

# HSCN Operational Design Overview

**Version 3.0**

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# 1 Document Purpose

## 1.1 Purpose of document

This document provides an overview of the Operational Design for the Health and Social Care Network (HSCN); summarised to enable all stakeholder groups to understand:

- Who is responsible for delivering the different capabilities; and
- How HSCN will operate.

So that:

- The HSCN Programme Board can, on behalf of Department of Health, assure that the Operational Design meets their requirements;
- The Programme can confirm that the Operational Design meets requirements and that the Operational Design is aligned with the Procurement Strategy;
- The Programme can communicate the Operational Design to HSCN Consumers and potential Suppliers;
- Consumers can prepare for migration to HSCN;
- Suppliers can determine which Services they wish to provide and prepare to engage with other Suppliers;
- Suppliers can establish HSCN Service provision;
- The Solution Design team can develop the detailed design (e.g. level 3 and below); and
- Capability stakeholders can confirm that the Operational Design meets requirements.

## 1.2 Scope of this document

This document provides an end-to-end operational description of the HSCN target state. This target state is designed to support the migration from the incumbent provider service, beyond which we are not intending to document because further transitions are subject to pending strategy decisions. It does not describe any transitional states to get to the target state. It does not describe user migration strategies.

Further information about the technical design of this target state, including detail of the current N3 network which will be replaced by HSCN, is provided in the HSCN Solution Overview.

## 1.3 Reader Pre-requisites

None, though the Operational Design Overview should be read in conjunction with the Solution Overview, which describes the network solution.

## 2 Executive overview

The stated vision of the Health and Social Care Network (HSCN) Programme is:

*“HSCN will enable a future where health and social care unite to transform patient care and services through the provision of greater connectivity, putting data (or) information at the fingertips of clinicians, health and care professionals and citizens”.*

The spending objectives of the HSCN Programme as detailed in the Full Business Case (FBC) are listed below:

- Support the move from N3 to a new service whilst ensuring future innovation is built in;
- Provide integrated connectivity to enable wider health and social care organisations to access national health IT services;
- Deliver a smaller service – that only provides from the centre the infrastructure needed to enable network connectivity across the health and social care system;
- Create a competitive marketplace for interoperable and cost effective network services;
- A better value for money service – utilise the purchasing power of Government to improve value for money and get the best possible price in part by disaggregating the different parts of the network components to enable a wider variety of suppliers to bid for the work; and
- A shorter contract length that enable more regular market testing to drive down costs.

The HSCN programme will establish a disaggregated network solution and operating model, based on standards that will enable safe and reliable interoperability, a more open marketplace and increased local empowerment.

The programme will work with industry to establish a standards-based marketplace of HSCN-compliant Consumer Network Service Providers (CN-SPs) who will provide HSCN services directly to Consumers.

In addition, the proposed investment for HSCN comprises the following central capabilities:

- **Programme Management** functions, delivered by NHS Digital, to manage a phased and controlled transition from N3 to HSCN;
- A **Transition Network**, with BT, which is required to maintain service continuity for health and social care during the transition from N3 to HSCN;
- A **Peering Exchange Network**, which will connect HSCN Consumer Networks with each other and with the Transition Network;
- An **Advanced Network Monitoring** (ANM) service, which will improve the security of the environment by monitoring and filtering internet traffic on HSCN; and
- **HSCN Authority** functions, delivered or procured by NHS Digital, to manage the operation of HSCN, for example service and security management functions.

The Operational Design Overview describes the business capabilities and interactions for HSCN.

## 2.1 Document content

Section 3 describes the business capabilities below:

- HSCN Consumers.
- Network Service Providers.
- Advanced Network Monitoring Service.
- HSCN Authority.

Section 4 describes the commercial and operational viewpoints describing the interactions between the capabilities:

- Governance Regime.
- Commercial Model.
- Marketplace.
- In-life Operations.
- Cyber Security.
- HSCN Technology Services.
- Reporting.

## 3 HSCN Capabilities

This section describes the capabilities involved with HSCN, as shown below.

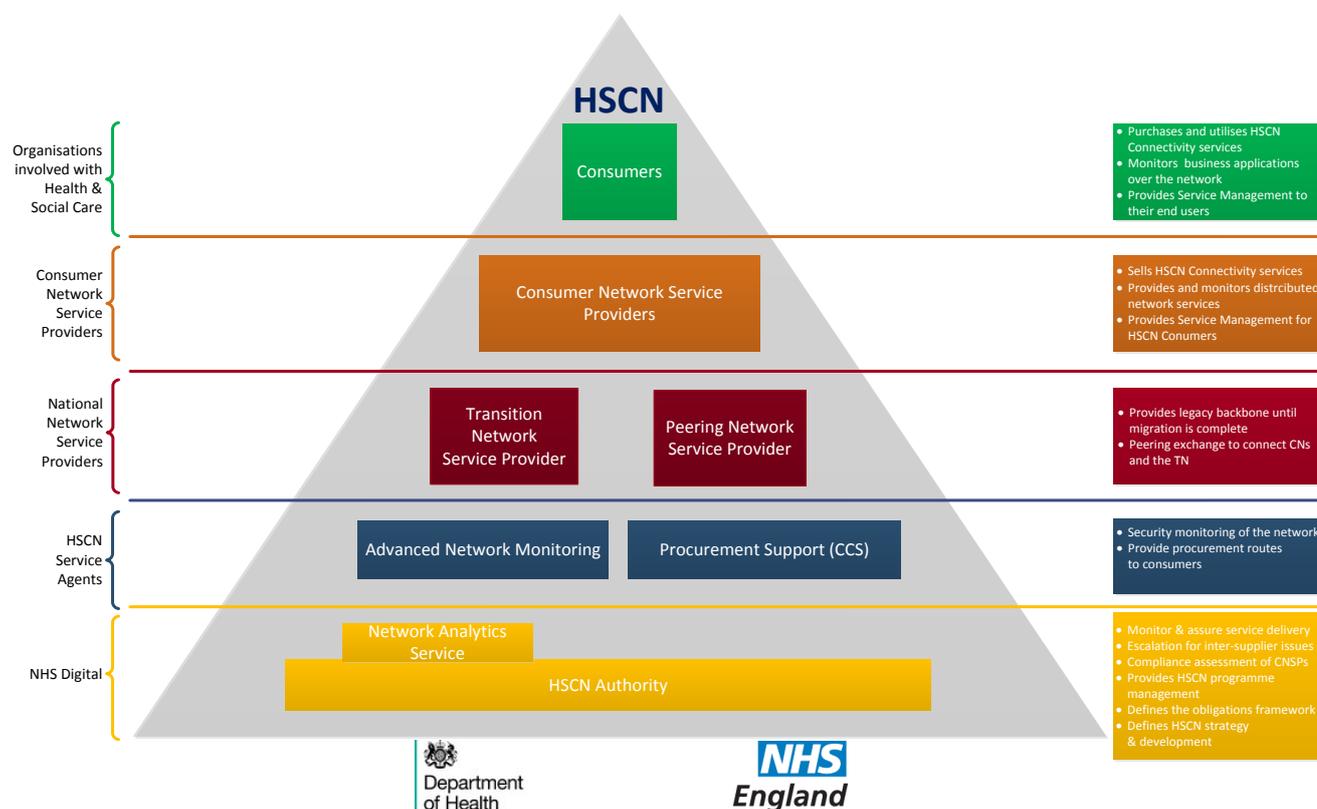


Figure 1: HSCN Capabilities

### 3.1 HSCN Consumers

The network will be used by all organisations that deliver and support Health and Social Care services in England.

HSCN Consumers include all organisations which are connected to the HSCN network and have a valid HSCN Connection Agreement.

The objectives for HSCN Consumers are to:

- Have access to a solution that meets their access and network needs.
- Be offered the right services, at the right price via mechanisms that are easy to use and suitable to their needs.
- Be able to exercise choice in the selection of network services, with respect to both the type of services and between potential suppliers.
- Be able to purchase additional services, outside the scope of HSCN, to complement and/or extend their HSCN network services.

- Benefit from any central funding when purchasing network services, for organisations eligible for funding.
- Receive seamless operation of network services, irrespective of whether the network is being provided by multiple service providers.

In addition to HSCN Access Connectivity services (as documented in the HSCN Solution Overview), many organisations will also be interested in purchasing Business Application Services, such as Local Area Networks (LANs) or telephone services, that are outside the scope of HSCN service provision.

### 3.1.1 HSCN Consumer Organisations

HSCN Consumers fall broadly into three categories:

- NHS organisations (note these are organisations that deliver care in England only);
- Non-NHS Health and Social Care Organisations; and
- Third Party Support Organisations.

The scope excludes providing funded network connectivity to Scotland, Northern Ireland, Wales and the Isle of Man; however connectivity between HSCN and these networks will be delivered as Gateways. Note that out of England organisations may purchase HSCN services if required to support business processes not supported by the Gateway.

Each organisation that is permitted to connect to HSCN will do this via HSCN Access Connectivity services from Consumer Network Service Providers (CN-SPs). HSCN does not include local network provision or end user devices, and as such HSCN Consumers will be organisation based.

HSCN Consumers will be responsible for paying for and managing the contract with the CN-SP that connects them to HSCN.

#### NHS Organisations

The following groups of NHS organisations will potentially be provided with funding for their HSCN connectivity:

- Clinical Commissioning Groups (CCGs).
- GPs.
- NHS Trusts including:
  - Acute Trusts;
  - Mental Health Trusts;
  - Ambulance Trusts; and
  - Community Trusts.

#### Non-NHS Health and Social Care Organisations

In addition there are a wide range of allied professions and organisations that will be permitted to connect to HSCN but are outside of the scope of funded HSCN services.

These include the following:

- The wide range of allied professions (i.e. pharmacy, dentistry and opticians);

- Social enterprise or private organisations such as treatment centres which deliver NHS care under commissioned contracts;
- Any Qualified Provider (AQP) which meet NHS standards and offer best value locally and is commissioned to provide services;
- Local government which plays a key role in health promotion and delivery of adult and social care;
- Central government departments (e.g. MoD, MoJ);
- Prisons; and
- Charity and independent sector organisations.

Note some of these organisations may be funded to access HSCN via other services (e.g. the Electronic Prescription Service providing funding for Pharmacies).

### **Third Party Support Organisations**

There are also a wide range of suppliers of services into the NHS that require network connectivity in order to fulfil their obligations to their customers. These include:

- ICT service providers who require connectivity to support and maintain applications;
- ICT service providers delivering Business Application Services as detailed in the Solution Overview document. These service providers require data centres connected to HSCN such that HSCN end users may consume their applications.

## 3.1.2 HSCN Consumer Personas

Whilst connections to HSCN will be made at organisation level, individuals within that organisation will interact directly or indirectly with HSCN.

### 3.1.2.1 Non-technical Purchaser

This individual is responsible for selecting the optimum service for their End User Organisation. They understand their organisation but have limited technical knowledge and limited time/interest in expanding their expertise. Typically, their organisation will need a simple, relatively low volume connection to the network.

They will interact with the HSCN marketplace to procure services.

Their needs are to:

- Buy the right services, at the right price.
- Access advice to inform their choice of appropriate network services.
- Use a purchase mechanism that is quick & easy to use and suitable to their needs.
- Be able to exercise or delegate choice.
- Be able to purchase additional services, outside the scope of HSCN, to complement and/or extend their HSCN network services.
- If they are eligible, benefit from any available central funding when purchasing network services.
- Be able to purchase services to assist in defining the characteristics & design of their network.
- Receive seamless operation of network services, irrespective of whether the network is being provided by multiple service providers.

### 3.1.2.2 Technical Purchaser

This individual is responsible for understanding the requirements for their End User Organisation and selecting the optimum service. They have technical knowledge relevant to their organisation's needs. Their network requirements will range from simple connections from an individual site to more complex designs with multiple connections between sites and to the HSCN network.

They will interact with the HSCN marketplace during the design and purchase of services.

Their needs are to:

- Have access to a solution that meets their access and network needs.
- Be offered the right services, at the right price via a mechanism that is easy to use and suitable to their needs.
- Be able to exercise choice in the selection of network services, with respect to both the type of services and between potential suppliers.
- Be able to purchase additional services, outside the scope of HSCN, to complement and/or extend their HSCN network services.
- Be able to purchase services to assist in defining the characteristics & design of their network.

- If they are eligible, benefit from any available central funding when purchasing network services.
- Receive seamless operation of network services, irrespective of whether the network is being provided by multiple service providers.

### 3.1.2.3 Network Manager

This individual is responsible for supporting the End User Organisation's network and for engaging with supplier and service organisations.

Irrespective of the sourcing route used for the procurement, they will interact with their service provider to report & resolve issues.

Their needs are to:

- Receive seamless operation of network services, irrespective of whether the network is being provided by multiple service providers.
- Be able to report issues to single point for resolution, irrespective of whether the network is being provided by multiple service providers.

### 3.1.2.4 End User

This individual accesses applications and data that are only accessible with an HSCN connection. These users access these from their local network via their organisation's connection to HSCN. Specific features of interest to End Users, such as remote or mobile access, operate over the HSCN network but are outside the remit of HSCN delivery.

They will not interact directly with any HSCN capability, but will be represented by their organisation's purchaser and network manager for purchasing and issue resolution activities respectively.

Their needs are to:

- Have access to National Applications and data that are only available using a connection to HSCN.
- Receive seamless operation of network services, irrespective of whether the network is being provided by multiple service providers – including the provider of their local network.

### 3.1.3 HSCN Connection Agreement

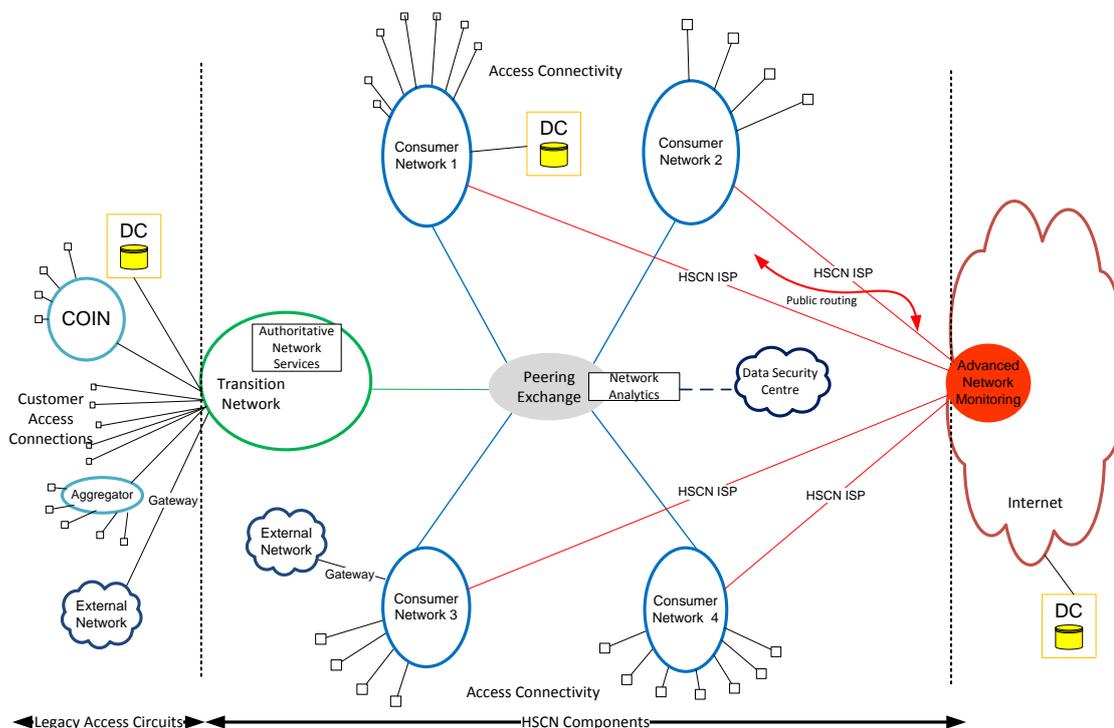
HSCN will use a new Connection Agreement (CA) for end organisations that covers business need, basic cyber security best practice and key contact details (including cyber security contact).

The HSCN CA will require basic cyber security hygiene for an organisation before it can connect. This will serve both as an education activity (that the organisation has to plan for cyber security), and will improve the security hygiene of the wider ecosystem. This will replace the IG Compliance that was required for N3 connectivity and serves more as a security support function, than requiring an organisation to meet stringent local security controls and procedures. Note that this assessment will be undertaken by the HSCN Authority.

The CA is intended to be a control of who is connected to the HSCN – is the organisation eligible to connect; is a specific consumer model of connection required; type of organisation connecting is permitted.

## 3.2 Network Service Providers

HSCN will employ Network Service Providers (NSPs) to provide specific elements of the network, as shown below.



**Figure 2: HSCN Network Architecture**

Network Service Providers (NSPs) will supply the HSCN Components as documented in the HSCN Solution Overview.

The objectives for NSPs are (where applicable) to:

- Ensure that HSCN Consumers experience seamless operation of network services, working with the HSCN Authority Service Coordinator function and other NSPs;
- Understand and offer services that align with HSCN strategy objectives for disaggregated services; and
- Choose appropriate routes to market for their services.

The NSPs will also provide the required service management wrap for the delivery of their services governed under the HSCN Authority Service Coordinator function. To do this the NSPs will be required to work to the Service Management Approach as detailed in Section 4.

### 3.2.1 Consumer Network Service Providers

HSCN CN-SPs will operate by providing access and distribution services locally to HSCN Consumers by doing the following:

- Provide HSCN Access Connectivity as a range of blended services providing varied bandwidth requirements, availability and resilience options to individual sites (e.g. NHS Hospitals, Primary Care, Community & Mental Health, CCG, Care Homes, 3rd Parties etc.).
- Connection to the Peering Exchange Network supporting required HSCN traffic flows.
- Routing to the Transition Network and the Internet.
- Route internet traffic to the Advanced Network Monitoring Service (ANM).
- Routing options to a group of connected HSCN Consumers for closed user group routing delivered by the CN-SPs network.
- HSCN Consumer service provision for maintaining a Consumer's HSCN service.

The CN-SPs will be the direct suppliers to the HSCN Consumer base for provisioning and service management.

CN-SPs will be approved to deliver HSCN Services under the HSCN Compliance Process (see Section 4.2.3). CN-SPs will need to demonstrate via this process that they meet the HSCN Obligations to provide the required connectivity for HSCN Consumers to share data, and interoperate with other parties including the HSCN Authority, Advanced Network Monitoring (ANM) Service and other NSPs.

It will be the responsibility of the CN-SP to provide a Service Desk to their HSCN Consumers, and work to the HSCN Service Model for incident control across the HSCN components with other providers. The CN-SP will be responsible for owning the HSCN Consumer interface until incidents are resolved.

CN-SPs will offer services to HSCN Consumers which will include the technical functions to be delivered and the service regime including service levels and responsibilities. HSCN Consumers will order services direct from CN-SPs who will be responsible for order receipt, management and billing.

### 3.2.2 National Network Service Providers

The HSCN Authority will contract directly with two NSPs:

#### 3.2.2.1 Transition Network Service Provider (TN-SP)

The TN-SP will supply a short term service provision of the current N3 core routing services, under new terms and conditions, that will enable all legacy traffic to migrate to the new HSCN services whilst maintaining continuity of service.

The TN-SP will provide an incident management service desk to suppliers of directly connected services and other gateways. It will not provide direct services to HSCN Consumers.

The TN-SP will also supply network technology services on behalf of HSCN see section 4.6.

#### 3.2.2.2 Peering Exchange Network Service Provider (PN-SP)

The PN-SP will supply a peering service to which all CN-SPs and the TN will be connected. CN-SPs will route traffic between each other through the PN-SP. The PN-SP will be based in at two carrier neutral hosting locations which will be geographically separated. All CN-SPs and the TN will have connections to both locations.

The PN-SP will provide an incident management service desk to directly connected CN-SPs. The PN-SP will work with the HSCN Authority Service Co-ordinator function to ensure that cross supplier incidents are managed to resolution. It will not provide direct connectivity services to HSCN Consumers.

### 3.3 Advanced Network Monitoring Service

HSCN CN-SPs will direct all Internet bound traffic towards the Advanced Network Monitoring Service. Outbound and inbound HTTP Internet traffic will be subjected to the ANM processes. The ANM will be a cloud service provided by an ANM Service Agent (ANMSA) directly contracted by the HSCN Authority.

ANM includes processes to block known malicious activity to/from the internet.

The ANMSA shall provide logging and reporting functions; with events and reports to be specified by the HSCN Authority.

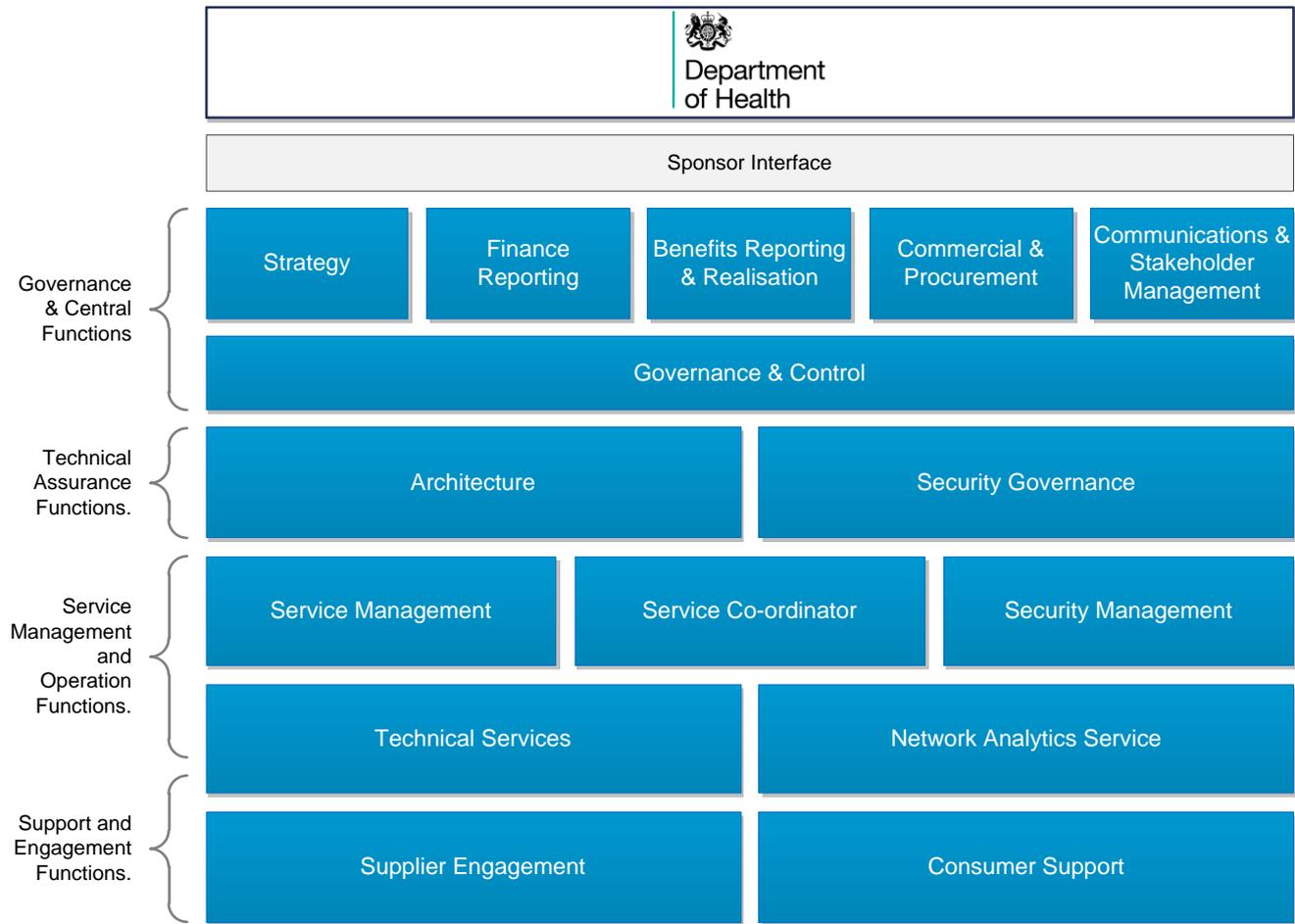
### 3.4 HSCN Authority

The HSCN Authority ('Authority') will be the delivery function that ensures that the HSCN meets its overall objectives and will be the owner of the overall business change. NHS Digital will fulfil this function on behalf of the Department of Health (DH), the sponsor of the HSCN.

The Authority will

- Set the strategic direction;
- Oversee all HSCN operational matters;
- Enable more direct control over the HSCN supplier ecosystem; and
- Proactively support communities of interest and regional partnerships to design future solutions.

The Authority capability consists of a number of Functions that will be fulfilled by NHS Digital. Each Function will have different purposes and responsibilities, as described below, but fall into one of four categories.



**Figure 3: HSCN Authority Functions**

Function	Summary
Strategy	<p>The 'Strategy' function is an interface between the Department of Health through which Government policies are communicated down into the Authority and the HSCN Service Roadmap is communicated up into DH. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Represent the HSCN programme at appropriate Department of Health strategy and policy boards to ensure wider governmental policies are fed into and understood across the HSCN ecosystem.</li> <li>• Ensure benefits can be delivered by the HSCN service.</li> <li>• Set policy direction and HSCN Obligations which are measurable, consistent and fully aligned.</li> </ul>
Finance	<p>The 'Finance' function provides accounting and financial reporting for HSCN. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Provide programme financial investment reporting to the DH demonstrating value for money.</li> </ul>
Benefits Reporting & Realisation	<p>The 'Benefits' function provides benefits reporting and promotes the realisation of benefits by NHS Trusts. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Provide benefits reporting to the DH demonstrating achievements of targets.</li> <li>• Work with HSCN Consumers to realise and report benefits.</li> </ul>
Commercial & Procurement	<p>The 'Commercial' function provides commercial management and assurance of contracted Suppliers and provides commercial and procurement expertise to support HSCN. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Maintain relationships with directly engaged HSCN Service Providers and HSCN Service Agents.</li> <li>• Manage an effective relationship with Crown Commercial Service to provide Procurement Support expertise into HSCN.</li> <li>• Liaise with CCS, suppliers and consumers to ensure that the HSCN offerings are relevant and straightforward to purchase.</li> <li>• Assure the contracting model so that it is effective within the disaggregated supply chain.</li> <li>• Recognise and implement opportunities for further synergies between the parties as the relationship matures.</li> <li>• Ensure that the marketplace and supporting services continue to operate in line with HSCN objectives.</li> <li>•</li> </ul>
Governance & Control	<p>The 'Governance' function provides oversight of the Authority functions, strategic direction for HSCN and future enhancements (including initiating new projects). Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Providing effective governance across service delivery and the HSCN supply chain.</li> <li>• Ensuring alignment of HSCN Objectives to programme delivery and other IT Strategies.</li> <li>• Ensuring HSCN is managed effectively by NHS Digital on behalf of the Department of Health.</li> <li>• Act as the highest level 'ombudsman' type-role for conflict resolution on behalf of the service.</li> </ul>
Communications & Stakeholder Management	<p>The 'Communications' function will manage engagement and communication with parties involved in HSCN including Suppliers and Consumers. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Ensure effective communication between the Authority, CN-SPs and HSCN Consumers.</li> </ul>

Function	Summary
	<ul style="list-style-type: none"> <li>Maintain the HSCN Website.</li> </ul>
Architecture	<p>The 'Architecture' function provides technical assurance of the solution, technical expertise to support HSCN and collaboration with other NHS Digital and Government initiatives. Responsibilities include:</p> <ul style="list-style-type: none"> <li>Articulate HSCN Consumer requirements into technical, service and security requirements for the development and continuous improvement of HSCN services.</li> <li>Maintaining HSCN Obligations Framework including technical and service management standards and policies.</li> <li>Maintaining the HSCN Technology Roadmap.</li> <li>Supplier engagement on future services and technical developments</li> <li>Consistent communication and application of HSCN network principles across HSCN and HSCN consumers as a single point of operation for all network architecture concerns.</li> </ul>
Security Governance	<p>The 'Security Governance' function provides security assurance of the solution, specialist expertise to support HSCN and guidance to Suppliers and Consumers. Responsibilities include:</p> <ul style="list-style-type: none"> <li>Consistent communication and application of security principles across HSCN and serves as a single point of operation for all security-related activities.</li> <li>Delivering Network Analytics Service to work with the Data Security Centre team.</li> </ul>
Security Management	<p>The 'Security Management' function will provide management of security events and incidents during day-to-day operations. Responsibilities include:</p> <ul style="list-style-type: none"> <li>Effectively managing security threats and incident across HSCN.</li> </ul>
Service Management	<p>The 'Service Management' function will provide ITIL aligned management of centrally contracted service providers (including TN-SP, PN-SP and ANMSA) on day-to-day operations. Responsibilities include:</p> <ul style="list-style-type: none"> <li>Provide management and coordination for HSCN Service Agent and National Network Service Provider services.</li> <li>Acting as the Service Co-ordinator, provides oversight over the Consumer Network Service Providers</li> </ul>
Service Co-ordinator	<p>The 'Service Co-ordinator' function will provide operational oversight and performance management of CN-SPs, acting as an escalation point for operational issues involving CN-SPs.</p>
Technical Services	<p>The 'Technical Services' function consists of components that underpin the HSCN. Responsibilities include:</p> <ul style="list-style-type: none"> <li>Domain Name Service (DNS) administration – allocating/managing DNS entries. Note for the initial period of HSCN, the DNS service will be delivered by the TN-SP.</li> <li>Providing IP Address Management (IPAM) to co-ordinate allocation of IP addresses to consumer services across HSCN. Note that all Network Service Providers will manage set-up and use of IP addresses on their services and so will include their own IP address management functions.</li> <li>Performing ad-hoc network monitoring to support investigation of incidents and problems.</li> </ul>
Network Analytics Service (NAS)	<p>The Network Analytics Service (NAS) will supplement the Data Security Centre service by ingesting network telemetry data in near real time and performing proactive and reactive analysis on the data in order to identify any malicious activity taking place over HSCN. The NAS will identify the organisational source of any malicious activity in order that corrective action</p>

Function	Summary
	can take place.
HSCN Supplier Engagement	<p>The 'Supplier Engagement' function will manage non-operational engagement with CN-SPs and act as custodian of the Supplier Compliance Regime. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Managing and maintaining the HSCN compliance regime and Obligations Framework.</li> <li>• Provide support to CN-SPs through the compliance assessment process.</li> <li>• Monitor compliance and respond to CN-SP breaches of the Obligations Framework.</li> <li>• Issue and rescind or terminate Compliance for CN-SPs.</li> </ul>
HSCN Consumer Support	<p>The 'Consumer Support' function will manage engagement with End Customers and act as a custodian for the HSCN Management System and Connection Agreement. Responsibilities include:</p> <ul style="list-style-type: none"> <li>• Managing and maintaining HSCN Consumer Connection Agreement requests.</li> <li>• Providing support to HSCN Consumers during deployment and in-life operations</li> <li>• Proactively supporting Health and Social Care communities of interest and regional partnerships to design future solutions.</li> </ul>

### 3.4.1 HSCN Programme

The transition and transformation to the HSCN service will be managed by the HSCN Programme which will be responsible for:

- Defining and implementing HSCN Service Agent and National Network Service Provider services and putting in place commercial contracts for these.
- Establishing the HSCN Authority.
- Assurance of the delivered service.
- Overseeing the transition from N3 services.
- Co-ordinating and driving the migration of Consumers to HSCN (including support in procuring HSCN services).

### 3.4.2 Service Management

#### 3.4.2.1 NHS Digital Service Management

The NHS Digital Service Management function will provide service management of the TN-SP, PN-SP and ANM-SA.

They are responsible for providing standard service management processes and functions.

#### 3.4.2.2 Service Co-ordinator

The Service Co-ordinator function resides within the NHS Digital Service Management function and provides operational oversight over the CN, TN, PN and ANM service providers with the objective of mitigating some of the risks posed by the disaggregation of network services. It shall provide the following functions:

- Collect and Hold data.
- Monitoring performance and initiating corrective activity where necessary.

- Ensuring appropriate visibility of High Severity Service Incidents and their resolution, including the execution of multi-supplier interventions where appropriate or requested.
- Managing complaints between CN-SPs with regard to persistent failure to fulfil their incident management responsibilities.
- Provision of an escalation route for NSPs where a High Severity Service Incident on the network impacts clinical.
- Providing visibility of change across the HSCN Authority and NSPs with the objective of minimising service disruption through clash management.
- Execution of HSCN consumer satisfaction assessments with the objective of initiating remedial action where performance is trending negatively.

The following sections set out the individual capabilities that the SC will provide.

- **Collect and Hold data**

Capabilities include:

- Store relevant CN-SP data supplied by CN-SPs (including contacts details, Forward Schedule of Changes and the HSSI Minimum Dataset).
- Store HSCN Estate Data captured by the HSCN Authority.
- Publish Service Co-ordinator contact details (including the HSCN Forward Schedule of Change) to NSPs.

- **Monitoring performance and initiating corrective activity where necessary**

Capabilities include:

- Monitor adherence to service management sections of the HSCN Obligations.
- Identify and escalate failures of NSPs to meet their service levels and/or responsibilities, issuing Warning Notices where appropriate.
- Manage non-conformance to HSCN Obligations of the CN-SPs.
- Working with CN-SPs to ensure that a Service Improvement plan and/or a Remediation Plan are in place where agreed triggers have occurred.
- Initiate Service Performance Reviews with CN-SPs where agreed triggers have occurred and monitor completion.
- Collate performance reports provided by CN-SPs (provided monthly).
- Publish the collated performance information to enable HSCN Consumers to make informed decisions about their purchases from CN-SPs.
- Update the HSCN Authority's service status page to show the known status of HSCN services.

- **Ensuring appropriate visibility of High Severity Service Incidents and their resolution, including the execution of multi-supplier interventions where appropriate or requested**

Capabilities include:

- Provide a route (via telephone and email) for the CN-SPs to inform the HSCN Authority of Severity 1 incidents (24 x 7 x 365).
- Record Severity 1 incidents and any subsequent updates reported by CN-SPs.
- Provide updates on Severity 1 incidents to the HSCN Authority's senior management.
- Convene conference calls to co-ordinate incident activity where no NSP has taken ownership.
- Convene multi supplier intervention conference calls to co-ordinate incident activity where requested by an NSP.

- Escalate to a NSPs Senior Management where an NSP is failing to meet its HSCN Obligations for High Severity Service Incident Management.
- In order to support intervention activity, the Service Co-ordinator will have access to a 'dashboard' view of the monitoring tools used by CN-SPs, and will also independently monitor network activity at a sample number of consumer sites.
- Receive and review HSSI reports and perform trending.

- **Managing complaints between CN-SPs with regard to persistent failure to fulfil their incident management responsibilities**

Capabilities include:

- Provide a point of service management escalation for all CN-SPs.
- Record and monitor a log of captured CN-SP complaints.
- Initiate Service Improvement activity with any CN-SP that is a subject of complaint or has failed to meet their HSCN Obligations and follow through to resolution.

- **Provision of an escalation route for NSPs where a High Severity Service Incident on the network impacts clinical safety**

The SC will establish and operate a capability to receive and manage escalations from NSPs when they have incidents that are either affecting clinical safety or risk clinical safety. The SC will:

- Provide the capability 24 x 7 x 365.
- Escalate within the HSCN Authority and to the CN-SP senior management.

- **Providing visibility of change across the HSCN Authority and NSPs with the objective of minimising service disruption through clash management**

Capabilities include:

- Collate details of change activity provided by CN-SPs via weekly Forward Schedule of Change submissions.
- Provide collated Forward Schedule of Change to NSPs and the HSCN Authority Change Advisory Board.
- Contact CN-SPs to reschedule Changes that clash with HSCN Authority or NSP changes.
- Receive and record details of HSCN Consumer impacting emergency changes from CN-SPs.
- Act as Release Manager for Changes that impact multiple NSPs.

- **Execution of HSCN consumer satisfaction assessments with the objective of initiating remedial action where performance is trending negatively**

Capabilities include:

- Execute consumer satisfaction surveys every 6 months.
- Analyse the results of consumer satisfaction surveys to identify positive and negative trends.
- Work with CN-SPs to identify Service Improvement activity where their performance does not meet service levels.

### 3.4.3 The HSCN Website

The HSCN Website hosted on the NHS Digital website will provide information and links to the following services.

#### 3.4.3.1 For Consumers

- Overview of what HSCN is and what is provided

- Help and support information to guide HSCN Consumers including:
  - Applying for funding;
  - Connection Agreement process;
  - HSCN services design advice;
  - Procuring HSCN services;
  - Connecting to HSCN services; and
  - Migration from N3.
- Details on the range of HSCN service offerings, including a list of the suppliers that are HSCN Compliant and offering HSCN services.
- Sign posting to other external sources of information and how to get more detailed support.

#### **3.4.3.2 For Suppliers**

- How to become an HSCN Consumer Network Service Provider including applying for HSCN Compliance.
- Information on providing details of HSCN services and how to offer services via the various procurement routes.
- Details of the HSCN Obligations Framework.
- Details of HSCN documents (e.g. The HSCN Deed and Liability flows).

## 4 Commercial and Operational viewpoints

This Section describes the commercial and operational viewpoints documenting the interactions between the Business Capabilities described in Section 3.

- Governance Regime:
  - Outline governance approach to manage and control the HSCN services.
- Commercial Model:
  - Funding Model;
  - Contracting Model; and
  - Compliance Process.
- Marketplace:
  - Procurement support;
  - Procurement routes; and
  - Marketplace information.
- In-Life Operations:
  - Deployment of services;
  - Service Assurance; and
  - Service Integration and Service Management.
- Cyber Security
- HSCN Technology Services
- Reporting.

The interaction patterns outlined will be elaborated further in Level 3 design documents as required.

## 4.1 Governance Regime

This section provides a set of governance principles that will underpin the delivery of the HSCN services articulated in the previous sections.

An initial governance structure will be developed in consultation with suppliers and wider stakeholders, as HSCN services are introduced. In order that these governance arrangements remain effective they will be reviewed periodically, in consultation with stakeholders, to identify improvements, changes or efficiencies and be modified accordingly.

All suppliers will provide relevant information where required under the HSCN Obligations Framework and will have the opportunity to attend governance forums.

There are four key areas where HSCN governance will be used to direct and manage the delivery of services:

<b>Steering Level</b>	<b>Strategy</b>	<ul style="list-style-type: none"> <li>• Provide direction on activities;</li> <li>• Ensuring alignment of HSCN Objectives to programme delivery and other IT Strategies; and</li> <li>• Strategic direction for further HSCN enhancements and transformation</li> </ul>
<b>Executive Level</b>	<b>Programme Management</b>	<ul style="list-style-type: none"> <li>• Assure the end to end services are being delivered in an efficient and cost effective manner and are meeting requirements;</li> <li>• Ensure suppliers understand and meet HSCN Consumer and end user needs/expectations;</li> <li>• Ensure the suppliers contractual and financial performance is managed in accordance with the relevant agreements;</li> <li>• Monitor and manage major changes;</li> <li>• Reviews the quality of HSCN partners relations from business, commercial and technical perspectives; and</li> <li>• Demand management.</li> </ul>
<b>Operational Level</b>	<b>Service Management</b>	<ul style="list-style-type: none"> <li>• Ensure all delivered services comply with relevant Service Management policies and standards;</li> <li>• To oversee the coordination of service delivery across all suppliers;</li> <li>• To identify and action areas for improvement; and</li> <li>• To monitor service performance and conduct formal service reviews with contracted service providers.</li> </ul>
	<b>Security and Information Assurance</b>	<ul style="list-style-type: none"> <li>• Ensure all delivered services comply with relevant Information Security / Assurance policies and standards; and</li> <li>• Oversee the Information Assurance governance strategy.</li> </ul>

Each area will:

- Have an agreed set of forums, which bring together appropriate stakeholders and provide focus around specific terms of reference;
- Be responsible for assessing and making decisions within the respective terms of reference, and for resolving any disagreements or other issues that arise; and
- Be able to escalate to the level above it, as indicated in the table above.

## 4.2 Commercial Model

### 4.2.1 Funding Model

The HSCN programme aims to create a vibrant telecoms marketplace for organisations delivering health and social care. To do this the HSCN funding arrangements are predicated on supporting consumer choice in a multi supplier and multi procurement channel environment. HSCN Consumers will be empowered to procure and fund connectivity services direct from HSCN CN-SP's.

The flows are therefore designed to enable HSCN Consumers to fund their access connectivity services directly, connecting to HSCN Authority-funded national services, as follows:

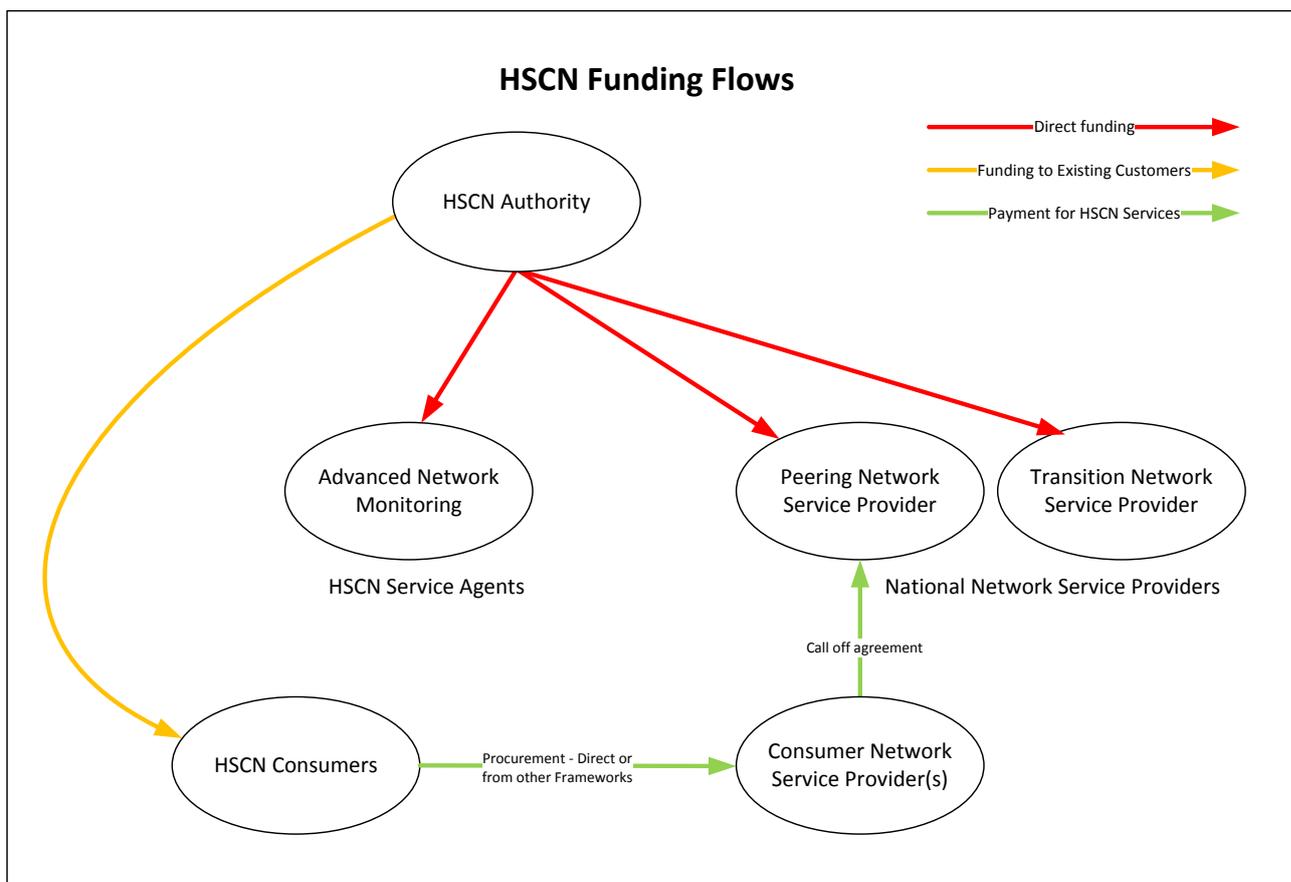
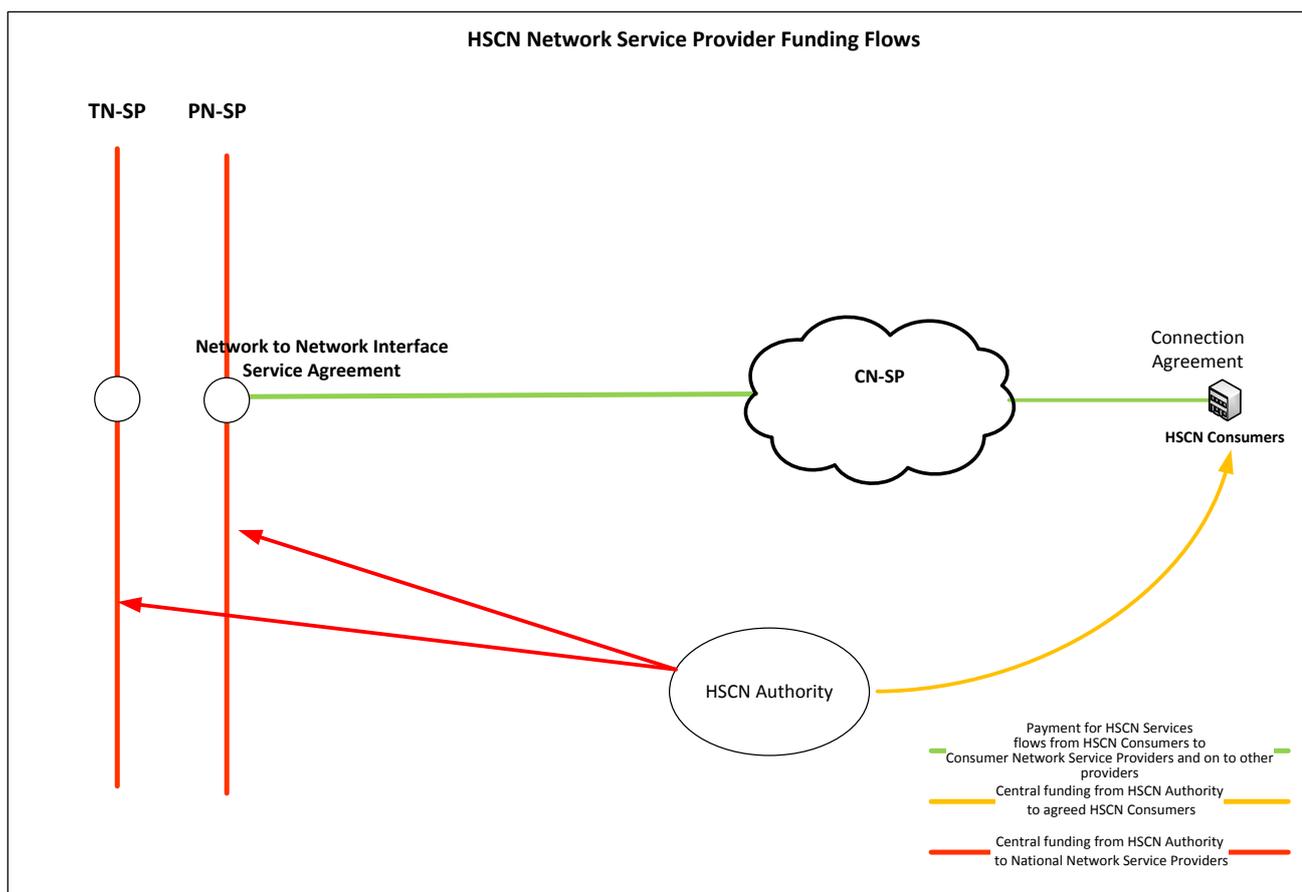


Figure 4: HSCN Funding Flows



**Figure 5: HSCN Network Service Provider Funding Flows**

#### 4.2.1.1 Consumer Network Service Providers

CN-SPs will compete for business in the HSCN marketplace by offering competitively priced HSCN network services. CN-SPs can also differentiate offerings, varying their services by:

- Alternative service wraps, and
- Integration with other products and services they offer.

HSCN Consumers will be empowered to procure HSCN connectivity services directly from CN-SPs.

#### Funded Consumers

NHS consumers of HSCN services that currently receive funded N3 services will be entitled to receive central funding. This will be to a level that allows them to obtain equivalent network services they have funded now, in the first year at the same funding level and then reducing to 50% of that within three years to reflect the anticipated cost reductions of HSCN over N3. However they will now be responsible for directly contracting with their chosen CN-SP. This will give HSCN Consumers the opportunity to individually tailor the services they require to meet their actual needs by spending additional money if necessary, as they do today. The service providers will be responsible for the delivery of the service to the contracting organisation.

#### Other Consumers

Other Consumers, including private organisations and central & local government bodies, will not receive central funding for their service, but will also be able to procure HSCN services via CN-SPs.

CN-SPs will sub-contract as necessary with other third parties for services and act as the prime supplier for the HSCN Consumer.

CN-SPs will pay the PN-SP for connectivity services in order to route their HSCN traffic to other CN-SPs.

Note that all CN-SPs will stand up their own services at their own cost; recouping revenue by selling services to HSCN Consumers.

#### **4.2.1.2 National Network Service Providers**

The National Network Service Providers will have direct contracts with the HSCN Authority.

##### **Transition Network Service Provider**

The TN-SP will be directly contracted and funded by the HSCN Authority. The contract will be set for 3 initial years with an option for a further one year extension.

##### **Peering Exchange Network Service Provider**

As well as a contract with the HSCN Authority, the PN-SP will also have service contracts with all CN-SPs who are connected to the Peering Exchange Network. The CN-SPs will buy service from the PN-SP via a framework agreement that will provide a transparent cost of service. The framework will cover both CN-SP to PN-SP pricing and pricing for hosting CN-SP equipment.

The set-up charges for the PN-SP will be paid by the HSCN Authority. The net operational charges, being those over and above the charges paid to the PN-SP by CN-SPs, will be paid for by the HSCN Authority.

### 4.2.2 Contracting Model

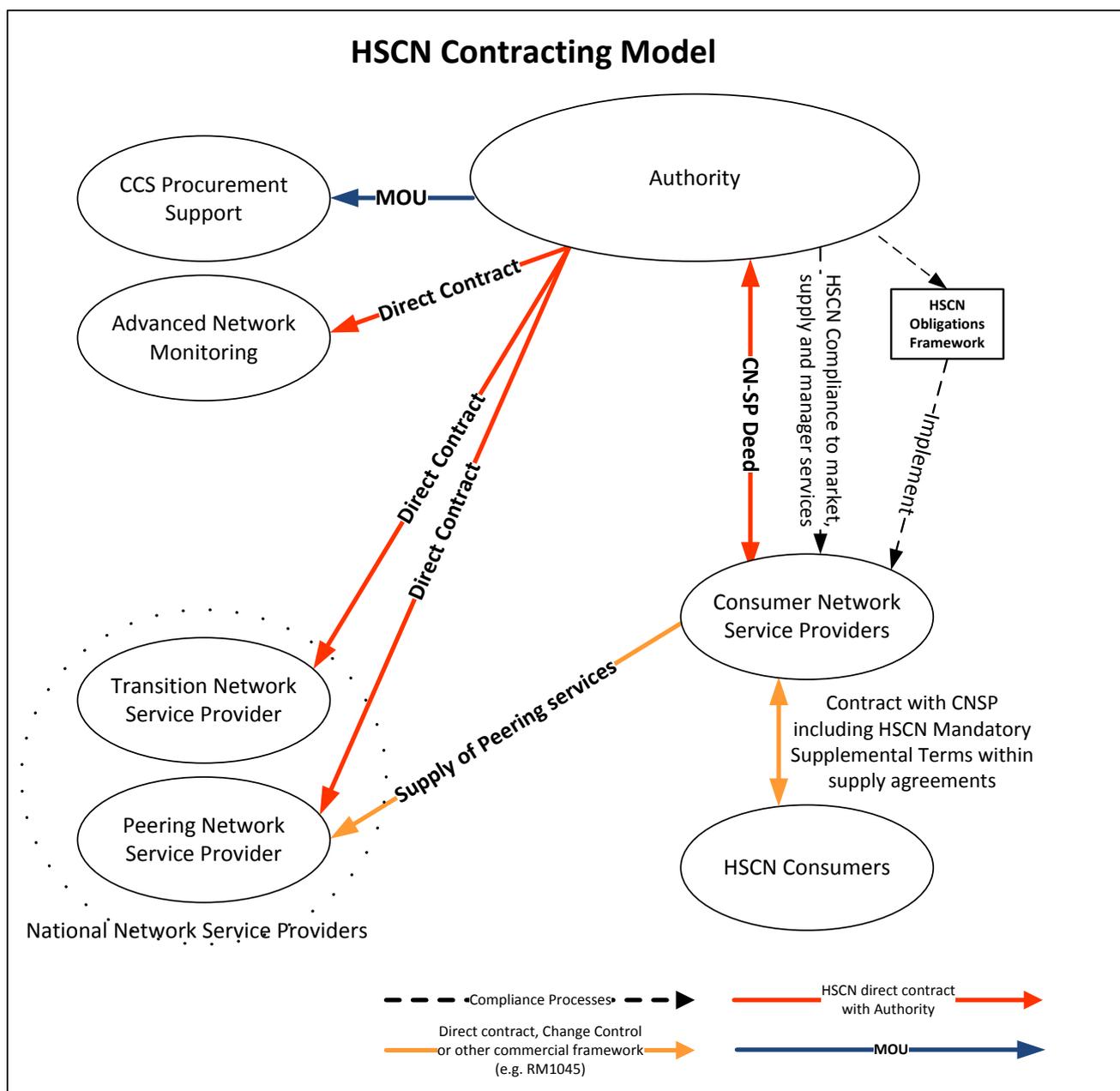
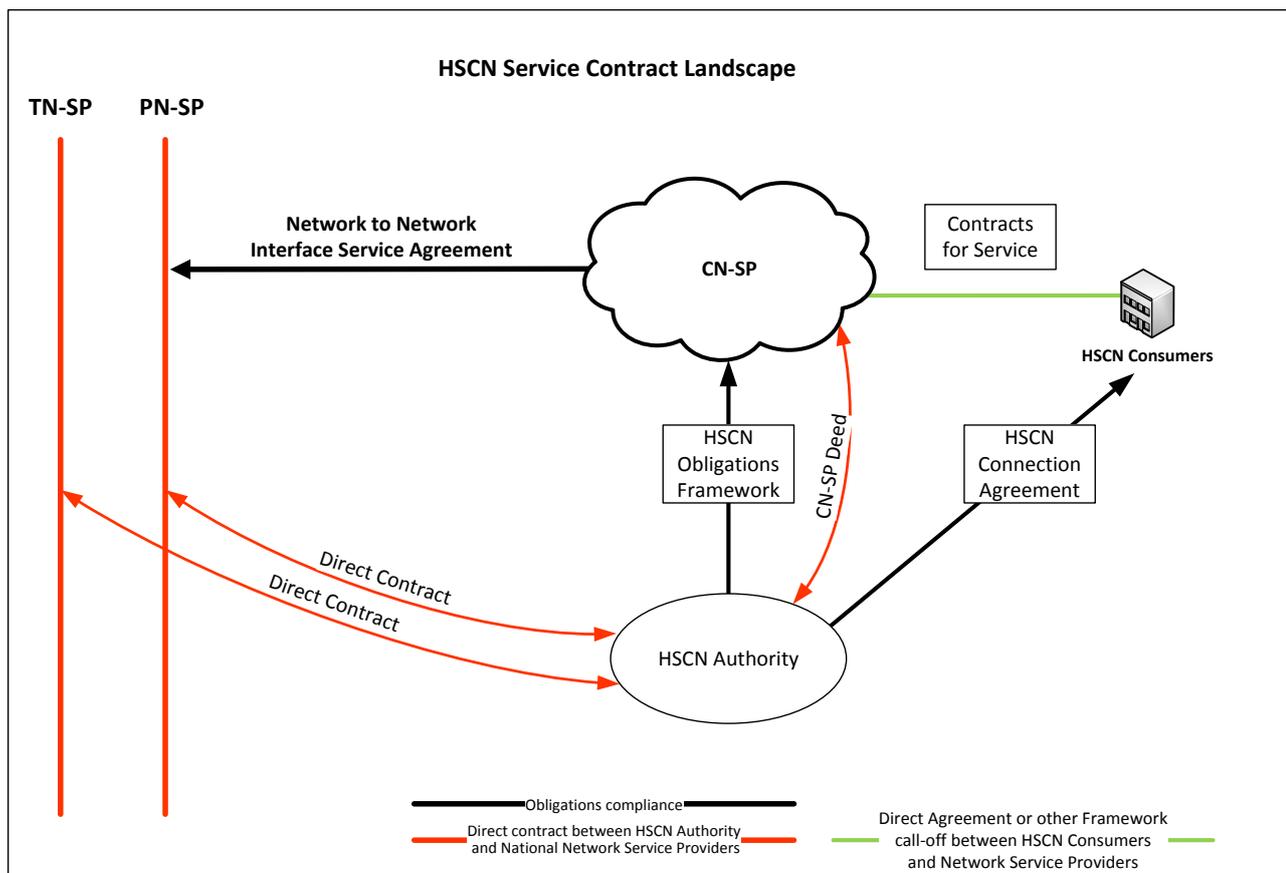


Figure 6: HSCN Contracting Model



**Figure 7: HSCN Contracting Flows**

#### 4.2.2.1 HSCN Authority Contracts

HSCN will operate with centrally contracted services between the HSCN Authority and HSCN Service Agents and National Network Service Providers.

In addition, the HSCN Authority and each CN-SP will sign a CN-SP Deed, which forms a legally binding agreement between the parties. The purpose of the CN-SP Deed is to enable the HSCN Authority to monitor CN-SP service provision and to initiate appropriate remedial activity if required. It does not replace the contractual relationship between a CN-SP and the HSCN Consumer or any contractual relationship between CN-SPs required to deliver HSCN services to an HSCN Customer.

The CN-SP Deed can be found at <https://www.digital.nhs.uk/health-social-care-network/connectivity-suppliers>.

#### 4.2.2.2 HSCN Consumer Contracts

Delivery of HSCN Services to HSCN Consumers will be locally contracted between a Consumer and a CN-SP.

All CN-SP services will be covered by the HSCN Obligations, by inclusion of the HSCN Mandatory Supplemental Terms in the Consumer Contract.

HSCN Consumer Contracts will include a condition that CN-SPs can only supply them with HSCN services if they are HSCN compliant and that it has not been “revoked”. This condition will also apply to renewal/extension of consumer contracts.

#### 4.2.2.3 HSCN Obligations Framework

HSCN shall operate in accordance with an HSCN Obligations Framework, which principally covers a set of HSCN Obligations that include adherence to Policies and Standards for:

- Operations and Governance – Behavioural, Commercial;
- Technical and Security – Network controls, monitoring and Security controls; and
- Service – Service management, Testing and Assurance.

<b>HSCN Obligations</b>	<ul style="list-style-type: none"> <li>• Output based statements but with agreed measurable statements where necessary</li> <li>• A set of HSCN Obligations that encompass how HSCN will operate end to end</li> <li>• Details which specific obligations apply to specific providers i.e. not all obligations will apply across the board</li> <li>• Will be written to include an obligation that Policies and Standards must be met/delivered and that HSCN Guidance will be used for implementation details</li> </ul>
<b>HSCN Policies</b>	<ul style="list-style-type: none"> <li>• DH/NHS Digital policy on how HSCN interoperates and/or technical policy that affects how the network works</li> <li>• The set of Policies which apply to HSCN set by HSCN Authority</li> <li>• Flexible – can change but will be infrequent and only when major changes are required – would be under change control depending on contract and what is included</li> </ul>
<b>HSCN Standards</b>	<ul style="list-style-type: none"> <li>• Industry agreed standards expected to be adopted by suppliers where appropriate</li> <li>• Enforceable by contract measures, compliance and/or audit</li> <li>• Which Standards apply to HSCN set by HSCN Authority</li> <li>• Flexible – can change but will be infrequent and only when major changes are required – would be under change control depending on contract and what is included</li> </ul>
<b>HSCN Guidance</b>	<ul style="list-style-type: none"> <li>• Detailed implementation documentation – the detail behind policies</li> <li>• Written and supplied by all organisations within HSCN operating model</li> <li>• Assured by HSCN Authority</li> <li>• Flexible – can change and will be for HSCN Consumers and their suppliers to instigate change control depending on individual contract</li> <li>• Open document under common licence</li> </ul>

For more information on the Obligations, please refer to the CN-SP Obligations Framework (version 4.0) published on the HSCN Website (<https://digital.nhs.uk/health-social-care-network/connectivity-suppliers>).

#### 4.2.2.4 HSCN Authority direct contracts

In order to ensure an integrated and coherent operation across the multiple HSCN Suppliers, the following service providers will operate in accordance with the relevant operational obligations from the HSCN Obligations Framework, which will be enacted through their direct contracts with the HSCN Authority. These relevant operational obligations have been included in the centrally held contracts.

- Transition Network Service Provider;
- Peering Exchange Network Service Provider; and
- Advanced Network Monitoring Service Agent.

The above services will demonstrate compliance with their requirements via the assurance and audit review of delivery conducted by the HSCN Authority.

## 4.2.3 HSCN Compliance Process

### 4.2.3.1 Initial Compliance

The HSCN Obligations Framework will set the minimum compliance levels that HSCN CN-SPs must meet and how HSCN Compliance will be demonstrated.

The compliance process will undertake an assessment of a particular supplier so that the services they provide are assured to meet the relevant HSCN Obligations. Therefore, note that this compliance is to enable the supplier to become a CN-SP. This is not to assure compliance for a particular HSCN Consumer contracted service.

HSCN Suppliers will need to produce the relevant evidence that they meet the obligations. The process and required evidence is detailed in the HSCN Compliance Operating Model published on the HSCN Website (<https://www.digital.nhs.uk/health-social-care-network/connectivity-suppliers>).

The Compliance model is made up of 3 core stages:

- **Stage 1 (Pre-market):** The relevant obligations which must be met before a Supplier can market/sell HSCN-badged services.
- **Stage 2 (Pre-live):** The relevant obligations which must be met before a Supplier can begin supplying services to Consumers.
- **Stage 3 (Post-live):** The relevant obligations which can only be proven by Supplier performance once the Supplier is supplying HSCN services. As part of Stage 3 Compliance, there will be regular assessment of Supplier performance and adherence to the HSCN Obligations Framework.
- 

Through the process, Suppliers will need to produce the relevant evidence that they meet the obligations. This could be documentation, design, relevant external compliance or audit review of operations.

The HSCN Authority will make the final decision as to whether or not the Supplier achieves HSCN Compliance.

In order to achieve Stage 1 HSCN Compliance, the HSCN Authority and the CN-SP will be required to sign the CN-SP Deed. The HSCN Authority reserves the right to audit a Supplier at any time based upon report findings and or escalations from other parties.

The HSCN Authority will be responsible for managing CN-SPs that breach their obligations in accordance with the procedures set out in the Deed.

#### 4.2.3.2 HSCN Compliance Renewal

Once a CN-SP has become HSCN Compliant, they will be eligible to supply HSCN Services to HSCN Consumers.

There will be an annual renewal cycle of HSCN Compliance. The details of this can be found in the HSCN Compliance Operating Model which can be found at <https://www.digital.nhs.uk/health-social-care-network/connectivity-suppliers>.

#### 4.2.3.3 HSCN Compliance Revocation

Supplier non-performance of services may result on the HSCN Authority putting a stop on a CN-SP's sales or a CN-SP's compliance being "revoked". Suspension will permit the supplier to continue service to existing HSCN Consumers; but will prevent further sales until the HSCN Authority is satisfied that the non-performance has been rectified. Revocation will suspend future sales and will initiate a set of activity to transition all existing HSCN connectivity contracts held by that CN-SP.

## 4.3 HSCN marketplace

This section considers:

- HSCN Consumer support leading up to a procurement;
- Procurement routes; and
- On-going information about services that are available.

### 4.3.1 Procurement support

HSCN Consumers will be able to access support from the HSCN Authority to assist them through the procurement of services. The HSCN Authority will work with Crown Commercial Services to provide expert support in this area.

Support services will include:

- General advice about network services for HSCN Consumers with limited technical knowledge, e.g. descriptions of services, procurement guides, migration guides;
- Information into predicted future trends, to help HSCN Consumers choose services suitable for current and future needs;
- Information about funding available, for qualifying Health organisations;
- Sign posting to design services, for HSCN Consumers who need to contract for more detailed design advice;
- Sign posting to the various procurement routes, including online resources for those routes; and
- Sign posting to HSCN Compliant supplier details.

### 4.3.2 Procurement routes

HSCN Consumers will be able to procure HSCN services via HSCN Compliant suppliers using a variety of routes.

- **Aggregated procurements**

The main route is a series of centrally managed procurements for Aggregated Deployments to support timely migration to HSCN connectivity.

The HSCN Programme will manage this process on behalf of organisations, especially those with existing legacy connections.

These procurements will be delivered at a regional level to encourage delivery of local joined up services.

- **Self-Serve procurements**

Organisations will be able design and manage the procurement of HSCN compliant network services themselves.

This can be done in collaboration with the organisations they interact with most frequently in order to deliver health and social care services or as an individual organisation.

These can be procured via a number of routes:

- RM1045: existing Crown Commercial Services Network Services Framework – suppliers on this framework may sell network services to public sector HSCN Consumers if they are HSCN Compliant;
- OJEU;
- Agreement between existing suppliers and HSCN Consumer organisations to change existing arrangements. Organisations or communities with existing networks will be able to modify their existing contracts to include HSCN Mandatory Supplemental Terms. This option will only be possible if the current supplier is HSCN Compliant;
- Directly from CN-SPs, for example third party commercial organisations may use this route for connection to HSCN; and
- Other Frameworks.

The various CN-SPs will undertake activities such as product development and management; and will determine what products and services they will sell to HSCN Consumers. These will be marketed via various routes appropriate to how they may be procured; for example, the CN-SP may offer them as standard services on RM1045 digital marketplace or via their own websites for direct awards.

## 4.4 In-life Operations

The HSCN Compliance process specifies the standards needed before a supplier can offer HSCN services. Suppliers are also obliged to working with HSCN in order to deliver integrated, secure services to their HSCN Consumers.

### 4.4.1 Deployment of services

The approach documented below (to be further developed in detailed guidance which will be published on the HSCN Website) will be followed for all deployments, irrespective of procurement route:

1. The Consumer procures a service.
2. The Consumer and CN-SP enter into an agreement including the HSCN Mandatory Supplemental Terms:
3. The CN-SP commences technical activities.
4. The Consumer completes a Connection Agreement:
  - a. The Connection Agreement is lodged with the HSCN Authority.
  - b. The HSCN Authority approves the Connection Agreement.
5. The CN-SP completes technical activities and commences service introduction activities.
6. The CN-SP confirms with the HSCN Authority that the Connection Agreement has been approved.
7. The Service goes live:
  - a. The CN-SP informs the HSCN Authority Service Co-ordinator function that the service is live.
  - b. The Service Co-ordinator function informs the Data Security Centre team that the service is live.

## 4.4.2 Service Assurance

The CN-SP has to demonstrate that the network solution provided to the Consumer is correctly configured and allows the appropriate routing to the agreed HSCN end points and supplies the agreed capacity to the HSCN Consumer.

CN-SPs will:

- Work with the Consumer to produce an agreed test approach, test plan and test scripts.
- The test plan as a minimum will contain the following tests:
  - Send from the Consumer's location an http request to an agreed web page using the CN-SP internet gateway.
  - Send from the Consumer's location an http request to an agreed web page hosted by the CN-SP service provider.
  - Send from the Consumer's location an http request to an agreed web page hosted by NHS Digital and with an HSCN private address.
- Carry out specific Consumer testing as part of the deployment assurance as agreed in the test plan.
- Work with the Consumer and technical stakeholders to resolve test failures.

## 4.4.3 Service Integration and Service Management

Every Network Service Provider and Service Agent is fully accountable and responsible for the service management and delivery of their own services, using processes and techniques as described in best management practice such as ITIL® or equivalent.

Every CN-SP will also be required under the HSCN Obligations Framework to work with other NSPs and the HSCN Authority Service Co-ordinator function in delivery of the overall HSCN service. In addition, the CN-SP will sign a Deed of Undertaking with the HSCN Authority, which will provide the Authority with legal remedies to address critical failures that cannot be addressed by one consumer contract.

CN-SPs are responsible for providing service management processes and functions and day to day interactions with their Consumers as described within the HSCN Obligations Framework (please refer to the service management section and CN-SP Service Management Addendum for further information).

### 4.4.3.1 Service Management standards

The ISO/IEC 20000 standard for IT service management, ISO 9001 for quality management and the ISO/IEC 22301 standard for business continuity management systems provide an independent assessment of an organisations capability in these areas.

CN-SPs shall, at an organisation level, be accredited to the ISO/IEC 20000, ISO9001 and ISO/IEC 22301 standards, or shall operate in a manner that is equivalent to the requirements of those standards and shall apply those standards to the provision of HSCN Services.

#### 4.4.3.2 Service management tooling approach

HSCN will not mandate adoption of particular tools for service management; every Network Service Provider is free to make their own choice.

## 4.5 Cyber Security

In order to reduce the cyber threat to the HSCN environment, a layered security approach will be taken. Each Supplier shall be responsible for the security of their service to their network boundaries, as required by their contract, the HSCN Obligations Framework and the HSCN Consumer requirements.

The oversight of security of the network will be under the remit of the NHS Digital Data Security Centre.

### 4.5.1 Network Analytics Service

The NHS Digital Data Security Centre will incorporate a Network Analytics Service (NAS) to understand cyber threats to HSCN and the wider Health and Social care system.

The NAS will support these functions:

- Centralised collection of network “telemetry” data from the environment.
- Filtering, storage and automated processing of the “telemetry” data to identify potentially malicious traffic.
- Investigation of identified traffic to validate if it is malicious, and which organisation(s) is (is) affected by it.
- Reporting of the incident to the appropriate organisation, and support issue resolution.
- Creation and maintenance of a “playbook” that details scenarios that may occur (or have occurred), and the course of action to resolve the incident.
- Provision of a subset of telemetry data to the NHS Digital service integration toolset for the monitoring of overall network health.
- Work with other HSCN capabilities such as ANM and the HSCN Authority Service Co-ordinator function.

To support the collection of the telemetry data CN-SP’s will be responsible for providing the following data sets upon the commencement of the HSCN service:

- The capture IPFix data from the Customer Premise Equipment that is used by HSCN Consumer organisations to access HSCN network services.
- Delivery of IPFix data to the NAS.
- DNS lookup logs to NAS.
- Maintain an asset register of HSCN infrastructure used to deliver HSCN network services.

For a description of monitoring locations and data flows please see the HSCN Solution Overview.

The HSCN Authority will have the ability to control access to HSCN services through access control lists that CN-SPs will be expected to implement.

- Ability to centrally deploy Access Control Lists that map to all Customer Premises Equipment as directed by the NHS Digital Data Security Centre team.

- Ability to deploy customised Access Control Lists that map to an individual Customer Premises Equipment as directed by the NHS Digital Data Security Centre team.
- Organisations wishing to be connected to HSCN must agree to a Connection Agreement which will document the policies and procedures they must follow to be allowed to use HSCN services.

### 4.5.2 Advanced Network Monitoring (ANM)

HSCN CN-SPs will direct all Internet bound traffic towards the Advanced Network Monitoring Service. Outbound and inbound HTTP Internet traffic will be subjected to the ANM processes. The ANM will be a cloud service provided by an ANM Service Agent (ANMSA) directly contracted by the HSCN Authority.

ANM includes services to block known malicious activity as follows:

- Malware;
- Zero day malware;
- Worms;
- Virus;
- IP Addresses and URLs;
- botnet traffic;
- Command and control communications; and
- Attempts or potential attempts to infiltrate data.

The ANM shall provide logging and reporting functions; with events and reports to be specified by the HSCN Authority.

## 4.6 HSCN Technology Services

In order for HSCN to be a multiple supplier network, while at the same time providing a consistent delivery of service, initially the TN-SP will supply three capabilities:

### 4.6.1 DNS

- Administration of DNS change requests from the HSCN Authority in accordance with HSCN DNS Policy in association with specific SLAs.
- Provide high availability Authoritative DNS services.
- Operate a domain name registry for the nhs.uk domain, registering domain names on behalf of the NHS and the HSCN Authority in accordance with the NHS Domain Name Policy and relevant industry internet standards.
- The domain name registry shall contain a list on a Customer by Customer basis of all registered nhs.uk domain names.

## 4.6.2 IP Address Management

- Allocate IP addresses for use on the Transition Network and manage a registry of IP addresses for customers connected to the Transition Network in compliance with the NHS Digital's IP Addressing Policy.
- Co-ordinate with the HSCN Authority IPAM function and CN-SPs when migrating services to HSCN on the continued use of IP addresses or the return of unused IP addresses.

## 4.6.3 Network Time Service

Operate an NHS IP Time Server on behalf of the HSCN Authority.

## 4.7 Reporting

NSPs and Service Agents will provide normal financial and service level reporting to the HSCN Authority as per the agreed contracts.

CN-SPs will provide reporting to their Consumers as per their respective contracts and shall also provide additional reporting to the HSCN Authority including:

- Operational information – to support service management processes, enable multi-supplier investigations and ensure swift resolution to issues.
- Network monitoring data – to support security monitoring and protection of HSCN.
- Services and estate data – to enable an accurate view of the estate to be maintained and support the tracking of migration activities.
- Cost summaries – to support financial and benefits reporting.
- Service level performance summaries – to monitor performance; allow issues to be identified and performance to be published.
- Consumer feedback data – to support marketplace improvements.

Details of CN-SP reporting requirements, including data topics and frequencies, is included within the HSCN Obligations Framework and supporting Service Management Addendum.