SeeBeyond
and the
National Programme for IT
in England

First - The Acronyms

- NHS – National Health Service in England

- CRS – Care Records Service = Electronic Health Record

- PDS – Patient Demographic Service

- ETP – Electronic Transfer of Prescriptions

- Choose & Book – Electronic Referrals & Appointment Booking

The NHS Challenge - 2002

- Modernise IT is Healthcare for new initiatives
  - Care Records Service
  - Choose & Book
  - Electronic Prescriptions
  - & many more…..

- Large & Fragmented IT Landscape
  - 220 Hospital Trusts with their own IT infrastructure
  - No inter-organisation exchange of data (except Pathology & Radiology reports)
  - 10,000 GPs
  - Bandwidth

Delivering 21st Century IT - 2003

- A new £2.3 billion program to modernise IT systems (3 year spend)

- Early contract award to support Choose & Book

- Creation of 'Spine' to address Strategic Aims (CRS, ETP)

- N3 Program to address bandwidth requirements

- 5 Local Service Providers to look after modernisation requirements of 5 regions

Benefits of the Spine

The Spine

- – Is the infrastructure of the national Integrated Care Record Service.
- – Enables eBooking and the Electronic Transfer of Prescriptions
- – Delivers a way to involve patients in their own health care sharing their records with clinicians.
- – Supports the care of patients whose care network spans local communities/clusters.
- – Offers ways to study health, diseases and treatments across the country in new and very significant ways whilst safeguarding confidentiality.
- – Underpins the modernised NHS, making it a single organisation through shared information in ways that cannot be achieved through separate local systems. E.g. links with Diagnostic and Treatment Centres

National Spine context

- **National Integrated Care Record Service,** delivered by a National Application Service Provider (NASP), providing a central service for transmission and storage of patient record information

  - a national patient database, known as the Personal Demographic Service (**PDS**)

  - a national Electronic Health Record for every patient, known as Personal Spine Information Service (**PSIS**)

  - a national integrated network, know as Transaction and Messaging Spine (**TMS**).

- **Integration** with clinical systems provided by each Local Service Provider (**LSP**) via new NHS network framework (**N3**)

- Electronic appointments booking system (**EBS**)

- Electronic transmission of prescriptions (**ETP**).

How the Spine works … In an emergency

- A Bristol resident visits Newcastle

- Taken ill - admitted to local hospital

- A&E Consultant needs patient's medical history

- Searches Spine by name, address, or NHS Number

- An entry found in PDS (Personal Demographic Service)

… more

Newcastle

Bristol

| Name |
| NHS No. |
| Address |
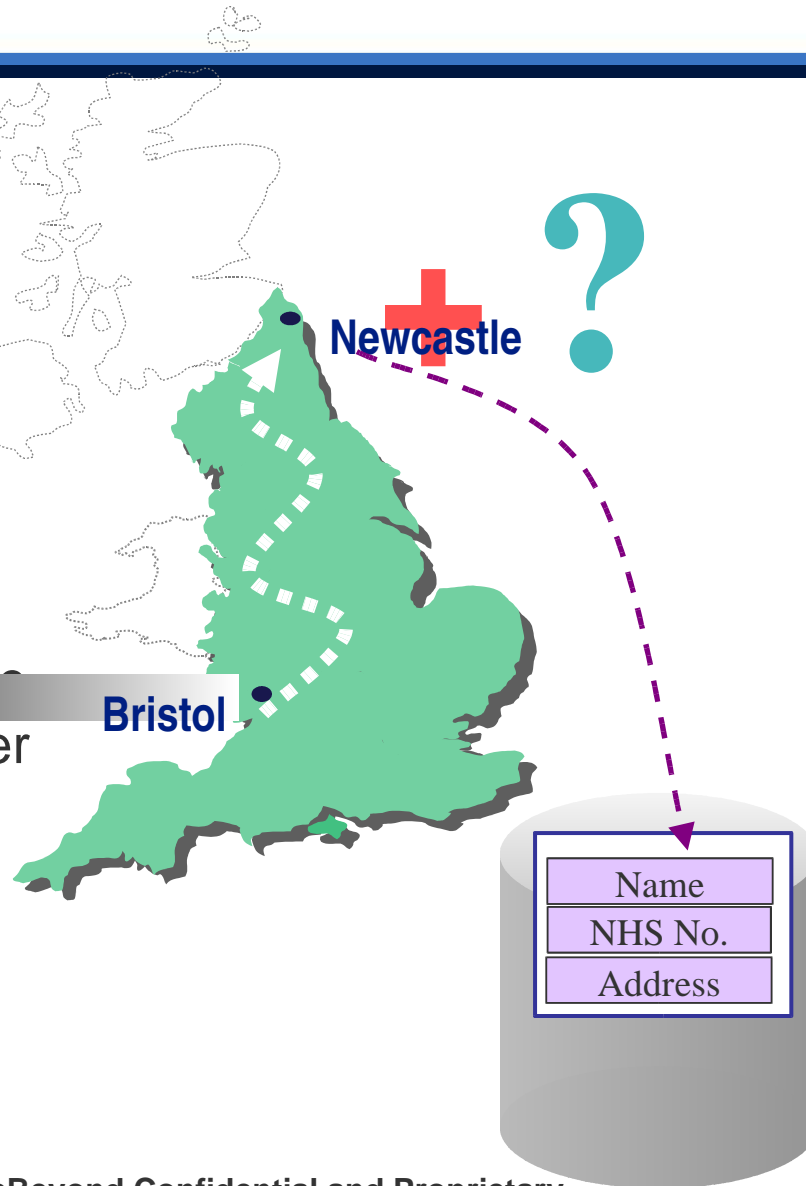
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How the Spine works … In an emergency

- Clinical records then retrieved from PSIS (Personal Spine Information Service)

- Immediately made available to A&E Consultant in Newcastle

- Patient receives treatment – Details recorded locally

- *AND* transmitted back to Spine for future reference

… more

| Name |
| NHS No. |
| Address |
| Chest Infection |
| Broken Leg |
| Back Pain |
| **Emergency** |

Newcastle

Bristol

| Name |
| NHS No. |
| Address |
| Chest infection |
| Broken Leg |
| Back Pain |
| **Emergency** |
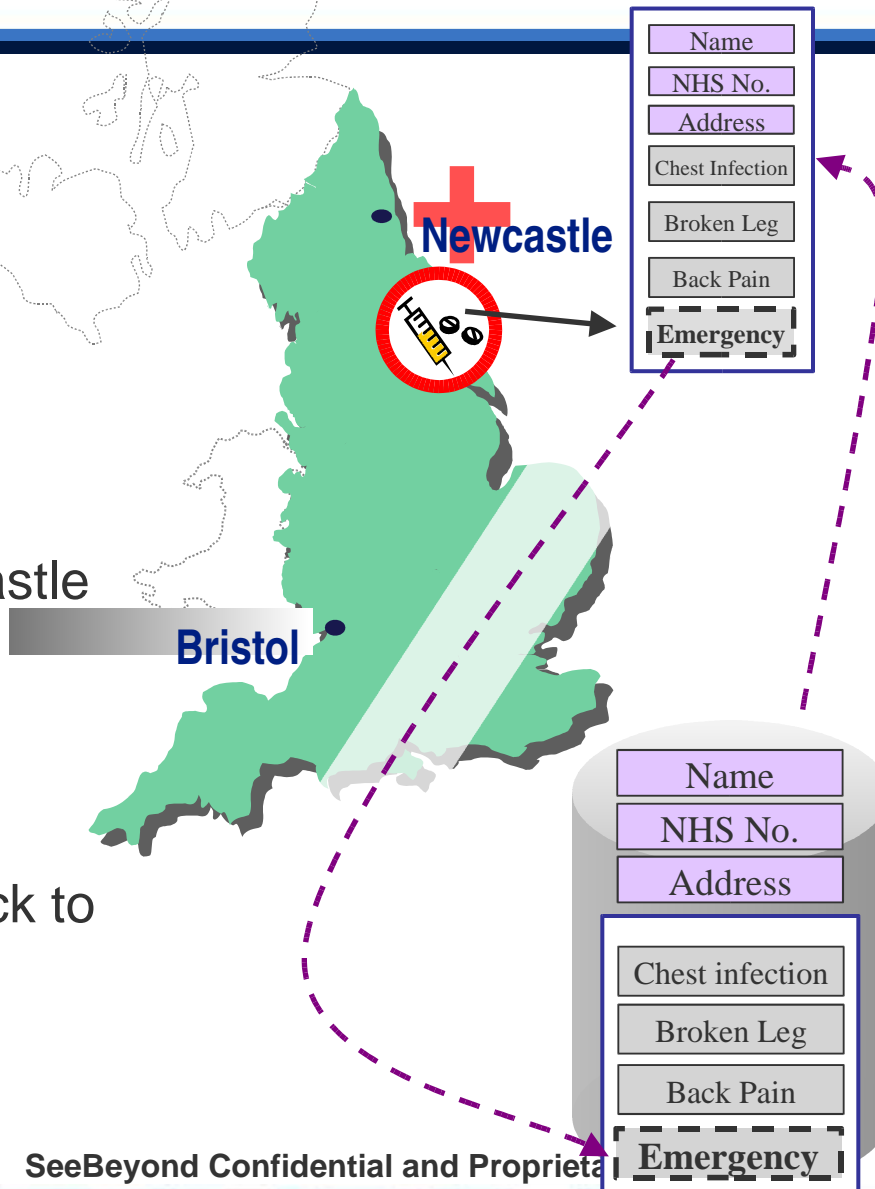
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How the Spine works … In an emergency

- Patient goes back home to Bristol

- Discharge message transmitted from hospital to Spine

- Discharge summary (details of diagnosis & treatment) is sent automatically to G.P. in Bristol for follow-up care

All communications in real-time and virtually immediate

Newcastle

Bristol

Discharge Summary

| Name |
| NHS No. |
| **Emergency** |

Discharge

| Chest infection |
| Broken Leg |
| Back Pain |
| **Emergency** |
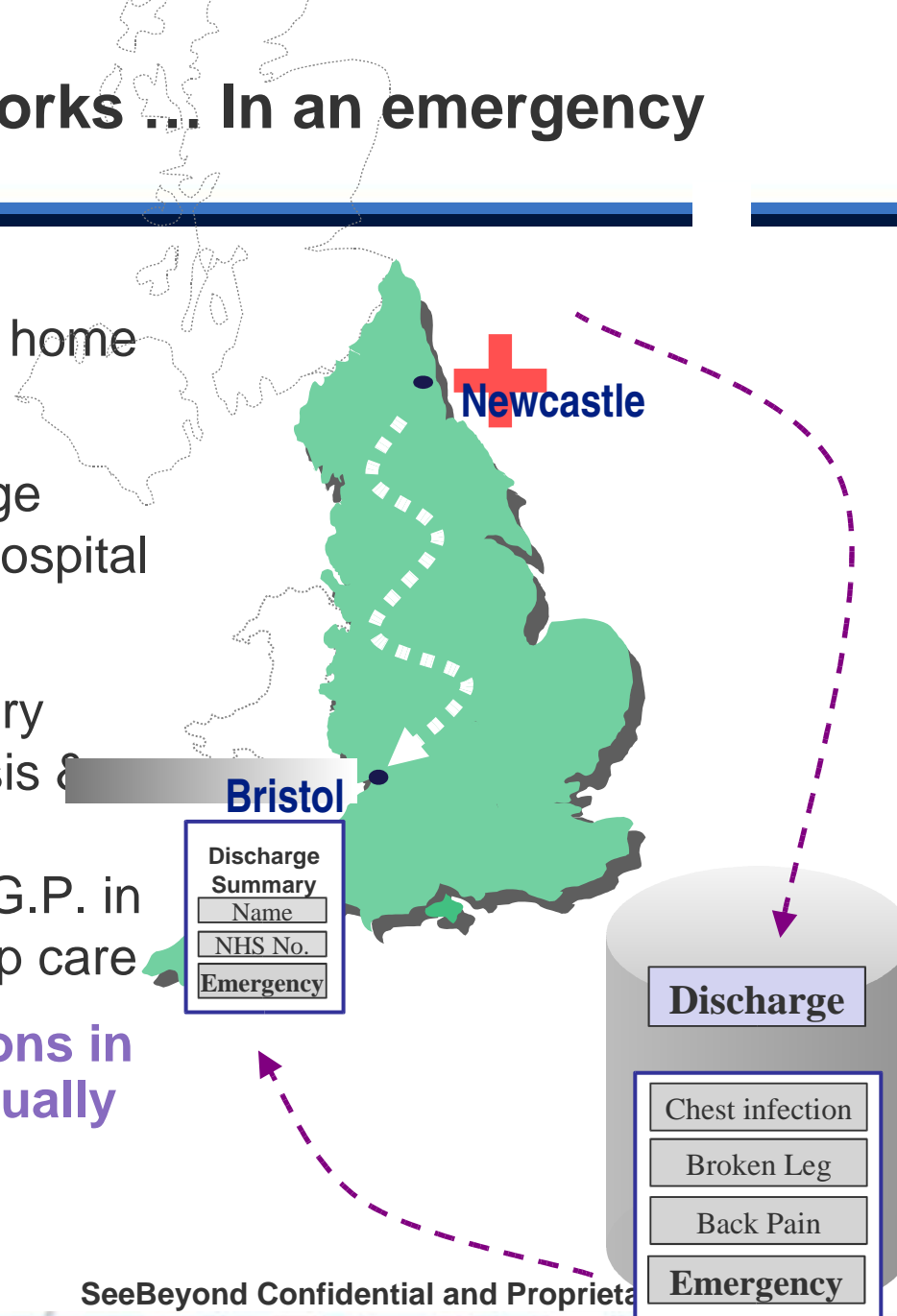
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Take-up Rates

- **eTP** – 650m prescriptions per year

- **eBooking** – 16-20 million bookings (plus additional services)

- **ICRS** – Encounters, Referrals, Summaries, Assessments, Administrative, Demographics, security and on-line access

- **Pathology** – existing flow

NPFIT Yearly Messages from TMS
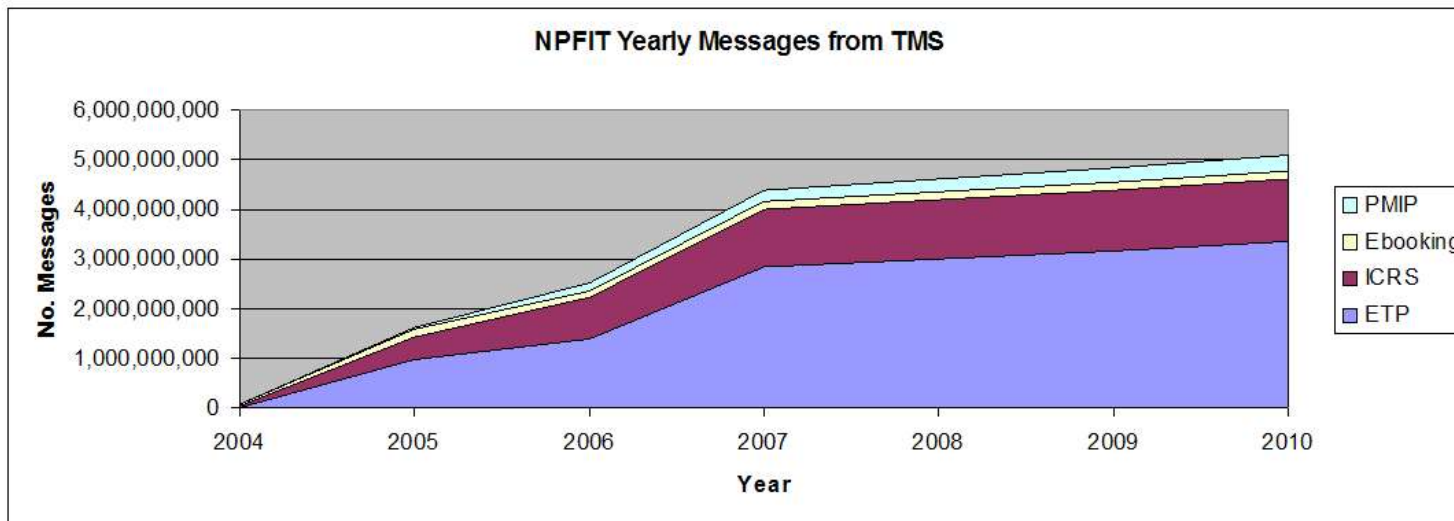
The worlds largest integration project

- £6.2bn project
- **50+ million patients** with life-long healthcare records
- Linking with 220 hospital trusts
- 1.4m providers (doctors, nurses, scientists)
- 10,000 systems
- 40,000 sites
- For the National Service Provider (NASP) "Spine"
  - 2005 – **2 billion transactions per year**
  - 2010 - **6 billion transactions per year**
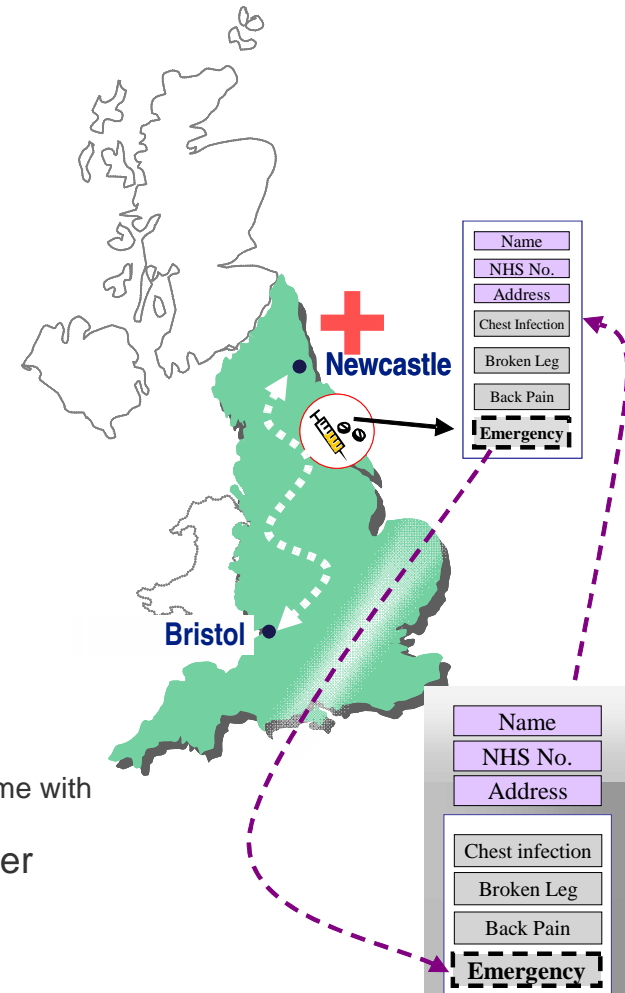 - Due to peak usage approximately 420 messages per second (4–6x hourly average)
  - Response SLA – 0.2 seconds
  - Available 99.9% (44 minutes per month downtime)
  - Failover in 30 minutes
- For the Local Service Providers (LSP's)
  - Each has a lot of local messages (10bn to 12bn per year) and shares some with the NASP
- There are 5 LSP and therefore the total volumes of messages per year is:
  - **56 billion to 66 billion messages per year**
- Initially using eGate, eInsight, eView and eXchange

Integration Services
at the
Hospital Level

Is this Integration?

Administration Patiente

Pharmacie

Pathologie

Radiologie

Adapters & Web Services Connectivity

maternité

Médecin

Liste d'attente

uppui clinique

Using an Architecture to build for the future..
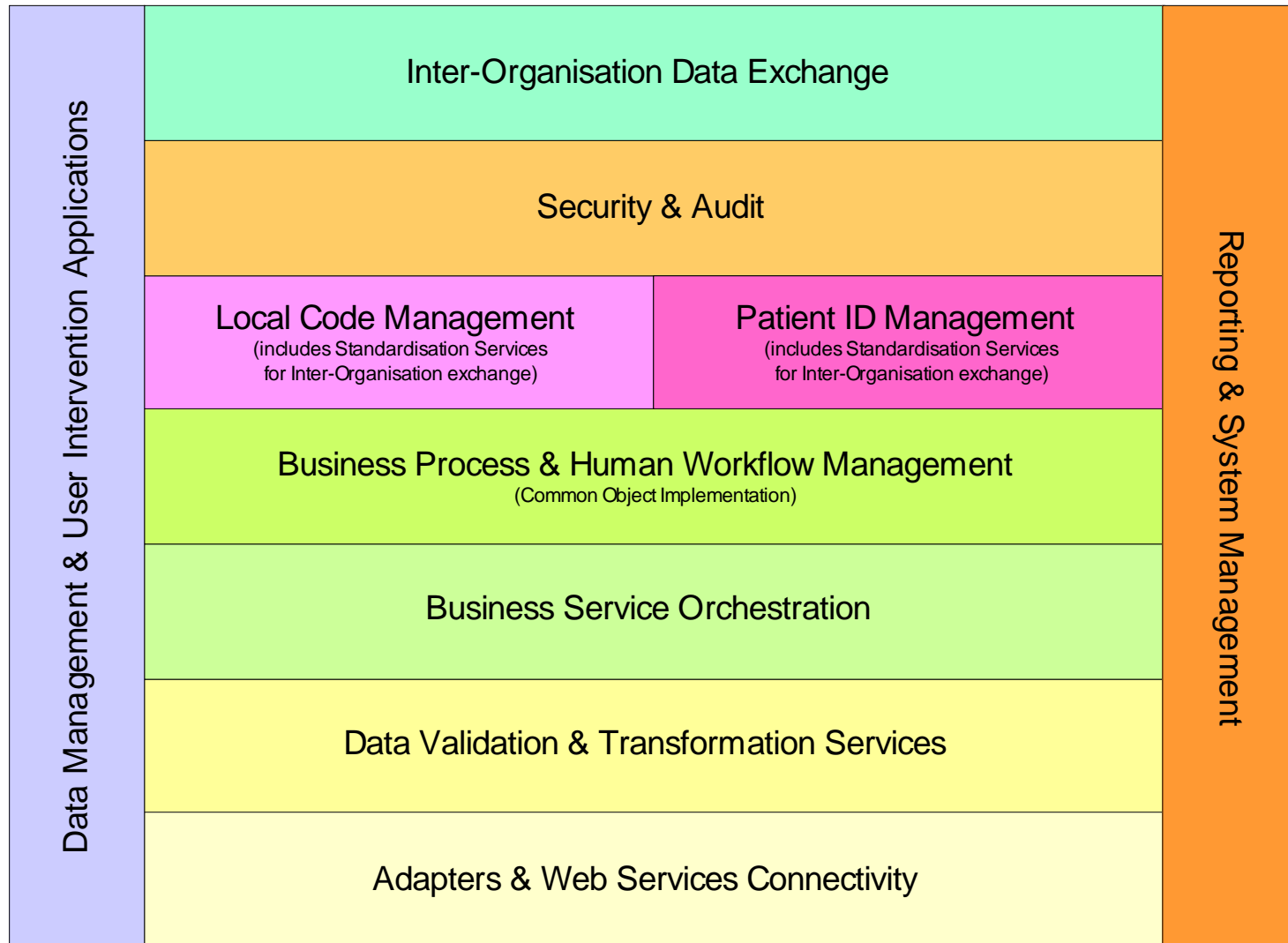
Data Management & User Intervention Applications

Inter-Organisation Data Exchange

Security & Audit

Local Code Management
(includes Standardisation Services
for Inter-Organisation exchange)

Patient ID Management
(includes Standardisation Services
for Inter-Organisation exchange)

Business Process & Human Workflow Management
(Common Object Implementation)

Business Service Orchestration

Data Validation & Transformation Services

Adapters & Web Services Connectivity

Reporting & System Management

Example Process
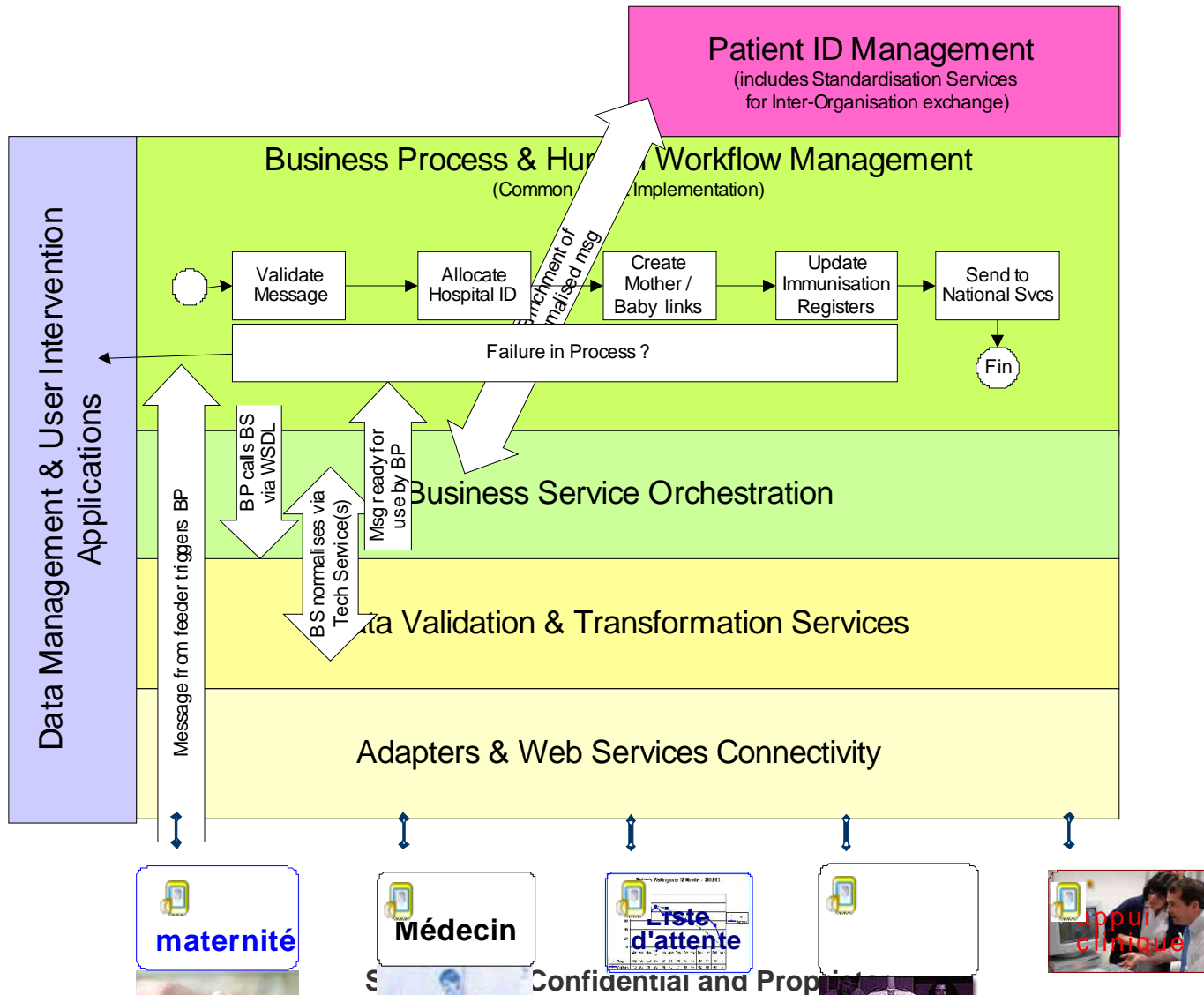
Between Hospitals & Regional and/or National Services

| Master Patient Index | Electronic Health Record | Electronic Prescribing | Oncology (Cancer) Registers | Diabetic Registers | Integrated Care Pathways | Analysis & Research Data | Child Protection Services |

Optional wide area network shown as each of the above services can be outsourced and managed by different service providers

Directory Services

Inter-Organisation Orchestration Service

Terminology Services | Error & Exception Management | Audit & Quality Control | Business Rules

Message Validation, Routing & Enrichment Services

Security Services

Public / Private Network

Public Network

Hospital information flows to / from National Services

Hospital to Hospital Data Exchange via a Central Service

Direct Access to National Services

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Reporting & System Management

Pharmacists

Dentists

Social Services

Independent General Practioners

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Thank you