server](#) within the ICT Department, to improve Project Delivery
- 12) Introduce widespread use of [SharePoint 2010](#) Team Sites and Document Management
- 13) Complete a review of [CITRIX](#)<sup>xxviii</sup> applications / systems by 31<sup>st</sup> March 2014
- 14) Publish monthly ICT performance metrics on SharePoint
- 15) Agree an Operational Level Agreement<sup>xxix</sup> for all ICT Services
- 16) Implement the [ISO 27001](#)<sup>xxx</sup> information security management framework, to become GSI ready
- 17) Initiate a programme of documenting all ICT Standard Operating Procedures to create a comprehensive Service Knowledge Management System (SKMS)<sup>xxxi</sup>
- 18) Implement PRINCE2<sup>xxxii</sup> fundamentals through targeted training within ICT
- 19) Review requirements for file, data and laptop encryption systems
- 20) Implement [Microsoft System Center 2012](#) to embed the [Microsoft Operational Framework](#)<sup>xxxiii</sup> within ICT and replace the existing system before Microsoft end support on 8<sup>th</sup> July 2014
- 21) Agree an official ICT Department 'Out of Hours Support' policy / process
- 22) Review current contract with [Danwood Group](#) for the provision and maintenance of printers
- 23) Assess the needs for a [Microsoft Enterprise Volume License Agreement](#) to leverage cost-effective software purchasing, efficient software upgrades and additional benefits
- 24) Assess the existing skill-set of the ICT Department and look for partners who can offer cost-effective managed services to fill the skills gaps, as required.
- 25) Undertake Data Protection Act training for the ICT Department
- 26) Implement an ICT training and skills matrix, with a programme of training to improve skills
- 27) Implement a user education program of the ICT 'Self Service' portal
- 28) Introduce a schedule of 'Surgery Visits' and training sessions to all remote sites and fire stations to bring the NFRS user-community closer to the ICT Department
- 29) Roll-out Microsoft OneNote 2010 on laptops and [iPad tablet](#) devices
- 30) Consider options for organisation-wide training on ICT applications and systems for users



## 5. Benefit Realisation

### 5.1 Operational Benefits

The successful delivery of the portfolio of ICT strategy projects will therefore generate a number of benefits to NFRS, the chief amongst them being:

- 1) Improved communication between ICT and the organisation, aligned to strategic requirements
- 2) Enhanced business collaboration, through the use of an Unified Communications system
- 3) Integrated enterprise applications, facilitating enhanced productivity, the removal of task duplication and enabling mandatory process adoption
- 4) Strong ICT Governance employing ITaaS, ITIL, MOF, IEC/ISO 20000, IEC/ISO 27000 and PRINCE 2 as appropriate, that will encourage planning and resource management and enable a service-oriented project / change management culture
- 5) Single Microsoft SQL database technology with reduced complexity and improved supportability
- 6) Automated management information on the ICT infrastructure that is useful and meaningful
- 7) Reduced cost to maintain and support the ICT infrastructure and users
- 8) Maintainable and supportable ICT infrastructure, with established, low effort upgrade path

### 5.2 The Aspirations of ICT Support

The successful delivery of ICT services across NFRS demands more than merely the implementation of technology. The approach and attitude of ICT staff is key to ensuring a professional service and as a consequence the NFRS ICT Department will endeavour to embrace the principles of 'IT as a Service':

"IT as a service (ITaaS) is an operational model where the IT organisation of an enterprise is **run much like business**, acting and operating as an **internal service provider**.

In this model, IT **simplifies** and **encourages service consumption**, provides improved financial transparency for IT services, and **partners more closely** with lines of business.

This type of IT transformation is **business focused** rather than cost focused, leading directly to improved levels of business agility."

NFRS ICT staff are striving to embrace the principles of ITaaS and have set themselves the task of delivering a service that is known as:

- 1) Making a positive contribution to running and transforming NFRS
- 2) Customer focused and striving to deliver excellence to meet the needs of staff and the service
- 3) Highly available and resilient so that the ICT infrastructure becomes invisible
- 4) Embracing appropriate innovation
- 5) Demonstrably value for money
- 6) Helping to drive through transformational change to improve NFRS
- 7) Outward looking, owning problems, proactive and communicating well
- 8) Empowering staff to make best use of their ICT facilities
- 9) An exemplar to other Fire & Rescue Services
- 10) Delivered by trusted ICT professionals who win your confidence



## **Appendix A: NFRS Plan 2010-2013**

### **Our Aims and Objectives**

#### **Our vision**

'A safer Nottinghamshire by putting safety at the heart of the community.'

Nottinghamshire Fire and Rescue Service has one very clear and simple aim – to make Nottinghamshire a safer place to live and work. This may sound straight-forward, but achieving this aim relies on a great many people and organisations working together with the same goal in mind.

Fortunately, our colleagues in the councils, Police, health, education and other local services are also striving to achieve similar improvements, and we are working in close partnership with them to pool our efforts and, between us, make a greater difference than we could possibly achieve by working alone.

This overall aim is supported by six objectives, which highlight the work we need to do in order to achieve our aim.

#### **Our objectives**

The following six objectives will underpin all our activities during the life of this Plan, over the next three years. We have identified the areas of work we believe will help us to achieve our aim and make a positive difference to people's lives, which gives us a very clear focus on our priorities for the future.

Everything we do over the next three years must link into one or more of these objectives, so that our efforts are strengthened and we maximise our opportunities to make improvements.

##### **Objective 1: Prevention**

We will:

- work with young people to reduce arson, accidental fires and road traffic collisions (RTCs).
- focus on those most at risk from fires and other avoidable injuries.
- work with partners to make our communities safer.
- use and share data to identify those most at risk.

##### **Objective 2: Protection**

We will:

- maintain a risk-based approach to enforce our statutory responsibilities.
- assist and support those responsible for fire safety within business.
- work to reduce the economic cost of fire.

##### **Objective 3: Response**

We will:

- use our resources to meet the risks within our community.
- gather and use risk-based information to inform our response.
- provide the highest standards of training, PPE, appliances and equipment that we can, to keep our employees safe.



#### **Objective 4: Resilience**

We will:

- respond to growing risks from the environment.
- work with our partners to ensure an effective response and recovery to major events.

#### **Objective 5: Diversity and Workforce**

We will:

- recruit a workforce that reflects our community.
- recruit and develop our employees to the highest standards to maintain and
- promote high standards of health, safety and wellbeing for all our employees.

#### **Objective 6: Governance and Improvement**

We will:

- strive to become an excellent Authority.
- use our resources efficiently and effectively to provide value-for-money.



## Appendix B: Cronins Strategic Business Requirements

### B1. Introduction

B1.1 This appendix supports Section 5, and summarises the Strategic Business Requirements, which provide a robust statement of the target future state towards which the Service is heading.

### B2. Strategic Business Requirements

B2.1 The Strategic Business Requirements endorsed by the Senior Management Team and Corporate Management Board now follow.

B2.2 They relate to the ICT function as a whole within the organisation, regardless of which teams or individuals may provide the particular services within it.

B2.3 These Strategic Business Requirements are marshalled against a common set of headings - Strategy, Customers, People, Process and Technology – which were used throughout the Strategic Review of ICT.

Area		STRATEGIC BUSINESS REQUIREMENTS
Strategy		
S1	There is a clear policy and direction for ICT from the Senior Management Team and Corporate Management Board, and an up-to-date, comprehensive, coherent ICT Strategy for the organisation.	
S2	ICT governance is effective, in the best interests of the Service, and at a level that is unrestrictive to the business, whilst ensuring compliance and preventing malpractice.	
S3	The ICT function has “a voice at the table” at the appropriate level of seniority.	
S4	The ICT function integrates with corporate priorities on value for money and continuous improvement.	
S5	The business needs of the organisation are supported in a proactive and positive manner, with business and ICT managers taking the Fire Service Plan, and interpreting what it mean for ICT.	
S6	The ICT function is provided through the most economic, efficient and effective sourcing routes, with a clear position on insourcing, outsourcing, and shared services, as well as specific technologies.	
S7	The ICT function is the centre of excellence that translates the strategy and policy into an action plan and helps to deliver it.	
S8	All necessary functionality is provided simply, speedily, and with mobility fully supported, thus enabling a flexible work force.	



<b>Customers</b>	
C1	ICT governance is simple and effective, e.g. the organisation does not invest in new technology until a conscious decision is made that: <ul style="list-style-type: none"> <li>a) the Service needs it;</li> <li>b) the Service does not currently have it;</li> <li>c) there is a sound business and financial case to support it;</li> <li>d) the organisation has the resources to implement it;</li> <li>e) any new technology, wherever possible, integrates with and supports existing technologies;</li> </ul>
C2	Communication methods and tools are developed and maintained.
C3	The 24/7/365 demands of Service Delivery are appreciated and supported, using priorities based on risk management.
C4	The outcome-based needs of the customers are identified, articulated, understood, delivered and monitored in a way that is flexible, future proof, and in line with the Corporate and ICT Strategies and Business Plans.
C5	The right balance is struck between usability and control of ICT systems, in which necessary controls are in place and ICT users understand their responsibilities to use the systems effectively and to value the ICT function and systems (e.g. ICT system usage, security, data protection, and freedom of information).
C6	Operational risk information is current, of high quality and available whilst responding to incidents, and management information more generally enables timely and sound decisions by managers.
<b>People</b>	
P1	The ICT function is robustly supported by senior management, who help to develop solutions with the assistance of super users.
P2	The ICT function has the right organisational structure, and is well-managed, motivated and recognised, with high calibre leadership and management, as well as high calibre and flexible technologists.
P3	ICT access is appropriate to managerial responsibility and/or role requirements.
P4	The ICT function is appropriately resourced, professional in its experience, credible in the eyes of its customers, and with the capacity to provide all necessary support and development.
P5	The ICT function provides a check and balance mechanism, by examining any proposed ICT solutions for compliance with the ICT Strategy and advising accordingly.
P6	The ICT function takes responsibility for the Service being able to do its work, and provides solutions.
P7	The ICT function challenges and offers potential solutions to Senior Management Team, Corporate Management Board and areas of the Service where it believes that the organisation is not maximising its potential.
P8	The ICT function is routinely up-skilled as requirements change and new technologies are identified.
P9	The ICT function is customer-centric, supportive, approachable, enabling, and “can do”.



<b>Process</b>	
Pr1	Activities and contracts not aligned with SBRs are stopped.
Pr2	The Service has a reliable, robust and integrated solution for disaster recovery and business continuity.
Pr3	A clear process is developed and maintained for articulating the business needs and business processes in a form that can be translated into agreed and endorsed ICT developments.
Pr4	ICT systems and processes are so good that they are invisible, joined-up as appropriate, and support the needs of the organisation in a user-friendly, fast, reliable, and interactive manner.
Pr5	Contracts are proactively managed to ensure that what is agreed, is delivered.
Pr6	Project, programme and portfolio management are established and robust.
Pr7	All procurements of ICT products and services are driven by organisational needs, achieve value for money in terms of whole-life-costs, and meet business priorities.
Pr8	Service Desk is evolved to cover whole Service.
<b>Technology</b>	
T1	Architectures are developed, documented and maintained for information, systems, networks, processes, data and applications, to record the ICT environment, and guide its ongoing development.
T2	Access to operational information is available in all endorsed modes.
T3	The ICT function is proactive in providing technology to take away the low value activities, and in doing so delivers better value for money.
T4	The Service has a reliable and robust infrastructure.
T5	Re-keying of information is eliminated by automated processes and interfacing ICT systems, ensuring that data are accurate, reliable, consistent and current, and enabling the provision of timely reports and performance information.
T6	ICT systems and configurations interface electronically in a seamless manner, enabling the organisation to be joined up and standardised.
T7	Access (as evaluated by customers) to all ICT applications within the organisation and between agencies is fast, simple, intuitive, reliable, responsive and secure.
T8	A high level of performance is available at all locations and patchy coverage is eliminated.



### **D3. SBR Status and Positioning**

- D3.1 The endorsed Strategic Business Requirements clearly show the ambition of the Service to underpin its operational services with transformed ICT functions.
- B3.2 Through the Strategic Business Requirements, NFRS is committed to:
- 1) Enhanced operational effectiveness, to be achieved in large part through fast, reliable and joined-up ICT systems and infrastructure;
  - 2) The three e's - economy, efficiency and effectiveness;
  - 3) Developing governance mechanisms that will provide a framework for developing the necessary policy and strategy, and for translating this policy and strategy into tactical implementation within the ICT function;
  - 4) Management structures that work efficiently and effectively across the business silos.
- B3.3 NFRS personnel have asked: "What sits behind the SBRs?" The SBRs will need to be translated into tactical actions with time, resource and success measures by those who are empowered to deliver them – e.g. the ICT team itself in agreement with the business. See also Section 9, where the proposed delivery work streams are discussed.
- B3.4 The Strategic Business Requirements should be seen as a process of continuous development, informed by the evolving policy and strategy of the Service and of the ICT Department.





# Appendix C: Cronins Information & Communications Technology (ICT) Strategy Report Conclusions

## 6. How will the Service get there?

### 6.1 Introduction

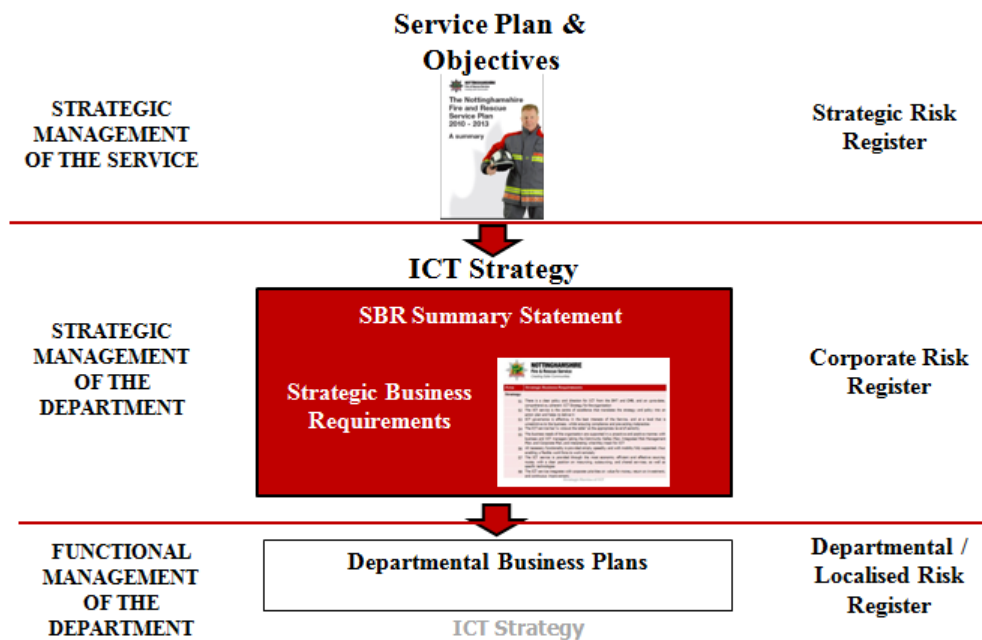
6.1.1 This section considers the following:

- 1) The ICT Strategy in Context;
- 2) The ICT Departmental Plan.

### 6.2 ICT Strategy in Context

6.2.1 Figure 6.1 shows the ICT Strategy in the context of the Service as a whole, its management levels and its risk levels.

6.2.2 The figure also indicates that the ICT Strategy will be implemented through the development of an ICT Departmental Plan, which itself will be set within the context of Departmental Plans for all of the other Departments



**Figure 6.1: ICT Strategy in Context**



### **6.3 ICT Departmental Plan**

6.3.1 With regard to the ICT Strategy, the Departmental Plan will identify how to move from the current state (as expressed by the key issues and effectiveness scorecard) to the target future state (as expressed by the Strategic Business Requirements) using the Strategic Principles identified in Section 3.

6.3.2 Key components will be:

- 1) *Outcomes Map* - to identify the outcomes that will need to be delivered to meet the SBRs and their timing;
- 2) *A Projects Portfolio* – to identify and detail the projects necessary to deliver the Outcomes;
- 3) *A Road Map or Gantt Chart* – to distribute and prioritise the Projects along the timeline;
- 4) *Governance* – to ensure that the relationship between the Providers and Users is efficient, effective and harmonious, and the Change Programme inherent in the ICT Strategy is carried forward in a controlled manner;
- 5) *Portfolio and Project Management Mechanisms* - to run the projects, and the overall portfolio of projects, in a sound manner;
- 6) *Financial management* – to ensure that the implementation of the ICT Strategy proceeds within available budgets;
- 7) *Organisational Design* – to reflect whatever structures may be required to deliver the ICT Strategy;
- 8) *Change Management* – to handle the changes that may be required to deliver the ICT Strategy.

### **6.4 In Summary ...**

6.7.1 This section sets the ICT Strategy within the context of the Service as a whole, its management levels and its risk levels. It specifies that the ICT Strategy will be implemented through the development of an ICT Departmental Plan, which itself will be set within the context of the Departmental Plans for all of the other Departments.

6.7.2 The ICT Departmental Plan will need to contain, amongst other things, an Outcomes Map, a Projects Portfolio, and a Road Map. It will also need to identify the framework that will be required to implement the ICT Strategy – namely, mechanisms for governance, portfolio and project management, financial management, organisation design, and change management.



## Appendix D: Unified Communications with Microsoft Lync

### Key Features of Microsoft Lync

Microsoft Lync is a single solution that sits on your PC, laptop or other mobile device and allows you all encompassing access to the tools which make communicating with your colleagues an empowering experience. Offering instant messaging, presence, voice/video conferencing and web collaboration all through a familiar Microsoft graphical user interface, ensures greater user-adoption, genuine cost reductions and overall operational efficiency.

### What can Lync offer to NFRS?

- Reduce travel for meetings
- Lower conference call and video conferencing charges
- Reduce the need for telephone calls and reduce costs
- Increased productivity and faster resolution of operational issues through instant communication
- Lower real estate costs for offices
- Single integrated corporate person directory (using Microsoft Active Directory)
- Reduced ICT support and training costs, using the remote desktop control features
- Integration with Microsoft applications (Outlook, SharePoint and Office) and Windows Phones
- Meeting the Green Agenda

Feature	Description
Instant Messaging	Allows you to communicate with internal colleagues, external partners and even enter chat rooms for multiple-person conversations, all without needing to leave your desk. Ideal for when you are on the phone and need a quick decision from another colleague.
Presence	Ideal for organisations with multiple sites and remote workers allowing colleagues to identify the best way to communicate with someone in faster and more intuitive ways.
Telephony	Enterprise grade, feature rich telephony is embedded in the desktop applications (Outlook, SharePoint and Office) with a common corporate person directory.  A Windows Phone application is available, to increase productivity for users who require the ability to work remotely or in a flexible manner.
Voice and Video Conferencing	Having this functionality available at the desktop empowers staff to collaborate and resolve business issues quickly and efficiently.
Web Conferencing	Lync will allow organisation-wide web conferences whenever required. They can be utilised for training, company-wide announcements and even virtual customer events. This can dramatically reduce expenses and travel costs.
Voicemail and Security	Microsoft Lync and Microsoft Exchange were both built with security in mind from the start. Introducing VoIP infrastructure with Unified Messaging and Exchange 2007, allows voicemail to be housed in Microsoft Exchange server, and protection policies for that data can be implemented. Both Microsoft Exchange and Microsoft Lync can encrypt traffic, communications will be better protected than with a conventional PBX system.



## Glossary of Terms

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- i A wide area network (WAN) is a network that covers a broad area (i.e., any telecommunications network that links across metropolitan, regional, or national boundaries) using private or public network transports.
- ii Wi-Fi is a popular technology that allows an electronic device to exchange data or connect to the internet wirelessly using radio waves
- iii Multi-factor authentication (also MFA, Two-factor authentication, TFA, T-FA or 2FA) is an approach to authentication which requires the presentation of two or more of the three authentication factors: a knowledge factor ("something the user knows"), a possession factor ("something the user has"), and an inherence factor ("something the user is").
- iv A private automatic branch exchange (PABX) is a telephone exchange that serves a particular business or office, as opposed to one that a common carrier or telephone company operates for many businesses or for the general public.
- v Citrix Systems, Inc. is an American multinational software company founded in 1989, that provides server and desktop virtualization, networking, software-as-a-service (SaaS), and cloud computing technologies, including Xen open source products.
- vi An operational-level agreement (OLA) defines the interdependent relationships among the internal support groups of an organisation working to support a service-level agreement (SLA).
- vii ISO/IEC 27001:2005 – Information technology – Security techniques – Information security management systems – Requirements. ISO/IEC 27001:2005 formally specifies a management system that is intended to bring information security under explicit management control. Being a formal specification means that it mandates specific requirements.
- viii A Service Knowledge Management System (SKMS) (ITILv3 - Service Transition) is a set of tools and databases that are used to manage knowledge and information. The SKMS includes the Configuration Management System, as well as other tools and database. The SKMS stores, manages, updates, and presents all information that an IT Service Provider needs to manage the full Lifecycle of IT Services
- ix PRINCE2 (an acronym for projects in controlled environments, version 2) is a project management methodology.
- x Microsoft Operations Framework (MOF) 4.0 is a series of guides aimed at helping information technology (IT) professionals establish and implement reliable, cost-effective services. The guidance in the Microsoft Operations Framework encompasses all of the activities and processes involved in managing an IT service: its conception, development, operation, maintenance, and—ultimately—its retirement.
- xi IT as a service (ITaaS) is an operational model where the IT organisation of an enterprise is run much like business, acting and operating as an internal service provider. In this model, IT simplifies and encourages service consumption, provides improved financial transparency for IT services, and partners more closely with lines of business. This type of IT transformation is business focused rather than cost focused, leading directly to improved levels of business agility.



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- xii Unified communications (UC) is the integration of real-time communication services such as instant messaging (chat), presence information, telephony (including IP telephony), video conferencing, data sharing (including web connected electronic whiteboards), call control and speech recognition with non-real-time communication services such as unified messaging (integrated voicemail, e-mail, SMS and fax).  
UC is not necessarily a single product, but a set of products that provides a consistent unified user interface and user experience across multiple devices and media types. There have been attempts at creating a single product solution; however, the most popular solution is dependent on multiple products.
- xiii Bring your own device (BYOD) means the policy of permitting employees to bring personally owned mobile devices (laptops, tablets, and smart phones) to their workplace, and use those devices to access privileged company information and applications.
- xiv Technology that allows servers and storage devices to be shared and utilisation be increased. Applications can be easily migrated from one physical server to another
- xv Cloud computing is a colloquial expression used to describe a variety of different types of computing concepts that involve a large number of computers that are connected through a real-time communication network (typically the Internet). Cloud computing is a jargon term without a commonly accepted non-ambiguous scientific or technical definition.
- xvi In the most basic cloud-service model, providers of IaaS offer computers - physical or (more often) virtual machines - and other resources.
- xvii In the business model using software as a service (SaaS), users are provided access to application software and databases. Cloud providers manage the infrastructure and platforms that run the applications. SaaS is sometimes referred to as "on-demand software" and is usually priced on a pay-per-use basis. SaaS providers generally price applications using a subscription fee
- xviii In the PaaS model, cloud providers deliver a computing platform, typically including operating system, programming language execution environment, database, and web server.
- xix Multiprotocol Label Switching (MPLS) is a mechanism in high-performance telecommunications networks that directs data from one network node to the next based on short path labels rather than long network addresses, avoiding complex lookups in a routing table.
- xx Voice over IP (voice over Internet Protocol, VoIP) is a methodology and group of technologies for the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet. Other terms commonly associated with VoIP are IP telephony, Internet telephony, voice over broadband (VoBB), broadband telephony, IP communications, and broadband phone service.
- xxi The Session Initiation Protocol (SIP) is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks.
- xxii ISO/IEC 20000 is the first international standard for IT service management. ISO/IEC 20000-1:2011 ('part 1') includes "the design, transition, delivery and improvement of services that fulfill service requirements and provide value for both the customer and the service provider. This part of ISO/IEC 20000 requires an integrated process approach when the service provider plans, establishes, implements, operates, monitors, reviews, maintains and improves a service management system (SMS)."



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- xxiii Commercial-Off-The-Shelf Software (COTS) is pre-built software usually from a 3rd party vendor. COTS can be purchased, leased or even licensed to the general public.
- xxiv A wide area network (WAN) is a network that covers a broad area (i.e., any telecommunications network that links across metropolitan, regional, or national boundaries) using private or public network transports.
- xxv Wi-Fi is a popular technology that allows an electronic device to exchange data or connect to the internet wirelessly using radio waves
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