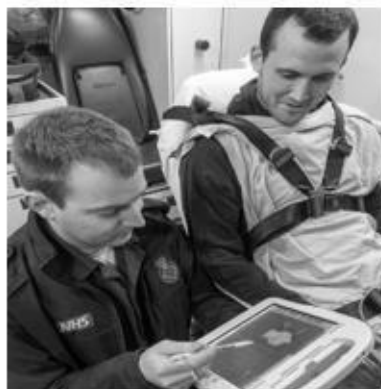




conneQt® Smart Card Browser Extension Managed Service - Service Definition

G-Cloud 15
Lot 2b conneQt® Smart Card Browser
Extension



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1 Introduction

Quicksilva is an independent UK-based supplier of consultancy, technical services and managed service solutions to the public and private healthcare sectors. Quicksilva works in a number of areas of NHS Digital including NHS Spine Integration, Compliance and Testing services.

For more information about Quicksilva, please refer to our Corporate C.V. at Appendix A of this document or our website, www.qxlva.com.

2 Service Overview

conneQt® Smartcard Browser Extension enables users to authenticate via the NHS existing two-factor authentication solution (NHS Smartcards), across your IT estate, to provide ease of access web applications for your users. In the process conneQt® Smartcard Browser Extension eliminates traditional usernames and passwords, replacing these with a single and secure click-through.

conneQt® Smartcard Browser Extension broadens your existing usage of NHS Smartcards, which provide a secure and robust method of authentication. In doing so, this enterprise level service provides the security assurance of two-factor authentication, as well as allowing user details (e.g. id, name and roles) retrieved from the NHS Spine. Upon authentication, your users will be able to view a list of available applications and will be able to access these with their predefined role levels.

2.1 What does conneQt® Smartcard Browser Extension look like?

The conneQt® Smartcard Browser Extension Managed Service comprises of a cloud-based server and a client component. The client component is a lightweight Windows desktop application that utilises the NHS Digital Identity Agent. The client connects to the conneQt® Smartcard Browser Extension server instance, which is responsible for determining which web applications the user has access to, and instantly returns the list to the user via the client. When a user elects to access a web application a security token is issued from the server, this is presented to the web application which can use conneQt® Smartcard Browser Extension to resolve this token to an NHS Spine user identity, thus ensuring only authorised users gain access.

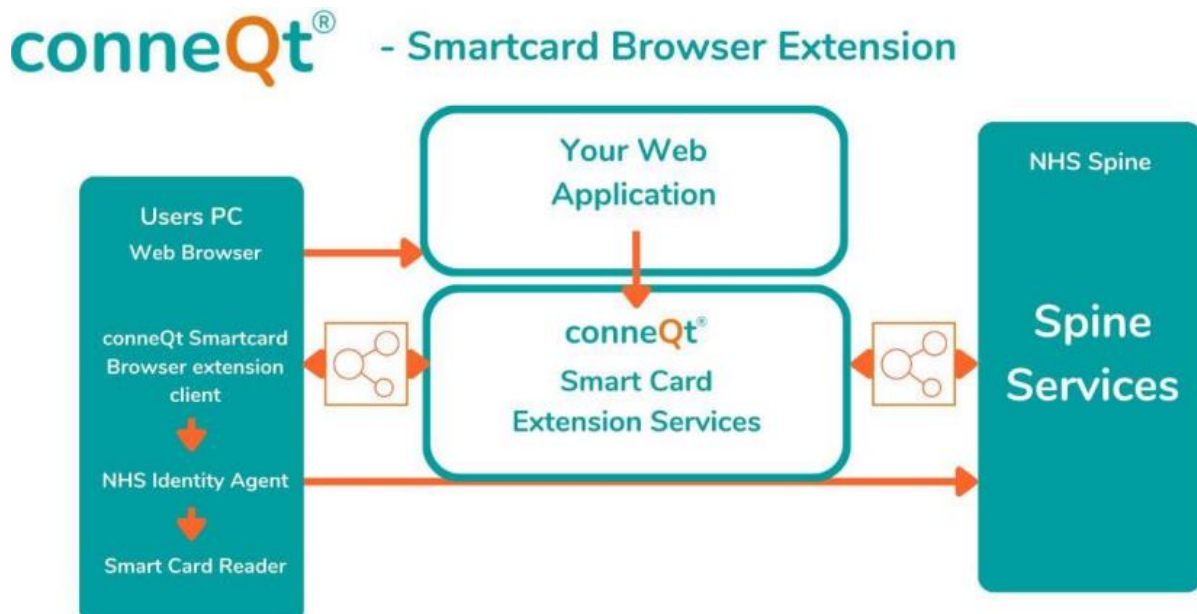


Figure 1 – conneQt® Smartcard Browser Extension

2.2 Why choose conneQt® Smartcard Browser Extension?

- **Browser agnostic** - with no need to add plugins or extensions;
- **Domain agnostic** – no need to host your application is a specific NHS domain;
- **Enhanced Security** - more secure model than traditional usernames and passwords;
- **Rapid On-Boarding** - up and running in weeks not months;
- **Full Audit Trail** - records which users have accessed web applications, and when;
- **Low Cost** - no infrastructure investment;
- **Flexible Pricing** - SaaS model for pay-as-you-go charging;
- **Fully Managed Service** - monitored 24x7;
- **Availability SLA** - over 99%; and
- **24x7 Live Issue Logging and reporting** - with our Customer Web Portal the Qure®.

3 Information Assurance

3.1 ISO Accreditation

Quicksilva's Information Security Management System which applies to all aspects of the G-Cloud Services is accredited to ISO27001.

Quicksilva's Quality Management System which applies to all aspects of the G-Cloud Services is accredited to ISO9001.

3.2 Other Relevant Standards

The Quicksilva also follow these compliance standards:

- NHS Digital Connection Agreement;
- NHS Data Security and Protection Toolkit; and
- Cyber Essentials Plus.

4 Backup, Restore and Disaster Recovery

4.1 Backup and Restore

conneQt® Smartcard Browser Extension is hosted on a highly resilient private cloud platform. This enables automatic transfer of the application from one hardware platform to another should the underlying hardware develop a fault and 'point-in-time' recovery should a primary server be disabled due to a catastrophic error.

This platform utilises a high-speed storage solution with local resilience and hourly snapshots being taken over to a separate data centre. Server images are stored on replicated storage. Any patches or updates to Virtual Machines are automatically saved to the storage platform.

The data for the service is held on a dedicated managed backup platform, which is hosted securely in a geographically remote location. Nightly full backups of the database are taken and stored on a managed platform.

The service is fully monitored for performance and availability using SNMP traps and notifications. If system performance breaches pre-set thresholds or any component becomes unavailable alerts are raised to Quicksilva's Service Management function, see Section 6 below for further details.

4.2 Disaster Recovery

Quicksilva have a detailed Business Continuity Plan, to allow for the restoration of any part of our business in the event of a disaster, which is tested to a regular schedule throughout the year.

We endeavour to avoid any minor or major system failures through active monitoring and management. This includes monitoring for availability and performance at all levels in the technology stack from hardware through to the operating system and in turn, the applications that are being run. This allows us to identify and address many issues before they result in any kind of system failure.

Our Services Team monitors numerous HSCN and internet hosted systems on a 24x7 basis. Our Operations centre is ISO 27001 accredited and is equipped with a backup power generator and HSCN connection. In the event of loss of our Operations centre we have arrangements in place to allow us to relocate to an alternative hosting facility from where we can resume monitoring and management. From a resource perspective we operate a matrix which ensures we are never left short of the right skills because of leave, or absence.

At a system level we ensure business continuity through a variety of mechanisms. Where possible our systems are hosted on a private cloud which insulates the system from a fault in any underlying hardware. If a virtual machine is lost then it can be rapidly redeployed. Where high availability and scalability are required the solutions we employ will be clustered such that load on the service is deployed across multiple nodes, allowing for failure in one node without impact to the service. This includes services such as firewalls and routers.

At a database level we typically employ an active-passive configuration to ensure minimal downtime in the event of an outage. All systems are also backed up to an offsite location daily. An important phase of any Quicksilva project is non-functional or 'Ready for Operation' testing which ensures the above measures are in place and have been thoroughly tested.

Our hosting partner has three state-of-the-art Tier-3 UK data centres which provide highly secure, geographically dispersed computing environments with 24 hour A/C power; UPS with emergency generator backup; computer monitored climate control for heating, ventilation and air conditioning (HVAC); fire detection and suppression, and multi-layer security. Data centres have been accredited with PCI DSS for Physical Hosting Services and are ISO27001, ISO9001 and Cyber Essentials Plus compliant. Dual 100 MB HSCN connections provide resilience in terms of HSCN connectivity.

5 On-Boarding and Off-Boarding

On-Boarding and Off-Boarding is supported by Quicksilva's Services Team for which additional fees will apply on a time and materials basis. These services are offered under Lots 1 to 3 (Cloud Support) of the G-Cloud 14 under a separate Call-Off contract however an indication of the services available are set out below.

5.1 On-Boarding

Connection to conneQt® Smartcard Browser Extension requires establishment of a secure outbound connection from a customer's system over the HSCN network to Quicksilva's hosted service. This connection could be client server certificate authenticate or over a site-to-site VPN.

Quicksilva's Services Team will guide you through all steps of the On-Boarding process including:

- HSCN access (enabling connectivity from HSCN to the managed service and on to the Spine);
- Service commissioning;
- Support to integrate your web applications with conneQt® Smartcard Browser Extension; and
- Access to our Spine-in-a-Box® test environment, along with test smartcards.



Quicksilva's robust and versatile external test environment is Spine-in-a-Box®. This facility emulates the NHS Spine enabling full functional and non-functional testing to be performed prior to go live.

Please refer to the Pricing Document for further information.

5.2 Off-Boarding

Provided that adequate notice has been given in accordance with Section 8 below, Customers are able to terminate the conneQt® Smartcard Browser Extension Managed Service simply and quickly, with no mandatory 'Off-Boarding' activities for the basic service. Service Charges will be incurred to the end of the month following the service termination date. Bespoke service transitioning activities where applicable will be charged at Quicksilva's SFIA Day Rate Card.

5.3 Data Extraction/Service Migration

Where required, Quicksilva can offer the extraction of audit logs which may be required for Customer auditing purposes, by way of a simple export to a designated Customer database. This service is offered under Quicksilva's G-Cloud 14 Lots 1 to 3 entry on a time and materials basis and is subject to an additional Call- Off Contract.

6 Service Management

Using best of breed support tools, its own monitoring solution and an in-house virtual test environment with its own HSCN connection, conneQt® Smartcard Browser Extension is offered as a fully managed service with a choice of two support models.

6.1 Service Components

Standard Support Service

Quicksilva's qualified and authorised Support Team, are on hand to deal with telephone contacts:

09:00 - 17.00 Monday to Friday;

(Excluding UK Bank Holidays, Christmas Eve and New Year's Eve);

Enhanced support hours are available by arrangement.

24 x 7 monitoring and reporting with our bespoke monitoring solution across the following Service Levels:

- Availability;
- Response Times;
- Issue Escalation.



Qure®

Online Incident Management System - 24 x 7 Issue Management.

Quicksilver's Qure® web-portal provides a central repository for incident management 24x7 as standard, allowing shared access to details of all incidents logged, in progress, resolved and escalated, as well as providing a mechanism for raising, viewing and updating change requests. For more information about the Qure® and our bespoke monitoring solution, please refer to Appendix B.

6.2 Service Constraints

6.2.1 Elasticity/Burst Resources

The conneQt® Smartcard Browser Extension Managed Service offers flexibility for user numbers to "burst" through the customers' pre-agreed maximum user allocation threshold. The service resources will automatically expand in response to the application workload without the need for customers to commission further services. However, service levels described within this document specifically apply to the conneQt® Smartcard Browser Extension Managed Service.

6.2.2 Minimum Operating Requirements

The Customer will need to establish a secure outbound connection from their system over the HSCN network to a Quicksilver hosted instance of the conneQt® Smartcard Browser Extension Managed Service, details of which will be provided by Quicksilver to the Customer. This connection may be client server certificate authenticated and/or over a site-to-site VPN.

6.2.3 Maintenance

Maintenance work that Quicksilver undertake on the Managed Service ("Planned Maintenance") will be restricted to one of the following maintenance windows:

Daily Maintenance	03:00GMT-05:00GMT Monday-Friday
Weekly Maintenance	Sunday 08:00GMT – Monday 08:00GMT

Notice of Planned Maintenance will be given to Customer within 5 days of the Planned Maintenance Period wherever possible. Planned Maintenance will be excluded from the Availability calculation and will not incur Service Credits.

6.3 Service Levels

6.3.1 Availability

The Availability of the conneQt® Smartcard Browser Extension Managed Service connecting to the NHS Spine is set at 95.5%. It may be possible to agree extended availability coverage at further cost. This figure is measured and reported over fixed calendar quarters:

- January – March
- April – June
- July – September
- October – December

(the 'Reporting Periods')

The conneQt® Smartcard Browser Extension Managed Service is dependent on a number of external systems. When establishing the Availability, several exceptions (such as outages of the Spine Security Broker or HSCN downtime) are not considered when calculating Service failure. In the event of any of these exceptions occurring, the conneQt® Smartcard Browser Extension Managed Service will be logged as

available and the outage time will not be considered when calculating the Availability. These exceptions can be found at clause 9 of the Terms and Conditions document that corresponds to this Service Description.

6.3.2 Priority Levels and Response Times

The following Priority Levels and Response Times will apply during the telephone support service hours:

Priority Level	Response Time
1 – Not Usable (The conneQt® Smartcard Browser Extension Managed Service is not usable for multiple end users)	15 minutes
2– Severe Limitation (The conneQt® Smartcard Browser Extension Managed Service is available but transactions appear 'slow' for most users)	1 working hour
3 – Slight Limitation (The conneQt® Smartcard Browser Extension Managed Service is generally available but unavailable for one or two End Users or is generally usable with moderate limitation)	8 working hours
Query	n/a

Priority Levels in all cases will be established initially by the Customer at the time the request is initiated. If Quicksilva disagrees with the Priority Level Quicksilva shall contact the Customer within 15 minutes to agree a revised Priority Level. In the event of a dispute in relation to Priority Levels, Quicksilva's decision shall be final.

6.3.3 Financial Recompense Model for Not Meeting Service Levels

The conneQt® Smartcard Browser Extension Managed Service is provided to meet the Service Levels and failure to achieve these will incur credits against future invoices issued by Quicksilva to the Customer (the "Service Credits"), which are calculated each Reporting Period.

Service breaks which can be attributed to Quicksilva (which does not include those caused by service exceptions at 6.3.1) will be calculated over the individual Reporting Period within which they occur and are used to report on Availability as against the Service Level. Unless otherwise agreed, a Service Credit will be applicable based on the following table:

% Availability	Service Credit
≥ 95.5 %	No Credit
94.5 % - 95.4 %	1 % of quarterly charges
93.5 % - 94.4 %	2 % of quarterly charges
≤ 93.4 %	3 % of quarterly charges

Service Credits will be calculated based on the quarterly changes paid by the Customer to Quicksilva in the Reporting Period when the conneQt® Smartcard Browser Extension Managed Service failed to meet the Service Level as described in the table above. On-Boarding Charges will be excluded from the service credit calculation. If a Customer believes it is owed a Service Credit, this must be notified to Quicksilva within thirty days of the date it accrues (i.e. when Availability is reported). Any credit claims made after this period will not be valid. Quicksilva will check and agree Customer's claims and if validated the Service Credit will be applied on the next invoice that Quicksilva issues to the Customer.

6.3.4 Service Management Reporting

Service Reports will be issued quarterly unless otherwise agreed. These reports include a graphical breakdown of Availability results and review any outstanding issues on an issue register.

We would also suggest that a formal Contract Review Meeting be held once a year to include representatives from Customer's and Quicksilva's management teams.

6.3.5 Issue Escalation

Quicksilva's Services Manager is dedicated to delivering a quality service which satisfies our customers. However, should any issue fail to be resolved to our Customer's complete satisfaction we want to hear about it. Quicksilva ensures that successive levels of escalation are available if either party is dissatisfied with the progress of service delivery or problem resolution. Upon Call-Off Agreement, Service Contacts on both Customer and Quicksilva sides will be agreed to ensure a smooth escalation route.

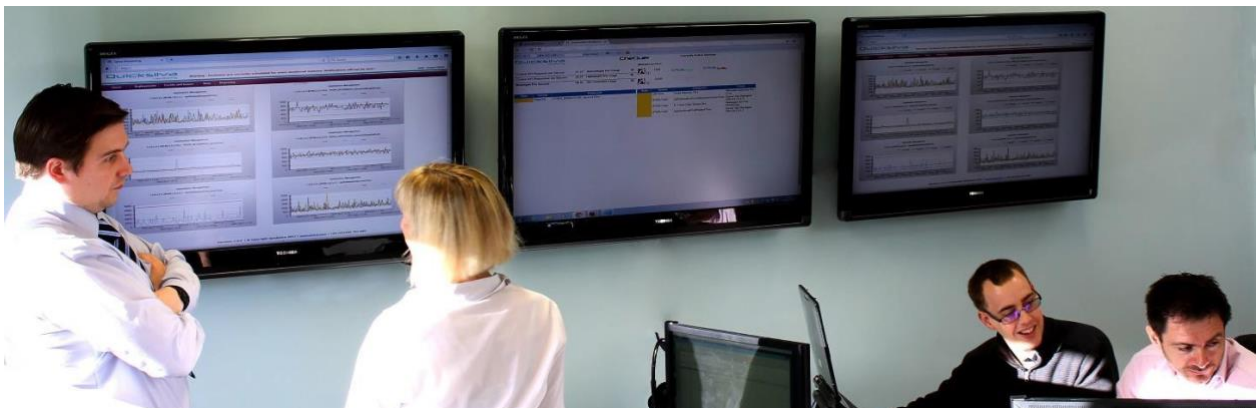


Figure 2 - Quicksilva's Services Team

7 Training

Quicksilva offers bespoke training tailored to Customer requirements at a location that best suits. We have a pleasant Development Centre close to the M4 and close to the railway network where we can host the training environment, or we can take the training to the client's location of choice.

Training workshops, end user sessions and their associated collateral can either be targeted at the needs of the client's trainers, i.e. 'train the trainer', or at the end users directly. In support of training activities, Quicksilva also offer documentation in the form of user manuals. For on-going knowledge refresh, Quicksilva can provide online or telephone support facilities.

If any technology refresh learning is required by the customer's IT support staff, we can draw on our experience of delivering knowledge transfer workshops as required. We would be happy to discuss and agree to provide whatever training intervention suited the Contracting Bodies' needs. This activity is offered as a Specialist Cloud Service under lot 3 of the G-Cloud 14 Framework and additional contracts and fees will apply.

8 Termination

Unless otherwise agreed between Quicksilva and the Customer, the Call-Off Agreement is subject to a minimum term of twelve (12) months, after which it shall automatically renew for a further consecutive twelve month period unless terminated by either party in writing, giving not less than three (3) months' notice, which must expire on the anniversary of the Call-Off Agreement.

9 Customer Responsibilities

To enable smooth Service Management, the Customer should ensure that at all times during Support Services Hours at least one of its employees is available with the authority to make decisions concerning the provision of the Services (including a person who can authorise Quicksilva to access Patient Identifiable Data).

The conneQt® Smartcard Browser Extension Managed Service is facilitated by a secure outbound connection from the Customer's system over the HSCN network. The Customer is responsible for all system components under its control, including their management and maintenance and for the costs of operation (for example, line rental and call charges).

Appendix A Quicksilver's Corporate CV



What we do

Software Solutions

Quicksilva is an independent UK- based supplier of consultancy, technical services and systems to the public and private sectors. We have a particular focus on the healthcare market, currently working in a number of areas of NHS Digital. These include

- NHS Spine Integration through our Spinal Tap® broker;
- Electronic Prescriptions Services (EPS);
- Patient Demographics and Summary Care (PDS, CP-IS and SCR)
- Integration of local Trust applications
- Choose and Book development (e-RS);
- NHS Spine Compliance and Testing services
- Transfer of Care e-Discharge solutions
- SharePoint portal and CRM development



Consultancy Services

Quicksilva Consultancy Services provide advice and guidance on strategy, solution and technical design where Customers want to implement a data or information sharing vision in support of service transformation. We have a broad range of business and technical consultancy capability including:

- ICT Strategy, Design and Development
- Strategic planning and Business Analysis
- Programme and Project Management
- Technical and Solutions Architecture Design
- NHS Spine and information Governance Compliance
- Information and Data Management



Delivery Services

Quicksilva's Service Delivery team provides a number of support and managed service options to our Customers ranging from:

- Spinal tap® Managed Service providing NHS Spine Integration
- Software Solutions Support
- Application Hosting and Management
- Spine-in-a-Box® testing and Development Environments
- 24x7 monitoring and alerts via N3/HSCN connectivity
- 1st, 2nd and 3rd line support using ITIL® v3 best practice



People and Values

We pride ourselves not only on the skills and experience of our people but also on their interpersonal abilities. Whomever Quicksilva offer to fulfil an assignment, our Customers can be sure that the individual was personally recruited by our Managing Director, whose standards apply across the company.

Founded in 1999 and based in Wiltshire, Quicksilva's success has been recognised by inclusion in The Sunday Times 2004 Tech Track 100 league table as well as being 2006 winner of the Growing Business Innovative Company award, the Wiltshire Business Best Business Culture award and 2016 eHI Award for Excellence.

In all our deliveries we stick to working to a set of simple and practical ideals based on developing a trusting and lasting relationship with our Customers:

- **Customer focused** – listen to what our Customers want, make them happy;
- **Professional** – integrity, accountability, pride in any job, transparent;
- **Innovative** – looking for smart ways to solve business problems;
- **Collaborative** – integrated team player (leadership or support);
- **Outcome focused** – shared targets, the finishing touches, successful.

Our commitment is that we will always propose the 'best person for the job' and where we feel that we are unable to deliver to the outcome expectations we will tell you. If we do not deliver value to our clients then we are not delivering sustainable value to our business.

Our people are equally at home in either a leadership or support role where they work as part of an integrated team focused on delivering to a shared outcome. We take pride in sharing our collective knowledge with others – we recognise that skill transfer is two way and that we will learn as much as we give away.



We have a wide range of in-house capability and where necessary we have access to additional capacity through our associate and trusted partner network.

Our Work Ethic – At Quicksilva, we have consistently demonstrated our ability to develop respectful relationships with client-side business or technical teams. We listen to our Customers and then work with them to design solutions that deliver optimum value based on balancing risk, cost and delivering quality outcomes to stakeholder groups. We understand national ICT infrastructure services and we will, wherever possible, exploit this investment for local benefit. Working as an integrated team ensures that we tap into the collective wisdom of the delivery team and get early agreement to the functionality needs of the solution.

Methodology

During the design, development and implementation phases we will invoke a number of tools, techniques or methodologies in support of collaborative working and consensual thinking that may include:

- MoSCoW Requirements and Prioritisation Analysis;
- Functional Analysis System Technique (FAST);
- Joint Application Development (JAD);
- SCRUM/Kanban Agile Development;
- Lean Processing and Development;
- Rapid Prototyping; and
- PRINCE2 Project Management.

Quicksilva recognises that in many cases there are budgetary constraints that impacts on the overall functionality that can be delivered during development. We actively engage with our Customers and work as a team to undertake a MoSCoW (Must, Should, Could and Would) analysis that enables a more pragmatic approach to requirements prioritisation focused on living within the declared time and cost restraints.

Track Record in Health

conneQt® PDS employs key algorithms to search for patients resulting in on average 99.6% of all patients who attend UHNS on any given day being traced on PDS. As a result UHNS is now automatically correcting approximately 360 NHS numbers per day whereas the previous manual process only resulted in 4 NHS numbers per day. conneQt® PDS has also enabled UHNS to increase the volume of daily patient record updates by a factor of five.

conneQt® PDS – Quicksilva's Interoperability ToolKit (ITK) Spine Mini Service offering, conneQt® PDS is used to provide North East Ambulance Service (NEAS) with PDS access, enabling call handlers to check, correct and verify patient demographic information, including the NHS number.



NEAS operates in a business critical environment and so chose conneQt® PDS as a fully managed service. Quicksilva operates to stringent availability service levels from its Operations Centre, a secure ISO27001 accredited environment. Quicksilva's Service Team monitors the application 24 hours a day 365 days a year with 1st, 2nd and 3rd line support based on ITIL best practice. To date, agreed availability has been exceeded in every calendar quarter since the service was deployed.

conneQt® SCR – Quicksilva was the first to deliver this Summary Care Record Spine Mini-Service to market. In partnership with Swedish EPR provider Ortivus, SCR was rolled out to over 450 ambulances in the South Central Ambulance Service. As a result, for the first time, Paramedics were able to access details of a patient's medical conditions, allergies and medications at the scene via robust handheld tablets – enabling informed decisions to be made about the patient's care pathway. The solution was awarded the Excellence in Mobile Healthcare' award at the eHI Awards 2016.

Spinal Tap® - By introducing the Electronic Prescription Service, NHS CFH aimed to eliminate the current paper-based system for processing prescriptions. As a result all pharmacies in England must use a CFH compliant pharmacy system. Quicksilva's Spinal Tap® product has been developed as a broker between Patient Medication Records (PMR) systems and the Spine. Spinal Tap® is being used by major PMR suppliers with a combined estate that represents over 55% of all community pharmacies to enable system connectivity with the Spine.

National Institute for Health Research (NIHR) – Through our framework with the NIHR we have designed, developed and implemented a SharePoint research management solution. We used our Agile development methodology to design the system driven by business and end user needs. This strategic application is planned to be the cornerstone in the building of NIHR's business systems.

The English National Screening Programme for Diabetic Retinopathy (ENSPDR) – Using SharePoint Quicksilva designed, built and deployed a bespoke application to streamline this screening programme's reporting process across England. The solution provides a centralised facility for the collection of data, including the associated workflow, document management and associated administrative processes.



NHS Connecting For Health (CFH) - The Training and Messaging Service (TraMS) was a key strategic enabling project within the NHS Connecting for Health Education, Training and Development work stream. Quicksilva was retained by CFH to undertake an external review of the End-to-End Data Strategy and Model. This provided independent assurance and proposed an approach to data creation, population and management that was fit for purpose.

Wiltshire Medical Services - Quicksilva has delivered a secure integrated clinical communication hub to underpin Access to Care, the new single point of access for healthcare professionals run by Wiltshire Medical Services. The first system of its type in the UK, it not only cuts the time taken to refer patients, but provides a failsafe method that automatically captures all necessary patient information and avoids the need to retype data.

Choose and Book Unplugged – Quicksilva developed an “Unplugged” version of the NHS Choose and Book (CaB) system that could be run on a laptop with no internet or software requirements that is widely used as a training and demonstration tool within numerous NHS departments and affiliated organisations. Unplugged replicated the functionality of the live CaB environment and catered for multiple logins with the simulated database giving the impression that all of the functionality for the supported user roles is incorporated into the application. Our structured approach has resulted in an application that can be quickly expanded to cater for future functionality.

Naked Prescriber - The Electronic Prescriptions Service (EPS) is a key deliverable of NHS CFH National Programme. Quicksilva were contacted in December 2004 and asked to develop a prescribing solution which could be used should none of the major GP system suppliers be able to meet delivery deadlines. In 10 weeks Quicksilva developed and implemented (including CFH compliance testing) the Naked Prescriber system. This incorporates a thin client application and message handling system which utilises NCRS smartcard authorisation and authentication.

Generic Message Renderers - All systems wishing to participate in the EPS must pass NHS CFH compliance testing. This process involves system testing in a sandpit environment to ensure that the correct exchange of messages occurs between the relevant systems and the Spine. The capacity of the sandpit environment is limited and this combined with the high number of systems wishing to participate means that sandpit time is at a premium. To ensure judicious use of sandpit time Quicksilva worked with NHS CFH to develop a set of tools, which could be used to validate EPS messages in an offline environment. The resultant Generic Message Renderers are now a prerequisite to entering compliance testing.

HL7 Tools - Health Level Seven (HL7) is an ANSI accredited Standards Developing Organization (SDO) operating in the healthcare arena. The NHS was the first organisation to implement to adopt HL7v3 to underpin its systems. In

In addition to supporting the NHS CFH Communications and Messaging team, Quicksilva has extended the HL7 toolset in support of the standard and CFH's message development needs.

Customer Base

The below customer profile provides a high level summary of our customer portfolio.

Clinical Commissioning Groups (CCG)	NHS Digital
Ambulance Trusts	Local Authorities
NHS Acute Trusts	NHS England
Department for Work and Pensions (DWP)	Pharmacies
Dental Practices	Clinical Software Houses

Appendix B Quicksilva's Monitoring Solution and The Qure®

Our Service Catalogue covers a range of application support services including monitoring applications 24 hours a day 365 days a year with 1st, 2nd and 3rd line support based on ITIL best practice. The multi-skilled team has access to industry standard tools, an in-house monitoring solution and virtual and physical test environments. Our mature and flexible support procedures give customers the same confidence out of hours as in normal hours.

In support of the above and based on 8 years of experience of proprietary monitoring systems we have developed our own in-house monitoring system. The system offers real-time monitoring through the use of the Simple Network Management Protocol. Data is sampled and used to monitor service availability and to create alerts for the Support Team. The system also allows us to monitor operational responses, transit times and message queues in customer systems on a 24x7 basis. A sample screen is shown below.

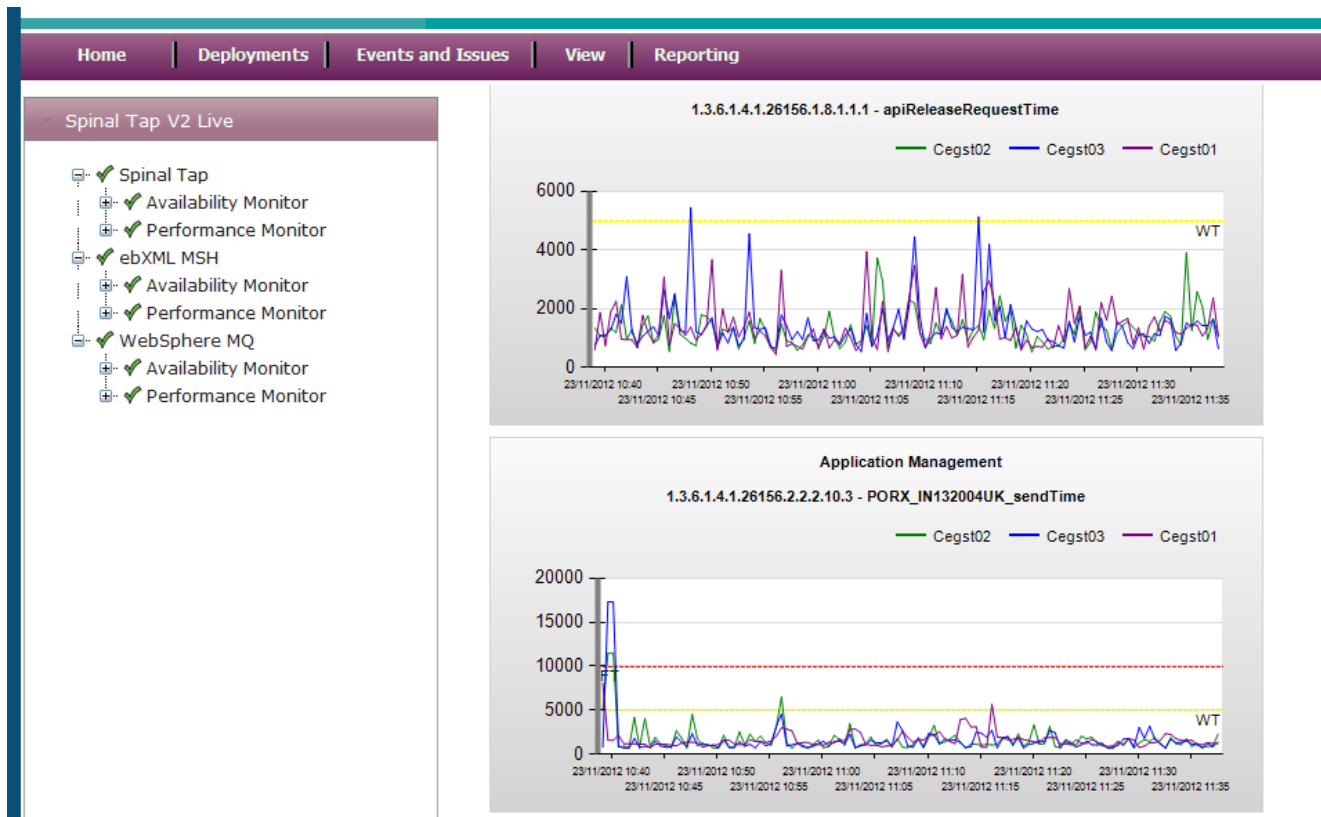


Figure A1: Example of Service Delivery Application Monitoring Capability

For Service Operation our Service Desk is contactable by phone or email during working hours. Underpinning the Service Desk and available 24 hours a day is the Qure®, our Service Desk Web Portal. It is customer and individual specific and provides the following functionality:

- Individual specific home page with live incidents, statistics and last five viewed knowledgebase articles
- Ability to raise and follow incidents
- Ability to raise requests for change and log feature request
- Review and search previous incidents/changes
- Access to our knowledgebase

A sample screen from the Qure® is provided below.

Figure A2: Quicksilva's online Incident and Change Management System

Performance against Service Levels is reported via periodic (monthly or quarterly) service reports. Typically these will detail performance against agreed Service Levels and the status of any live or raised issues during the reporting period but can be extended to include other performance indicators for example the average transaction time through an integration service.