Agenda item 13

London Ambulance Service
NHS Trust

NHS

IM&T Strategy

2008/09 - 2012/13

A World Class Ambulance Service

People & Clinical Issues

Not Just IM&T

Contents

People & Clinical Issues – Not Just IM&T

IM&T Strategy 2008/09-2012/13

1. Executive Summary

This executive summary provides a précis of each of the eight sections of this document.

Introduction and Strategic Context: The Trust's Strategic Plan 2006/07 - 2012/13 sets the direction for the London Ambulance Service NHS Trust (LAS) and outlines how it will be implemented in the wider context of developments in the NHS. The IM&T Strategy is defined as one of the enablers to support the delivery of this plan.

Connecting For Health: The primary role of this national programme is to support the NHS to deliver better, safer care to patients, via new computer systems and services. The LAS will fully engage with this programme, utilising such products as N3 (secure national network) and NHS Mail. It is envisaged that the Electronic Patient Report will be delivered as part of the programme.

Delivery Focus: There will be a clear focus on IM&T customer service and delivery. A number of measures will be developed including business benefits realisation, appropriate programme and project management, and ensuring the right IM&T staff, with the right skills are in place.

Information Governance and Security: Compliance is mandated rather than optional and evaluated by the annual submission of the Information Governance Toolkit. An Information Governance Group will oversee all aspects of Information Governance and Security on behalf of the LAS. Any data stored on a PC or other removable device in a non-secure area or on a portable device such as a laptop, PDA or mobile phone will be encrypted.

Information: The vision is to ensure the efficient capture of data and its reuse to support information sharing, analysis and informed decision making. A technical architecture will be implemented to ensure that all data is held in a centralised information repository (data warehouse). Through the provision of appropriate tools, decision makers will be provided with desktop access to their required information. Routine/standard reports will be instantly accessible with the opportunity for managers to create their own reports using various tools.

Customer Driven Service Provision: This will underpin every activity of IM&T support and delivery. The IT Infrastructure Library (ITIL) best practice framework. The heart of which will be a central Service Desk that will act as a focal point for all service co-ordination. There will be empowerment through the creation of an IM&T Super Users Programme, the European Computer Driving Licence (ECDL) will be available as a base-line standard for staff and an effective file management and e-mail archiving system will be implemented.

Infrastructure: The vision of the IM&T infrastructure is to facilitate the movement of digital information irrespective of use. This entails a complete merger of voice/data/video traffic, utilising technologies such as 'IP Telephony (IPT)' where voice information is managed in the same way as traditional data traffic. In terms of overall performance, the aim is to enable any user to access core services with consistent performance from any LAS workplace. In terms of radio, the Trust will implement the O2 Airwave tetra system.

Software Provision and Support: In terms of new software provision, the starting point will be to gather initial requirements and undertake a feasibility study. Solutions will be delivered through amending an existing system, implementing a third party product, interfacing or by in-house developments using web technologies where appropriate. There will also be a drive towards working collaboratively with the wider emergency services family to produce joined-up solutions. The replacement of the existing Computer Aided Despatch system will be the cornerstone of work during the next three years.

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2.   Introduction and Strategic Context

2.1   Background

The Strategic Plan 2006/07 -2012/13 sets the direction for the London Ambulance Service NHS Trust (LAS) and outlines how it will be implemented in the wider context of developments in the NHS in the fields of emergency, urgent and out of hours care. It describes what the LAS will strive to deliver for its patients, the public of London and other key stakeholders for the period 2006/07 to 2012/13, culminating when the Olympics come to London. The tangible outcomes and programmes of work are intended to deliver:

Vision: *A world-class ambulance service for London: an organisation of well-trained, enthusiastic, proud, caring people who are <u>all</u> recognised for their dedication to meeting the needs of the public and <u>all</u> our patients.*

Purpose: *The purpose of the London Ambulance Service NHS Trust is to provide the highest standards of telephone-answering, triage, treatment and transport to patients requiring our care. These duties will be carried out with integrity, common sense and sound judgement.*
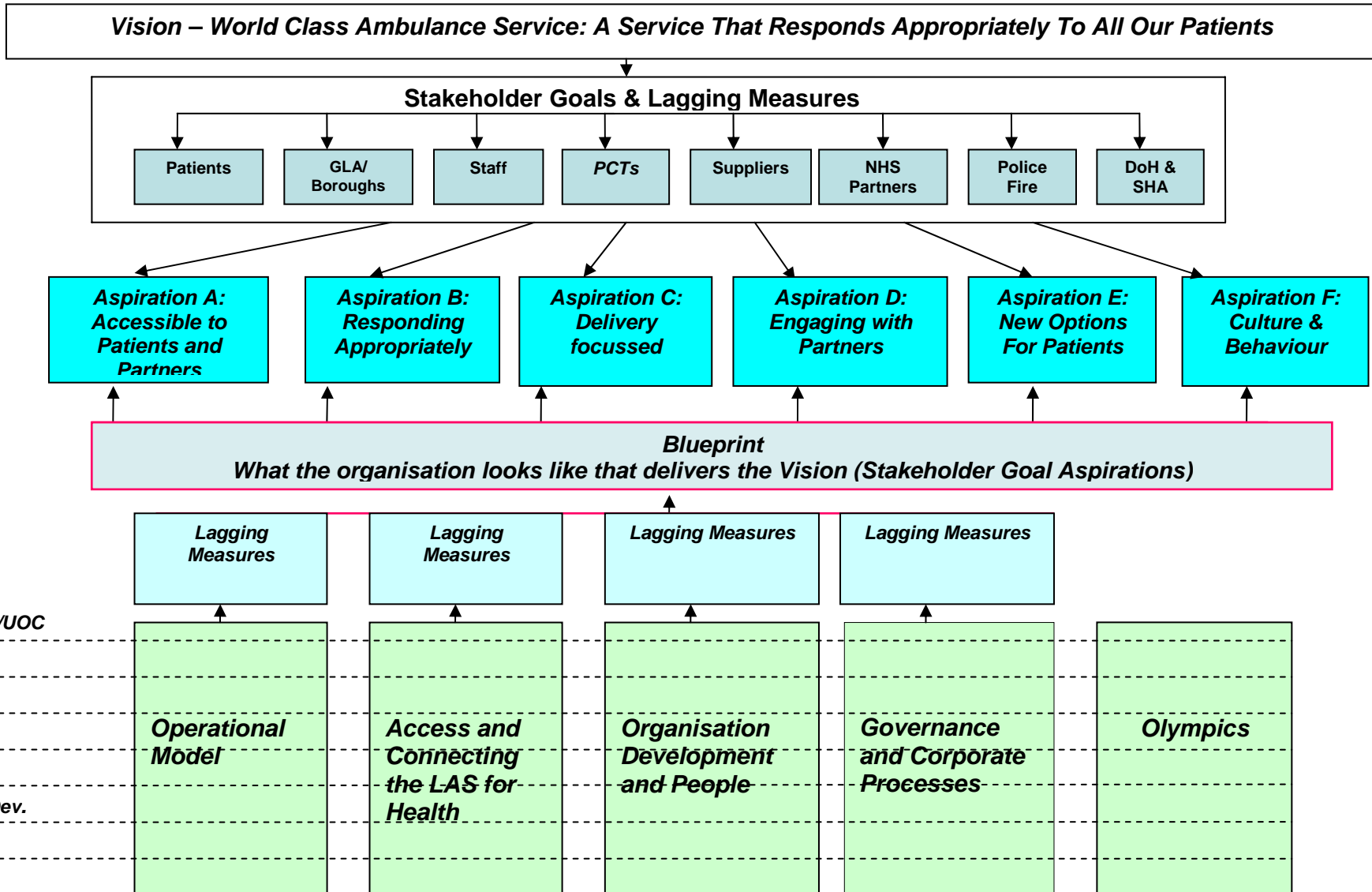
We will be compassionate and courteous at all times and will work hard to maintain the confidence of the public as we strive to build a modern, world class ambulance service for London.

This plan clearly articulates the vision, rationale, drivers for change and methodology and hence they are not repeated within this Strategy. It originally identified four strategic programmes of work, underpinned by an over-arching communications strategy. Latterly a fifth programme was added for the Olympics. Collectively these will deliver a new, flexible ambulance service for London in order to realise the stated ambition of becoming truly 'World Class'. The programmes are:

- Programme 1: Operational Model - Strategy For Responding

- Programme 2: Access and Connecting (the LAS) For Health

- Programme 3: Organisation Development And People

- Programme 4: Governance and Corporate Processes

- Programme 5: Olympics

Identified within the Strategic Plan (Appendix 1) is the requirement for this over-arching IM&T Strategy to support these programmes. The Access Programme will be the main vehicle for delivery; however, the components must support all of the other programmes. They will also support flexible and different business models, should the LAS either reconfigure geographically or change and enhance its business functions. Appendix 2 provides a futuristic insight as to how delivery of this IM&T Strategy will support both operational and support aspects of the LAS as well as the aspirations set out in the LAS 2008 concept 'New Ways of Working'.

By way of definition, IM&T is used as an umbrella term; it includes software applications, use of information, network infrastructure and all the associated hardware. A key focus will be the realisation of real tangible business benefits. In this way, all projects and initiatives will be business driven and enabled by IM&T, rather than simply being an IM&T project. There will also be an alignment with best practice industry standards wherever appropriate.

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Vision – World Class Ambulance Service: A Service That Responds Appropriately To All Our Patients

Stakeholder Goals & Lagging Measures

Patients	GLA/ Boroughs	Staff	PCTs	Suppliers	NHS Partners	Police Fire	DoH & SHA

Aspiration A: Accessible to Patients and Partners

Aspiration B: Responding Appropriately

Aspiration C: Delivery focussed

Aspiration D: Engaging with Partners

Aspiration E: New Options For Patients

Aspiration F: Culture & Behaviour

Blueprint
What the organisation looks like that delivers the Vision (Stakeholder Goal Aspirations)

Lagging Measures *Lagging Measures* *Lagging Measures* *Lagging Measures*

Ops/EOC/UOC					
Medical					
PTS					
IM&T	**Operational Model**	**Access and Connecting the LAS for Health**	**Organisation Development and People**	**Governance and Corporate Processes**	**Olympics**
HR					
Service Dev.					
Comms					
Finance					

3.   Connecting For Health

3.1   Background

NHS Connecting for Health came into operation on 1 April 2005 as an agency of the Department for Health. Its primary role is delivering the National Programme for Information Technology (NPfIT), to support the NHS to deliver better, safer care to patients, via new computer systems and services. The programme has its origins in the 1998 Department of Health strategy 'Information for Health' that committed the NHS to lifelong electronic health records for everyone with round-the-clock, on-line access to patient records and information about best clinical practice for all NHS clinicians.

A key aim of the National Programme for IT in the NHS is to give healthcare professionals access to patient information safely, securely and easily, whenever and wherever it is needed. The main programmes of work are:

- Creating a NHS Care Records Service to improve the sharing of patients' records across the NHS with their consent. The database that holds these records is also known as the 'Spine'.

- Making it easier and faster for GPs and other primary care staff to 'Choose and book' (the term often used) hospital appointments for patients.

- Providing a system for the electronic transfer of prescriptions.

- Ensuring that the IT Infrastructure can meet NHS needs, now and in the future. This includes provision of the secure national network, known as N3, telephony and secure e-mail.

3.2   Delivery

Accountability for the delivery of NpfIT was transferred to Strategic Health Authorities (SHAs) on 1 April 2007, as part of the NPfIT Local Ownership Programme (NLOP). To ensure relationships with Local Service Providers (LSPs) continue effectively, NHS Programme for IT Management Boards have been established in three geographic areas:

- North, Midlands and East (NME) Programme for IT (NMEPfIT): Computer Sciences Corporation (CSC).

- Southern Programme for IT (SpfIT): *Under review at time of producing this strategy document*

- London Programme for IT (Loft): BT.

Trusts across London are already engaged in implementing the Care Records Service as the lynchpin of the new systems and services. In London the NHS CRS will be built through proven IT systems already in use in trusts throughout England. It joins up 32 hospital trusts, over 1,600 GP practices, 31 primary care trusts, and ten mental health trusts. It will give millions of patients access to their personal health and care information, helping to transform the way the NHS London works.

The LAS, as a London based NHS Trust, will fully engage and be part of the NPfIT programme. Infrastructure products, such as N3 (secure national network) and NHS Mail will be fully embraced. It is envisaged that the Electronic Patient Report will be delivered as part of the programme. This will replace existing paperwork for frontline staff, providing a computer based system upon which patient details will be captured and automatically transferred to appropriate care pathway provider. Where appropriate, it will also provide direct access to a sub-set of the CRS. As future services and applications become available to NHS London, the LAS will implement on the basis of business needs and economic business cases.

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4.   Delivery focus

The underlying principle of this IM&T Strategy will be a clear focus on customer service and delivery. Recognising that not everything can be achieved at once and that, without an internal financial market, demand for delivery and service will always outstrip capacity to deliver. A number of measures will be developed to address this imbalance, these are detailed below. It is important to note however, that this list is not intended to be exhaustive and during the life of this strategy, other options will be developed.

4.1   Business Benefits Realisation

The principles of business benefits realisation apply consistently throughout this strategy but are not repeated within each section. The overall approach will be to deliver business benefits, not simply to deliver a piece of technology. In principle, projects should be 'business driven' and not considered as IM&T or technology projects.

All activities will commence from the perspective of identifying business objectives and how they will support LAS' overall objectives. There will also be an analysis of the other non IM&T deliverables (e.g. HR or building changes) that are also required. Business (change) managers, often those sponsoring the requirement, will be given specific responsibility to ensure that all the outputs are co-ordinated and that the desired benefits are actually realised - not simply that a piece of technology has been implemented. This will be a complete reversal of the traditional approach to IM&T delivery.

4.2   Project and Programme Management

Individual projects will be managed using PRINCE 2 and the overall plan will utilise the OGC Managing Successful Programmes (MSP) methodology. Central to this approach is the requirement for business change and to ensure that actual benefits are realised by the implementation of new or changed IM&T facilities. This strategy does not set out to adopt a specific methodology of benefits realisation, but will adopt the best industry practice.

4.3   IM&T Staff

Ensuring that there are the right staff, with the right IM&T skills will be fundamental to supporting the ambitious plans set out within both this strategy and the SIP 2012. The main options are to either use only LAS employed staff, outsource or a hybrid of the two.

The first two options both provide advantages and disadvantages in terms of flexibility and control. To only use LAS staff is restrictive in terms of always having staff with the required skills, while fully outsourced leaves the LAS vulnerable to commercial pressures. The approach will be option three; the LAS IM&T function will retain internal staff for development and support purposes, and there will also be a number of strategic partnerships with third party organisations to provide additional resources and specialist services. In this way, the LAS will seek to ensure best value from a strong in-house approach supported by outsourced underpinning contracts. The NHS Personal Development Review (PDR) and Personal Development Plan (PDP) process will form the cornerstone in developing LAS IM&T staff. There will be a clear objective to link personal development in the form of training and education as a positive benefit of employment with the LAS.

Recruitment and retention of IM&T staff has historically been a roller coaster of demand and availability. Open market recruitment will continue to be used, but consideration will be given to an in–house education programme. This would include a recognised IM&T apprenticeship, aimed specifically at people looking for a future in this market place. At the end of a three or four year programme, involving periods of work experience, formal education and technical training, the apprentice will hold a recognised qualification, and will be capable of holding a junior IM&T support or development position.

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5.   Information Governance and Security

5.1   Background

Information Governance and Security ensures necessary safeguards for, and appropriate use of, patient, personal and organisational information. Health records are confidential and they should be shared only on a need-to-know basis. Therefore the principles of information security must require that all reasonable care is taken to prevent inappropriate access, modification or manipulation of data from taking place. In the case of the LAS, the most sensitive of data is patient record information.

In practice, Information Governance and Security is applied through three requirements - **confidentiality, integrity and availability.**

- Information must be secured against unauthorised access – **confidentiality**.

- Information must be safeguarded against unauthorised modification – **integrity**.

- Information must be accessible to authorised users at times when they require it – **availability.**

Information Governance and Security is there to ensure these requirements are upheld by setting clear guidelines (policy) for all LAS users.

5.2   Compliance

Information Governance and Security compliance is mandated, rather than optional. Each year there is a requirement for each HNS Trust to complete the Information Governance Toolkit. This is a detailed assessment tool resulting in an overall evaluation against set criteria (listed at Appendix 3). The data is required by the Healthcare Commission and the National Information Governance Board, who will assess the LAS against the set standards. This yearly return will be the benchmark against which the LAS will be assessed in terms of Information Governance and Security.

5.3   Governance

An Information Governance Group will oversee all aspects of Information Governance and Security on behalf of the LAS. It will be jointly chaired by the Medical Director (Caldecott Guardian) and the Director of IM&T, and report either directly or indirectly to the Trust Board. The LAS will also maintain certain expert posts, such as Information Security Manager and Head of Records Management in order to deal with implementing and supporting local policies.

5.4   Data Transfer

Any data stored on a PC or other removable device in a non-secure area or on a portable device such as a laptop, PDA or mobile phone will be encrypted. This is now a requirement across all public sector organisations set by the Cabinet Secretary. In brief summary, the NHS IG data encryption algorithms currently applicable are:

- **3DES (168bit)**

- **AES 256** (recommended to be used for Internet or by removable media transferred**)**

- **Blowfish**

These algorithms should be used with a recommended minimum key length of 256 bits where available. The strategy is to adopt these standards and remain within NHS IG guidelines.

5.5   ISO 17799 & Security Controls

Within the context of this Strategy, Information Security should be considered as an 'umbrella' term that encompasses all aspects of accessing information securely. In order to implement robust and secure processes, the internationally recognised ISO17799 framework will be used as a guide, in order to avoid reinventing the wheel. However, given the considerable documentation requirement, full certification is not the goal at this stage.

Information security controls will be considered from the outset of new projects and initiatives, this will ensure that there are defined responsibilities and procedures for software development and procurement and products will be 'fit for purpose' and assured. This will then enable Confidentiality, Integrity and Availability (CIA) to be maintained within agreed parameters.

Dedicated incident response teams, with defined responsibilities, will be tasked to manage individual security incidents. For reasons of expediency, the option of remote diagnostics and resolution will be the normal approach, rather than personal visits to each PC. Acknowledging that ISO17799 establishes many of the necessary controls, below are two specific areas of activity;

5.6   Single Sign-On

It is a standard approach for each software application to require a password. Within the LAS environment, it is common for users to access multiple applications, hence making the requirement to remember different passwords difficult. It also increases the temptation to write passwords down, hence negating the security controls.

In order to mitigate this problem, automated Single Sign-On (SSO) will be implemented. This will allow staff to access defined and required services (from any LAS terminal) without the need to logon to individual applications. This will also provide centralised accountability and auditing of all network access.

5.7   Business Continuity

IM&T business continuity planning initiatives will be implemented, tested and a formal risk based approach will be used during the requirements stage of all projects. This will ensure that IM&T systems are appropriately resilient and tested regularly. This work will form part of the Trust's overall business continuity planning arrangements.

6. Information

Over the course of the Strategic Plan (2006/07-2012/13), the approach to how information is captured and used will change. The information vision is to:

- Maximise the use of all the data held within the Trust.

- Where possible, ensure that data is collected automatically.

- Input data as close to where it is originally captured as possible and make it available to other applications (within defined parameters) without the need for re-keying.

- Promote effective information sharing, analysis and informed decision making.

- Ensure that all relevant information about patients and their environment is appropriately available.

- Provide tools and techniques to support the provision and analysis of information.

In the context of this strategy, data can be defined as "numbers, words or pictures without context, which exist and have no significance, and which can be useful or not". Information can be defined as "a collection of numbers, words or pictures which have meaning". Information is data that that has been put into a framework or structure that provides context.

6.1 Data Map

The first priority will be to map out all of the data that is held by the Trust to provide a clear understanding of what is available and how it is created and stored. Baseline requirements can then be established that in turn would allow a gap analysis to be undertaken. This would allow the Trust the opportunity to plan the capture of additional information to support the LAS strategy and delivery of services.
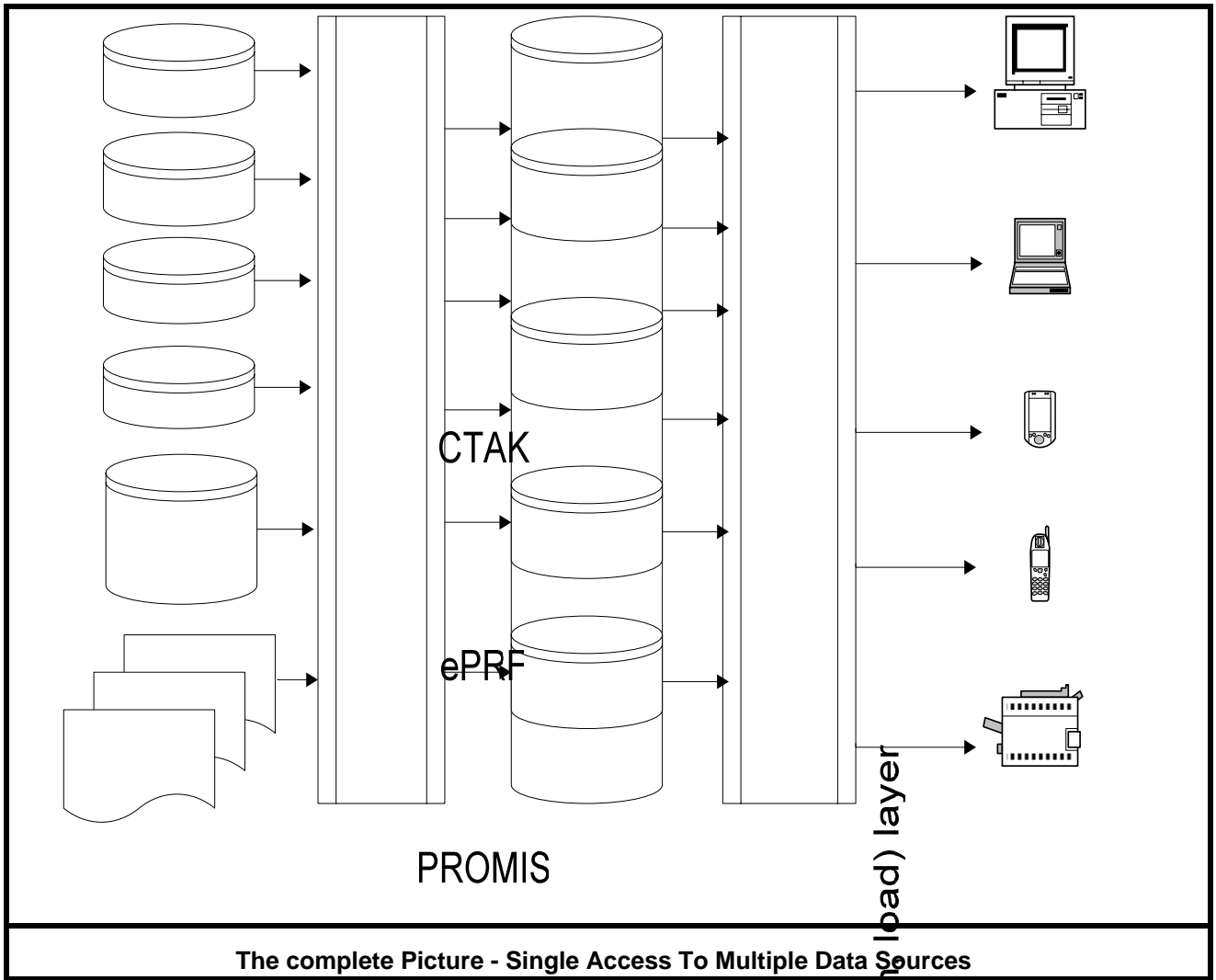
6.2 Information Architecture

To support the information vision, a technical architecture will be designed and delivered to ensure that all data is held in a centralised information repository. This will enable data from the various systems throughout the Trust to be accessible and turned into information where appropriate. This will remove the requirement to access different systems in various formats to combine datasets.

Through the provision of appropriate tools and techniques, decision makers will be provided with direct desktop access to their required information. Routine/standard reports will be instantly accessible with the opportunity for managers to create their own reports using various tools. This will allow Trust staff access to information that they require to support decision making at all levels and will include appropriate access control for personal data.

6.3 National Initiatives

The LAS is committed to national initiatives such as Connecting for Health, ESR and ePRF via the Spine. It is recognised that take-up of these services as they mature will enable improved and efficient data capture and a range of clinical and operational benefits.

CTAK

ePRF

PROMIS

The complete Picture - Single Access To Multiple Data Sources

ESR

Other internal
systems

ETL (extract, transform, load) layer

Data warehouse

External data
(census, EPR,
LA data etc.)

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7. Customer Driven Service Provision

Customer service will underpin every activity of IM&T support and delivery. There will be a clear focus to ensure consistency and seamless working between IM&T Departments to deliver an effective and co-ordinated service. There will be a simple underlying approach to which the answer to the following question should always be clearly positive:

If the IM&T Directorate were a commercial company, would it be the LAS supplier of choice?

7.1 Information Technology Infrastructure Library

In order to realise the vision of providing excellent customer services, the IT Infrastructure Library (ITIL) best practice framework (in compliance with ISO 20000) will be adopted as a standard. This will ensure that services are underpinned by tried and trusted procedures and processes. The heart of which will be a central Service Desk that will act as a focal point for all service co-ordination.
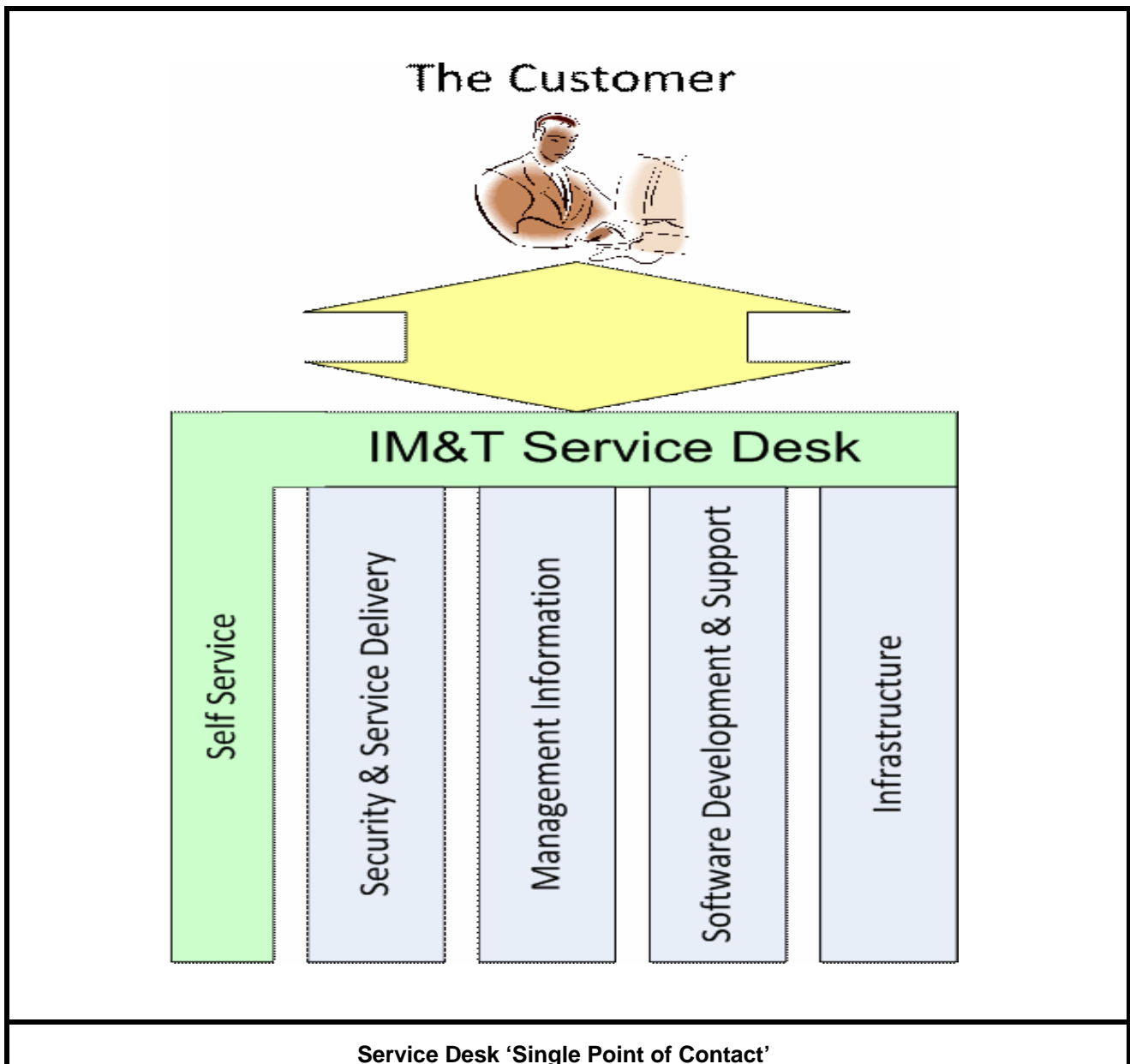
7.2   Super User Programme

Integral to the customer service approach will be the empowerment of customers through the creation of an IM&T Super Users Programme. This will provide recognition for IT literate LAS staff who provide local support to their colleagues. The key benefits of this will be to improve communication, provide faster response to simple queries, develop IT literacy throughout the LAS and reduce demand on the IM&T Service Desk.

7.3   European Computer Driving Licence

In order to ensure the effective use of IM&T driven solutions, training and education will become a core part of all provision. This will improve levels of satisfaction and also reduce the level of support required. The approach will be to utilise training delivered by the IM&T Directorate, Learning & Development department, E-learning and external training providers. The European Computer Driving Licence (ECDL) will be available as a base-line standard.

7.4   File Management

In order to provide a solution for file management, a range of applications will be implemented such as a document management and an effective e-mail archiving system. There will be numerous beneficial outcomes from this work, but the key advantages will be to avoid the duplication of data and support the compliance with the Freedom of Information Act.

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8. Infrastructure

The term 'Infrastructure' refers to the technology and connections that in the broadest terms, link servers to desktops and provides the complete sphere of telephony and radio communications. The infrastructure underpins the delivery of all IM&T services and has the target of providing the right information services, in the right place, at the right time.

In terms of overall performance, the aim is to enable any user to access core services with consistent performance from any LAS workplace.
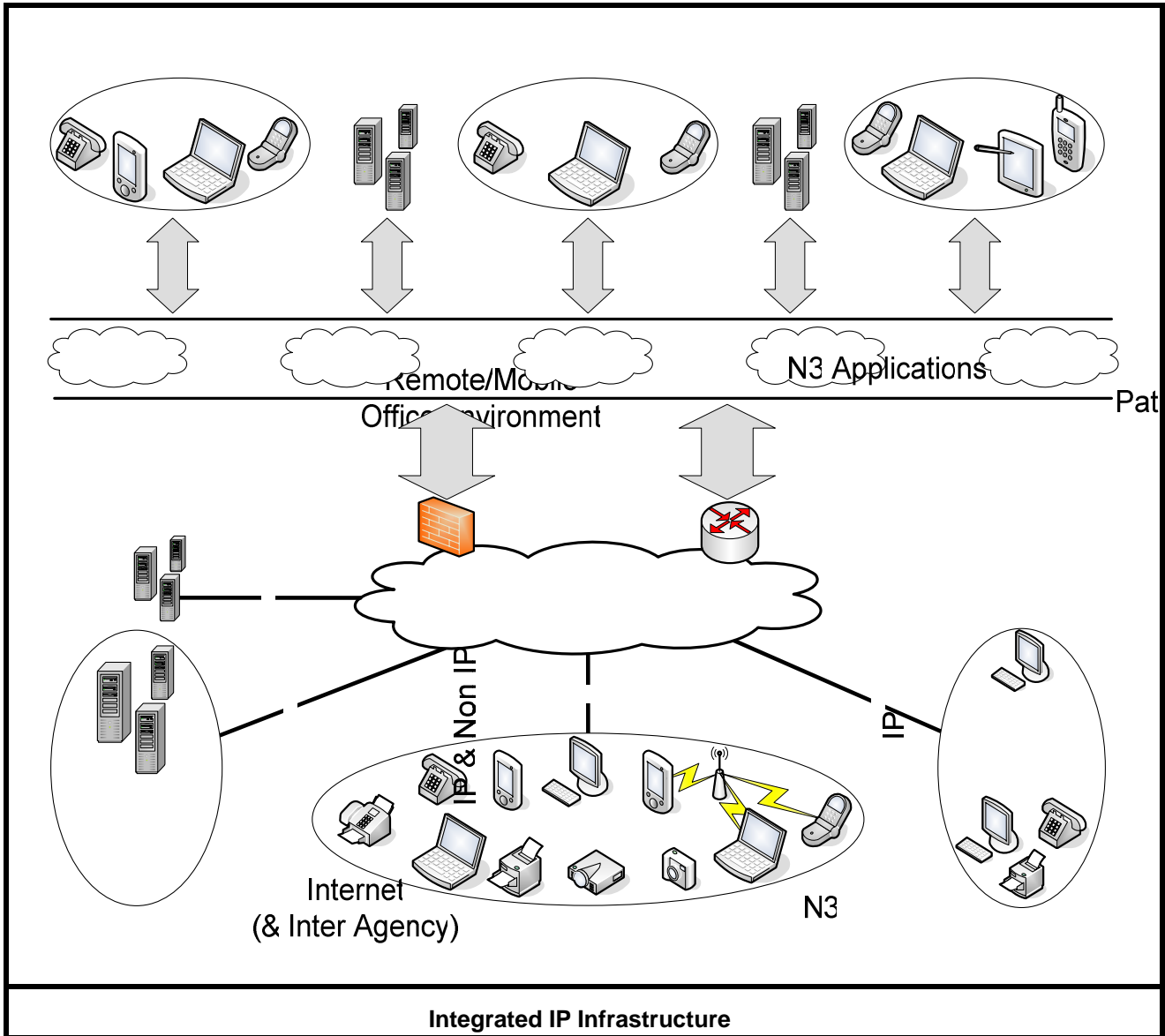
8.1 Converged Networks

The vision of the IM&T infrastructure is to facilitate the movement of digital information irrespective of use. This entails a complete merger of voice/data/video traffic, utilising technologies such as 'IP Telephony (IPT)' where voice information is managed in the same way as traditional data traffic. It is therefore the stated intention to move away from proprietary equipment (e.g. PABXs) and manage the corporate infrastructure on common multi-purpose hardware and software platforms.

To support the converged vision, a new technical architecture will be designed and delivered. The following diagram illustrates how the concepts of a converged network may be applied within the Trust's infrastructure.

In order to realise this vision, a programme of work will be undertaken to:

- Redesign the Trust's networks to provide a high availability, scalable and robust IP network, supporting voice, video and data convergence, across all LAS sites, with secure interconnection with other organisations and mobile and public networks.

- Implement voice services across the Trust using IPT, Airwave, and mobile telephony.

- Implement secure remote access to the network and wireless connectivity at Trust premises to facilitate flexible working.

- Support standardised applications to maximise re-use and minimise client footprint. Include solutions for managing remote working devices.

- Review mobile phone and radio services with the aim of providing closer integration with the LAS voice networks and improved equipment support services to customers.

With an increased reliance on a single, albeit resilient, infrastructure platform for all voice, data and video traffic, it is essential that real time network management is implemented. This will include capacity and availability management processes and the remote management of all network component and system devices. Where necessary, specific measures will be implemented and maintained to provide enhanced levels of resilience and availability so as to underpin the continuity of Trust's critical operations.

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N3 Applications

Remote/Mobile
Office Environment

Patient/NHS/

IP & Non IP

IP

Internet
(& Inter Agency)

N3

Public
Data N

Integrated IP Infrastructure

IP   Multiple separ

Multiple site
Secure
Firewalls

Multi site real
time network
management

Trust c
IP Wide Area
Networks

IP

IP

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Multi site

8.2 The London Ambulance Radio Projects (LARP) and the Implementation of Airwave

In July 2005, the Department of Health awarded a contract to O2 Airwave for the provision of a new digital radio service for all Ambulance Trusts in England. The replacement will be a centrally provided managed service, delivering a digital radio network for voice and data services. This will include the supply of mobile and hand portable radios, control room dispatcher equipment connected to the network and the integration of existing CAD services.

The new network will deliver direct improvements in terms of coverage, capacity, functionality, improved flexibility and inter-operability with other emergency services. It will also enable a reduction in the operational reliance on public telephone networks. The success of this initiative is dependant on more than technical resources and implementation; engagement with internal customers will be vital to fully realise business benefits.

The managed service arrangement is a significant change in direction from the existing approach where the Trust owns, and is in direct control of, the radio infrastructure. Significant internal support will be required to manage the relationship with O2 Airwave and the DH Contract. Support will be co-ordinated through the IM&T Service Desk.

The introduction of the new Airwave service will provide a number of enhancements that will offer significant additional operational benefit. The LAS will develop a specific project to ensure that these additional benefits are fully realised.

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9.   Software Provision and Support

9.1   Approach to software provision

In terms of new software provision, the starting point will be to gather initial requirements and undertake a feasibility study. Where necessary, customers will be assisted in this process and the resulting requirements list will be prioritised and agreed with the requesting customer. This documentation will also form the basis of ensuring that what is delivered is what was required, and for inputting into the business benefits plan. This approach will influence the decision as to whether to proceed with one or a combination of the following:

- Amend an existing system.

- Implement a third party product.

- Provide an interface between existing systems.

- Develop in-house (web services and a browser interface will be the standard).

There will also be a drive toward working collaboratively with the wider emergency services family to produce joined-up solutions.

9.2   Software Quality

Software quality relates to the product being functionally correct (i.e. it does what is expected), operationally correct (it works in the correct sequence) and technically stable.

There will be a focus to continually improve the quality of the products by following a regime of rigorous testing of both functional and non-functional aspects of systems and software applications.

Where it is beneficial, comparison will be undertaken with models and best practice such as the Capability Maturity Model, ISO/IEC 15504 (SPICE - Software Process Improvement and Capability Determination), ISO12207 (Software Life Cycle) and agile software development methods.

9.3   Command & Control System

The computer aided dispatch system (CAD) is the centre of a complex integration of applications critical to both the Emergency and Urgent Operation Centres (EOC and UOC). The current CAD System is known as CTAK (Call TAKing system). Its core function is the recording of 999 calls and the despatching of appropriate resources.

CTAK was developed in-house, has evolved incrementally and is now over 10 years old. The system is not fault tolerant, is unable to predict or warn of potential failures and is unable to support the level of availability and agility required by a modern ambulance service. It will be replaced by the CAD 2010 project. This project will thoroughly explore current and future business requirements, investigate procurement options and ultimately contract with supplier(s) to provide a system that will meet the current and future needs of the LAS.

However, given the projected CAD 2010 timetable, CTAK will continue to be enhanced in line with business driven requirements during the intervening period. This will include changes to allow more flexible operations and integration with the Airwave radio system under the auspices of the LARP.

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9.4   Web Development

The first tranche of simple web applications was delivered on the 31st March 2006. The next series of enhancements and new solutions will be designed and implemented during 2006/7. An ongoing programme of further solutions will be managed over the lifetime of this strategy, looking to deliver at least five applications each year. A Net Services Management Group (with key customer involvement), will act as a steering group overseeing the evolution of Intranet/Internet developments. The web development team will receive work requests from, and report progress to, this group.

A suitable standardised method for software development, to be known as the London Ambulance Software Development Method (LASDM), will be evolved. It is anticipated that this will be based on a contemporary agile method with emphasis on requirements, prototyping and incremental delivery.

9.5   Systems Support

Recognising the increasing organisational reliance on information systems and the adoption of ITIL best practice, a range of proactive measures will be introduced:

- Performance matrices will be developed for all core systems. Monthly reports will be produced and shared with key customers.

- Named system administrators will take responsibility for individual system performance.

- Where appropriate, consolidation of server hardware and the use of 'virtualisation' will be implemented to allow multiple systems to be deployed on single hardware platforms.

- The business continuity requirement will be analysed as a part of the initial business justification and implemented accordingly. Service levels will then be managed against this requirement.

The objective will be to ensure that internal customers have a clearly defined level of service and that systems performance is measured and provided against this standard.

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Appendix 1: Strategic Plan Programme Portfolio

Programme	Project Portfolio
1. Access and Connecting (the LAS) For Health	**1. Provide access for all Londoners and visitors to London to the services of the LAS regardless of disability or language.** • Investigate other (non-telephone) access channels, particularly those that are more user friendly to disabled people and those who don't speak English. • Explore possible technological and other solutions to improve translation. • Exploit solutions to aid access addressing information barriers, physical barriers, policy and procedural barriers. **2. Maximise the benefits of the national Connecting for Health programme with regard to connecting the LAS with the rest of the NHS (Patient Records and Acute Trusts) for enhanced care pathways, capitalising early on the opportunities presented.** • Progress the evaluation and deployment of electronic patient records in partnership with the London cluster and Connecting for Health local provider. • Establish access to the NHS data Spine. • Develop expertise in using the data and maximising the value of the information for the Trust. **3. Provide better integration and management information sharing with our partners and stakeholders (e.g. PCTs, SHA, emergency services, suppliers).** • Identify scope for access to LAS data with NHS partners and commence pilot. • Develop Extranet and connectivity with stakeholder Extranets. • Develop information sharing protocols. • Develop information data warehouse. **4. Fit for purpose infrastructure to support operations (call taking, despatch, response control and CTA).** • Support High Impact Changes developed under Portfolio 2 (Improving our Response [Operational Model]) – continue existing CTAK enhancements. • Progress CAD 2010 project for future CAD system. • Progress implementation of Airwave and begin exploitation of the Airwave network for additional benefits. • Review MDT infrastructure and commence upgrade where appropriate. • Review the need for improvements to PSIAM in line with the Operational Model. • Move towards office automation in accordance with best practice. • Implement Internet Protocol Telephony (single network for voice and data convergence). • 24/7 infrastructure monitoring and back-up servers.
	5. Provide direct benefit (e.g. reduced risk) for patient care through provision of front-line information and tools. • Exploit opportunities presented by Electronic Patient Record and CAD2010. • Investigate distributed call management. • Investigate Automatic Estimated Time of Arrival update to callers. • Investigate "MDT Lite" – a reduced mobile data facility in a hand-portable format. **6. Realise real-time management information reporting and communication for staff, providing up to date data and accurate information to all who need it from a single source.** • Identify and scope projects to implement Records and Information Management Strategy. • Implement projects to give effect to Records and Information Management Strategy. • Develop policy and implement procedures for minimising use of paper and maximising use of electronic media.

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Programme	Project Portfolio
2. Improving our Response (Operational Model)	**1. Develop an operational model for tasking the right resources to the right jobs which describes what resources will be deployed, and how, in order to meet patient need, and how this will be managed - includes:** • Identify nature of patient needs. • Identify skills required to meet patient need (inc. phone assessment [possible GP involvement] and face to face). • Identify qualifications/job roles required to meet patient need. • Identify vehicle types and equipment required. • Identify staff numbers required to meet patient need and meet performance targets. • Identify vehicle numbers required.
	2. Develop implementation plan for new operational model • Cost the implementation of the model. • Create implementation plan for the model (including identifying practical constraints [such as availability of training places or the skill types required] and alternatives) and taking into account the outcome of the access strategy project(s). • Decide (on basis of affordability) the timescales for roll-out of the new model. • Develop education and development strategy to support operational model (covering all staff).
	3. Implement new operational model • (as per implementation plan).
	4. CTA Projects • Pilot CTA on remote sites. • Implement remote-site CTA if pilot successful.
	5. Care Pathway development projects • Develop full possible range of referral pathways. • Secure access to all pathways from CTA.
	6. New Clock Start Operational Performance – High Impact Changes not covered by 1-5 above supported by Portfolio 1 and Portfolio 3): • Develop and implement an operational plan to successfully achieve new targets with effect from new clock start. • Develop and implement IM&T support plan to deliver the operational plan to successfully achieve new targets with effect from new clock start. • (NB. Identifies requirements for changes in Emergency Operations Centre and Urgent Control Centre but these are implemented through Programme 1 (Access Strategy and Connecting (the LAS) for Health) and requirements for Workforce but these are implemented through Portfolio 3 (Organisation Development and People).
	7. Olympic and Paralympic Games • Operational planning to manage additional demand arising and provide coverage at sporting venues.
	8. Development of the Thames gateway • Operational planning for the increase in population in the Thames gateway area.
	9. Major incident resilience • Planning and implementation of major incident resilience preparedness.

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Programme	Project Portfolio
3. Organisation Development And People	**1. Establish a workforce profile as described in the Workforce Plan supporting the Operational Model and which is more representative of the population of London.** • Analyse how the public and staff see the service as an employer. • Consult with stakeholders. • Review and re-design recruitment strategy. • Progress the recruitment dimension of Workforce Plan Phase 1 (response staff). • Create, consult on and implement Workforce Plan Phase 2 (call taking and support functions).
	2. Establish an appropriately skilled workforce, confident to use their skills and a much wider range of care pathways. • Progress the induction, training and education requirement aspects of the Workforce Plan Phase 1 (e.g. Enhance trainer development). • Workforce modernisation and skill mix delivery. • Individual performance management and progressing effective use of Personal Development Reviews (PDR) and Personal Development Plans (PDP). • Prepare increased numbers of staff for lone working on Fast Response Units.
	3. Establish a workforce that lives the CRITICAL values, treating everyone as they would wish to be treated. • Review Operational Model roles and link all roles to the strategic direction. • Appropriate training given to staff roles that support how to challenge (including clinical practice). • Values aspect of recruitment. • Leadership Development programme.
	4. Establish a learning organisation that works cross-functionally in a customer-focused and team based way (internally and externally with partners). • Protected learning time and time out for e.g. PDR/PDP. • Training needs analysis and development of a robust training programme. • Adopt new ways of working to deliver the training programme. • Personal awareness training. • Staff engagement (e.g. staff led projects).
	5. Embed a culture of mutual challenge and accountability for personal behaviour and performance. • Process for clinical supervision. • Staff briefings. • Reward and Recognition. • Devolve Board/SMG decision making. • Formal process and training for performance management with a Performance Management Framework in place for all staff (encompassing appropriate consequences e.g. reward and recognition).
	6. Establish new styles of management (supportive of staff and promoting staff involvement and development) with leadership at all levels underpinned by skills (clinical, managerial, leadership and communications). • Agreed performance objectives for all staff and implementation of performance management system for all staff. • Recognising and celebrating achievements. • Leadership and management development for all managers. • Design and implement a succession planning system. • Coaching and mentoring. • Development time built into all rotas. • Union partnership agreement.

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Programme	Project Portfolio
4. Governance and Corporate Processes	**1. Improve process efficiency.** • Process improvement for reduction of LAS costs to closer align with national reference costs for ambulance trusts. • Fleet strategy and workshop review. • Flexible fleet management. • Real-time fleet management information. • Development of local Key Performance Indicators to support performance management. • Implement other process improvements following process mapping to increase efficiency.
	2. Ensure corporate processes contribute to patient experience and outcomes by supporting the front line (this includes response time performance). • Mapping all processes and identify improvements. • Implement process improvements as appropriate to optimise contribution to patient experience and outcomes.
	3. Provide better integration with the whole system (LAS, NHS and London-wide). • Development of the Intelligent Trust (stakeholder intelligence). • Trust development (Foundation Trust status evaluation if Ambulance Trusts are required to do so, evaluation of other development opportunities). • Agreed delegation of authorisation for improved partner interface.
	4. Reduce operational and clinical risk (e.g. ability to deal with all types of patient). • Review fitness for purpose of abstraction management. • Software system to facilitate risk management and the risk register. • Map processes to ensure optimisation of risk management opportunities presented by Electronic Patient Record. • Enhance Quality Assurance of clinical practice. • Optimise use of individual performance management tools and their availability to operational managers.

	5. Improve process quality/effectiveness
	
	• Electronic Staff Record Phase 2.
	
	• Supply Chain Review:
	  o Inventory management.
	  o Asset tracking for equipment.
	
	• Electronic data capture (web based).
	
	• Enhance management of confidential information.

	6. Reduce process cycle time • New ordering/financial system - procurement (FISC) to replace EROS. • Regular supplier reviews. • Development of faster establishment control and recruitment process. • Improve information reporting time (e.g. Resource Centre to get information on staff availability).

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Enabling Strategy	
5. Stakeholder Engagement and Communications	**1. Communications projects, including patient, public and partner involvement.** • Develop a stakeholder engagement and communications strategy for the programme and each portfolio. • Build on experience of Patient Care Conferences to create year-round programme designed to cement ongoing patient involvement and public education. • Expand community involvement opportunities (LAS attendance and involvement at events). • Build partner relationships (NHS, social services etc.). • Devise and conduct regular surveys of our partners and act on outcomes. • Devise and conduct patient surveys and act on outcomes. • Specifically address issues identified with black and ethnic minority patient satisfaction. • Carry out baseline assessments of current partnership projects. • Identify all service developments (in order to then ensure patient involvement). • Develop systems to record patient involvement. • Identify benefits to patient / public of getting involved in LAS (in order to maximise involvement). • Communicate PPI strategy to staff / training and education. • Give patients choices about involvement and build relationships with them. • Ask for participant feedback on whether they felt involvement was genuine. • Identify staff with partnership working interest and skills.

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Appendix 2: How the future may look for the LAS with the delivery of the IM&T Strategy

Key components

A new suite of services will be available for people who do not speak English, and/or who cannot use the telephone as an able bodied person would. This includes direct internet services, and text messaging via translator services that then interact with the control room. New national targets have been agreed for these types of calls, as 8 minutes from initial call answer, is recognised as being not realistically achievable.

Electronic PRFs are fully installed in all response vehicles. Details of the call automatically populates the ePRF 'tablet' (hand portable PC device) and where patient details are known, appropriate medical information is downloaded from the Spine. Mandatory fields ensure 100% data compliance. If the patient is to be transported then all recorded details are downloaded to the receiving centre (hospital or urgent care centre of some type), e.t.a. is automatically calculated, hence reception staff know what to expect and when.

The ePRF tablet also acts as information centre for the Paramedic. It has access to various clinical guidelines and provides basic translation software for deaf people and commonly used languages. It is in continuous development as a vital Paramedic aid.

Staff training and education has evolved. All employees are required to have a basic level of IM&T literacy, irrespective of their role (e.g. e-mail, basic word processing). Many training modules are now delivered by web-based e-learning packages, including many clinical modules. Traditional classroom based training is still delivered, but it is more of an exception rather than normal practice. Importantly, staff accept that they are responsible for their ongoing training – this is not something 'done to them' by managers.

The LAS has fully implemented Airwave. Every crew member carries a digital radio that provides point to point communication for crew members, direct access to the control room and a panic button in case of emergencies. Data is now routinely passed across this system alerting staff to calls, and in the case of non MDT vehicles, passing the actual call details.

ESR is the single repository for all staff data, including records of personal issue equipment. Application forms are now all electronic and from moment of initial enquiry, the entire employee process is automated. Extraction routines take data from ESR and populate other systems that need data about people (e.g. telephone directory). This includes setting the access level that each member of staff has for information systems. Self service is fully implemented allowing staff to self-manage certain personal attributes (e.g. Bank details, address, telephone extension).

All staff book on/off duty, time recording will therefore automatically satisfy the requirements of the working time directive. Additionally, when booking on duty, all clinically qualified staff will be issued with an Airwave radio, that in turn will show their availability to the CAD system. All clinically qualified staff will be expected to be available to respond to local calls to perform physically local BLS duties, irrespective of their other duties.

All managers who have a justified business requirements will have a laptop computer equipped will full remote access, allowing 24 X 7 access to all corporate services. All staff will have access to basic e-mail (known as web mail) from any internet terminal – essentially giving free access to Trust e-mail from home computers or internet cafés. Vitally, a new culture will have emerged where staff use this technology to work smarter, not harder – this access will not simply be work added to the 'day job'.

The concept of IM&T Super User is now well established. This role is a recognised responsibility undertaken by appropriate staff at each main LAS location. The person provides local user support and has a direct liaison with the IM&T Customer Services Department, who provide ongoing support and training.

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There is a 24X7 IM&T Support desk that acts as a single focal point for ALL IM&T support. Utilising interactive tools, the support technician is able to remotely access the faulty equipment or service. 70% of the calls receive a 'fix' at the point of the call being received. That is, the technician is able to restore at least a basic service to the customer, and where necessary, complete fault resolution to be undertaken in slow time. Increasingly customers will use 'self service'. Through a web browser they will be able to log on to the service desk and report their problem. They will also be able to access a series of tools and help scripts to assist in 'self fix' and also monitor progress of their fault.

'IP' communications has enabled the LAS to implement a fully integrated digital network. Voice, data, video are seamlessly passed between LAS locations, and four digit dialling connects any voice device (not necessarily a traditional telephone). 'Hot desking' is common place, with staff having a transportable telephone number (can by moved to any fixed or mobile handset) and are able to log onto their user accounts and files from any LAS PC.

There is a new, fully integrated CAD system supporting two control rooms (each with 100% spare capacity for resilience). Reliability is 99.9%+ with complete system failures now unheard of. New functionality is released twice a year through upgrades provided by the commercial provider of the CAD software.

All data is input once, as close to the original collection point as possible, normally via a web browser. Hence, through streamlined business processes and work flow applications, paper forms are no longer sent to data input functions. Once entered, data is then re-used by a defined suite of systems, thus removing the need for duplicate data entry.

Management Information is provided by a suite of reporting tools that reside on all desktop and remote access computers. There are different levels of tools, and staff are able to generate reports as and when they require them, according to their access rights. The central Management Department provides expert analysis for the most complex queries, reports on overall trends, provides predictions, continually develops the tools and acts as guardian of data standards.

Software provision is split between in-house developments (normally under six months from concept to delivery) and commercial packages. Large scale bespoke software development is not undertaken and where necessary, business processes are adjusted in order to implement package solutions.
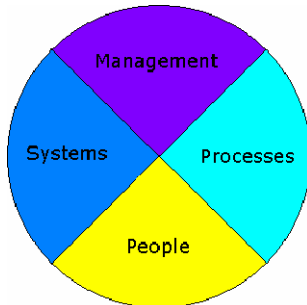
'The future is here – it just isn't connected yet'

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Appendix 3: Information Governance Standards on which assurance is sought

Information Governance Toolkit version 5: Control listing

The toolkit is grouped by requirements and also by initiatives.

Requirements

1. **Initiatives**

   ▪ Information Governance Management

   ▪ Confidentiality and Data Protection Assurance

   ▪ Information Security Assurance

   ▪ Clinical Information Assurance

   ▪ Corporate Information Assurance

2. **Full control listing**

101
Does the AMT have adequate governance in place to support the current and evolving Information Governance agenda?

102
How would you assess your AMT's ability to access expertise across the Confidentiality and Data Protection Assurance agenda?

103
How would you assess your AMT's ability to access expertise across the Information Security agenda?

104
How would you assess your AMT's ability to access expertise across the Information Quality and Records Management Agenda?

105
Does the AMT have in place comprehensive IG Policy and associated Strategy and Improvement Plans all signed off by the Board?

106
Does the AMT have up to date and tested business continuity plans for all critical infrastructure components and core information systems?

107
Does the AMT have a comprehensive Board endorsed Information Lifecycle Management Policy/Strategy and implementation plan?

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108

Has the AMT implemented its Information Governance management arrangements to ensure the NHS CFH Statement of Compliance (SoC) is satisfied?

109

Does the AMT ensure that staff and those working on behalf of the AMT comply with the terms and conditions set out on the RA01 form?

110

Does the AMT ensure that it has formal contractual arrangements that include compliance with information governance requirements, with all contractors and support organisations?

111

Does the AMT ensure that all individuals carrying out work on behalf of the AMT have employment contracts which require compliance with information governance standards?

112

Does the AMT's staff induction procedure effectively raise the awareness of Information Governance?

113

Does the AMT assess staff training needs and ensure job/role specific information governance training is provided to all staff?

201

Does the AMT have a confidentiality code of conduct that provides staff with clear guidance on the disclosure of patient personal information?

202

Does the AMT ensure that patients are generally asked before their personal information is used in ways that do not directly contribute to, or support the delivery of, their care and that patients' decisions to restrict the disclosure of their personal information are appropriately respected?

203

Does the AMT ensure that patients are informed about the proposed uses of their personal information and the importance of providing accurate information to NHS staff?

204

Does the AMT have effective procedures for ensuring that detailed questions, raised by patients about how their information may be used, can be answered?

205

Does the AMT have appropriate procedures for recognising and responding to patient requests for access to their health records?

206

Has the AMT established appropriate confidentiality audit procedures to monitor access to confidential patient information?

208

Has the AMT put in place safe-haven procedures for all routine flows of patient personal information to the organisation?

209

Does the AMT comply with data protection requirements in respect of transfers of personal data about patients or staff to countries outside of the EEA?

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210

Does the AMT ensure that all new processes, software and hardware, comply with confidentiality and data protection requirements?

301

Does the AMT have a formal information security risk assessment and management programme that is implemented and regularly reviewed?

302

Does the AMT have documented and accessible information security event reporting and management procedures in place that are explained to all staff?

303

Has the AMT established business processes that ensure all staff smartcards and access profiles issued are appropriate and satisfy their obligations as Registration Authorities?

305

Does the AMT ensure that operating and application information systems under its control support appropriate access control functionality?

306

Are there defined, documented and agreed access rights for all users of AMT based information systems and services?

307

Has the AMT established a register of all its major information assets and assigned responsibility or 'ownership' for each?

308

Does the AMT ensure that digital information shared with other organisations is secured in transit?

309

Does the AMT have adequate procedures in place to ensure the availability of information processing facilities, communications services and data?

310

Does the AMT have procedures in place to prevent information processing being interrupted or disrupted through equipment failure, environmental hazard or human error?

311

Does the AMT ensure that its information systems are capable of the rapid detection, isolation and removal of malicious code and unauthorised mobile code?

312

Does the AMT have in place appropriate procedures for ensuring that the development and introduction of any new local information systems, software, IT projects and, more generally, IT support activities are conducted in a secure and structured manner?

313

Does the AMT have appropriate procedures in place to ensure that communication networks under the AMT's control operate in a secure manner?

314

Does the AMT have appropriate procedures for ensuring that mobile computing and teleworking are conducted in a secure manner?

315

Does the AMT satisfy its security management requirements to protect the Airwave communications service?

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401

Does the AMT have a strategy to ensure the correct NHS Number is recorded for each active patient and ensure that it is used routinely in clinical communications?

403

Does the AMT have an organisation-wide, multi-professional audit of clinical record keeping standards, including accuracy for all professional groups in all specialities?

405

Does the AMT have robust procedures and processes for monitoring all data collection activities across the AMT?

408

Does the AMT have procedures in place to ensure that when new services are provided, or where changes within the system are made, that these do not adversely impact on information quality?

601

Does the AMT have documented and implemented procedures for the creation and filing of electronic corporate records to enable efficient retrieval and effective records management?

602

Does the AMT have documented and implemented procedures for the creation, filing and tracking/tracing of paper corporate records to enable efficient retrieval and effective records management?

603

Does the AMT have publicly available, documented and implemented procedures to ensure compliance with the Freedom of Information Act 2000?

604

Has the AMT carried out an audit of its corporate records and information as part of the information lifecycle management?

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