G-Cloud 11 Services

Service Definition

NPS Care OptoMize

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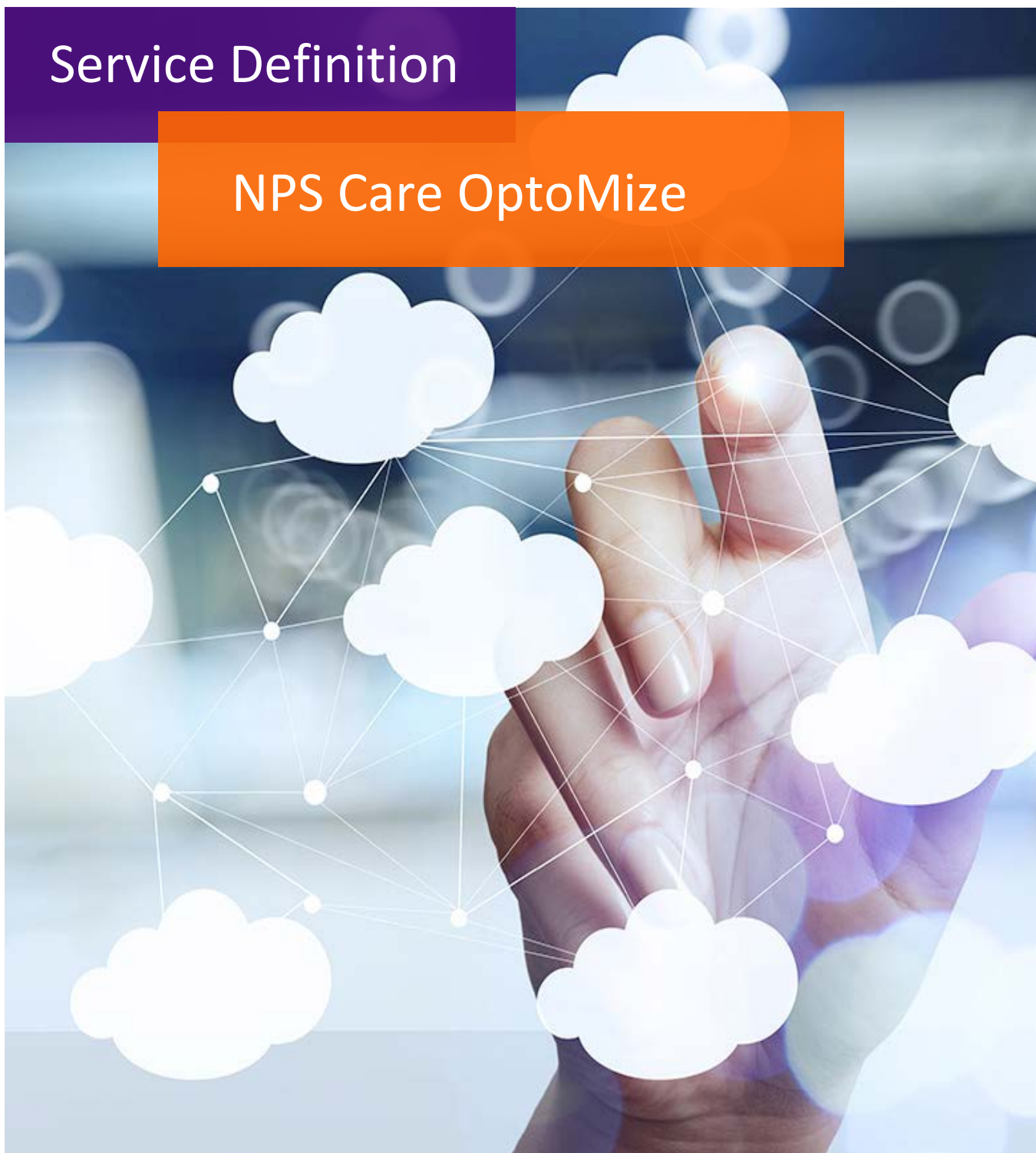PUBLIC SERVICES
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NPS Care OptoMize

Service Definition

This Service Definition is relevant to health providers responsible for the provision and/or management of diabetic eye screening programmes within the United Kingdom.

Overview of NPS Care OptoMize

Introduction

Northgate Public Services Care OptoMize (OptoMize) provides all of the functionality required for a Diabetic Eye Screening Programme (DESP) to screen and care for patients with diabetes on a predetermined interval basis.

It has been designed by clinicians, for clinicians via feature requests, consultations, and over 10 years of development and improvement.

OptoMize is a complete end-to-end solution, delivering market leading image capture and manipulation combined with a fully comprehensive EPR system. This provides users the ability to book clinics, screen and image capture then assess entire patient cohorts – enabling you to identify high risk patients that either require treatment or reduced interval screening.

Patients reside within an automated recall pathway that ensures the patient is recalled for their next screening at the right time.

OptoMize provides a central database for your programme. This allows a high level of automated failsafe processes in all aspects of the system from administration through to ophthalmology. OptoMize has been designed with multiple failsafe steps included so that no patient is lost or left without screening for longer than required.

OptoMize supports a wide variety of operational models tailored to your local requirements, from fixed community clinic locations, GP practices, Optometry practices, mobile screening venues, hospital-based locations or a mix of these as required, through to local grading pathways at the screening venue to a centralised grading centre.

Major features

- Patient record management:
    - A single screen to record all of the patient information and demographics

- Record associated clinicians and clinical locations
- Record any extra patient requirements – wheelchair bound for example
- Ability to attach documents and notes relating to the patient record
- Store information relating to the patient's diabetes and health status
- Give control over the patient pathway
- Additional tools to assist with cohort accuracy.

- Grading:

  - Full image review suite including image manipulation tools
  - Ability to compare current images to any previously recorded photographs
  - Multiple levels of grading to add a level of quality assurance
  - Different grading pathways depending on the outcomes of the previous grade
  - Feature based grading form to assist with selection of correct outcome.

- Appointment management:

  - Create and manage clinics to screen patients
  - Search for groups or a specific patient based on a number of different options
  - Book patients into clinics at the time of their choosing
  - Automatically generate the correspondence relating to the appointments
  - Support for both open and closed booking methods, or a combination
  - Multiple strikes for each patient to assure they are given ample opportunity to be screened
  - Quickly identify clinics that have space for further bookings.

- Letter management:

  - Management of all result, invite, and referral letters
  - Print letters directly from the software, or send out via electronic methods
  - Print in batches or individual letters.

- Offline clinics:

  - Ability to download a clinic and disconnect from the main server for screening to allow screening in locations without network access.

- Reports - A full reporting suite to view metrics on the running of the service:

  - Allows users to view the current state of every patient record within the software
  - View a number of Key Performance indicators relating to the running of the service
  - Grader accuracy reports
  - Patient care reports
  - Clinic reports
  - DNA / DNR rate reports.

- Automated patient pathway - Patient records are moved through a pathway, so they are in the right place at the right time:

  → Highlights to the programme when patients are due for an appointment

  → Multiple pathways to cater for different types of screening required

  → Multiple recall timers depending on the previous outcome of the patients screening

  → Extra levels of failsafe – no patient can be forgotten.

- Automated update system:

  → OptoMize has the ability to push out updates to clients after the server has been updated. This reduces downtime during software updates.

  → Ability to see which clients have and have not been updated.

- Optional web interfaces:

  → Website to view images, letters, or patient history

  → Online booking – allowing patients to book their own appointments.

Benefits of using OptoMize

The implementation of OptoMize will assist the DESP to:

- Reduce the risk of undetected sight threatening retinopathy and maculopathy in the patient cohort by the utilisation of robust, with adequate failsafe, screening software to manage the screening process.

- Improve patient care by making the right information available to the right clinical staff, both within and outside of the screening service, at the right time.

- Improve operational effectiveness and reduce administrative costs via automation of existing manual tasks and more time efficient access to screening and Ophthalmology information.

- Generate the full diabetic screening dataset and reporting needs of the DESP.

- Improve the collection of clinical data, not only to support capture of the dataset for diabetic eye screening, but also to support data collection, sharing and analysis of the relevant clinical information across all clinical areas involved with the care of patients with diabetes.

- Enhance the capability to conduct clinical research and audit to continually improve the service.

- Provides a centralised database that has highly efficient, effective and secure functionality for the access, input and output of relevant patient data to appropriately authorised users.

OptoMize service setup

OptoMize works from a central server, hosted at a data centre, or by the local programme. The server runs the OptoMize care pathway and stores all of the images and data.

There are two types of OptoMize client, fixed and synchronisation. Fixed clients are installed locally on the user's machines and require a constant connection to the central server.

Synchronisation clients allow the software to be used when not connected to the main server. The client can be synchronised to download all of the relevant information for screening patients in a clinic and then taken out to the clinic. The images can be captured and even graded before synchronising again and uploading all of the information captured during the clinic.

The server is usually separated into two parts, the SQL server, and the Application server, though it is possible to have both on the same server. The SQL server hosts the database, and this contains all of the data, including the patient and programme information. The application server contains the installs of the software and services that run the program and allow the clients to connect.

The Imagestore will be located on the application server, or a linked location the server sees, and all of the images will be saved in an anonymised format.

OptoMize has two services that will be installed on the application server:

- **WCF Host service** - the WCF Host service deals with all connections between clients and the SQL server. It passes data back and forth and ensures data connections are encrypted. As the only access to the SQL database is through the WCF Host service, it creates a secure environment whereby anything without the correct protocols cannot connect and retrieve data.

- **Timer service** - the Timer service deals with the automated care pathway and ensures that patient states are updated as and when required. Any failsafe timers will also be actioned by the Timer service.

OptoMize supports different client connection methods from TCP/IP, HTTPS, or named pipes, with extra security options available through Windows or Certificate security.

Service management details

Customer Support cover time

NPS provides support cover on the following basis:

- Monday to Friday - 8:30 to 17:30 – Excluding bank holidays

- Emergency cover is supplied during the Christmas holiday break.

What is supported

All application software and interfaces supplied are supported. Hardware owned by the DESP is not covered under the NPS support package.

The Software Support Contract (SSC) covers email and telephone support, updates and service packs and access to new software versions.

Customer Service process, fault resolution process

Support is provided by a team of dedicated Customer Service Engineers, backed up by Professional Service engineers and members of the development team.

NPS Customer Services, based in Cambridge, uses a Service Desk tool that tracks and monitors all reported problems, incidents and queries to ensure customers have a single and first point of contact.

When each call is logged, a summary and full descriptive text will be captured. At the time of logging the call, the incident is assigned an Impact Code agreed with the user submitting the query. Every incident will also be allocated a unique reference number that can be used at any time, including for the review of closed historical calls.

Customer Services manage and co-ordinate the resolution of problems and incidents to strict service level agreement whilst also providing an interface to other important services such as education, performance management, change requests and management, and service level management.

When updates to the product are released, associated documentation, including release notes, updated user guides and technical advisories are made available to users through NPS Customer Portal and will be supplied via email if requested.

Customer Services will at all times attempt to resolve the incident at the time it is reported. If it is not possible to resolve the incident on the first call it will be assigned and escalated for resolution. Each incident will be tracked and progressed by Customer Services until resolution.

If the reported problem cannot be resolved remotely the following escalation path will be followed:

- First Level - 1st Line Support Engineer

- Second Level - 2nd Line Support Engineer

- Third Level - Senior Support Engineer

- Fourth Level - Developer

- Fifth Level - Service Manager.

Once a fault is reported to NPS, the support team is responsible for contacting the site within a set period of time, to discuss the problem and ensure the fault is corrected within as short a time as possible. If the fault cannot be solved remotely, application support may be despatched to define the problem more closely.

NPS has a secure N3 line to enable the provision of remote support. Furthermore, the architecture of OptoMize helps facilitate the remote implementation of updates and service packs and reconfiguration through an automated client update facility.

Service Level Agreement – Fault prioritisation

The current SLA is:

Severity	Description	Target Resolution Time (during support hours)
1	Software is unavailable for all users	Four (4) hours
2	Individual element of the software unavailable	Eight (8) hours
3	Core / Clinical module failure	Fifty (50) hours
4	Non-core module failure	One hundred and twenty (120) hours
5	Faults of a cosmetic nature or which are otherwise not material	Potential future release if the Supplier accepts that a fault exists

Closure of an enquiry

Customer Services will provide an explanation of the cause of the incident in explicit, user level terms, together with any suggestions for possible avoidance action going forwards and the work performed to resolve the issue. All details will be logged into the ticketing system.

Where the cause of the problem is an intrinsic product error, the system may require a workaround or a corrective action.

Where the cause of the problem is not an intrinsic product error, Customer Services will supply advice to enable the DESP to progress the problem. This advice may consist of an offer of chargeable consultancy services.

An incident will be closed automatically in the event a suggested resolution is provided and where Customer Services are not notified, within seven working days where resolution was not successful.

Closure timescales

NPS will endeavour to resolve the issue reported in accordance with the closure times for each level defined in the Service Level Agreement. Where this target is not achieved, the case will be highlighted and escalated for the management team to review.

Where investigation of the reported issue shows the fault is not due to the NPS product, help will continue to be given to assist the DESP with diagnosis the problem and finding a solution.

A ticket may be suspended while waiting for the DESP to perform an action or supply information. In this event the response timer will be suspended until the action has been completed.

Where a Critical issue is raised, support will extend outside of the normal service hours. Where possible NPS will resolve the issue on the day reported.

For all priorities, if the issue cannot be resolved within the agreed timescales NPS will agree an action plan, which will include a new target resolution date.

In the event of a dissatisfaction with the progress of a ticket that has been logged or with the resolution of a ticket, an enquiry can be escalated by contacting the NPS Customer Services team. This will be escalated to the Customer Services Manager for discussion with the Management team.

Training

As part of the deployment costs for a new solution, training will be arranged and will be tailored to the specific needs of the DESP at the time.

Additional training can be purchased through NPS Professional Services team at any point.

Training takes the form of on-site demonstrations and explanations of the software and its usability delivered by a Professional Services consultant, and will allow users to get a hands-on view of the software and the way it works, in line with their requirements. Accompanying reference documentation will be provided.

An optional Service Review can also be provided by NPS. This involves a Professional Services consultant to sit with each of the teams at the DESP and review the processes they are using to perform the day to day work, reviewing the feedback with the programme management team, offering advice tailored to the screening programme and situation as and when needed.

Training Materials

NPS will provide standardised documentation detailing the clinical workflow and functionality of OptoMize. If customised documentation is required, this can be produced and will be assessed on a case by case basis.

NPS works to maintain the documentation to make sure that it is accurate and up to date with the current version of the software.

Technical requirements

This section details the requirements for the server and clients' hardware, network bandwidth and service dependant software. It details the minimum and recommended specification for:

- Administration PCs
- Capture / Grading / Image Review PCs
- Synchronisation endpoint PCs, which act as mini repositories of data and images, and which need to transfer encounter data with the Central Management Server

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- The Central Management Server.

For large schemes with a lot of users it will be beneficial to aim for a higher than the recommended specification server and to separate database and application servers.

General Desktop PCs	
Minimum specification	**Recommended specification**
- Intel/AMD CPU – 1.6 GHz - 2GB RAM - 40GB HDD - 10Mb Ethernet connection - USB 1.1 - Mouse - Windows Vista (Not Home Edition) SP2, Windows 7 (not Home Edition), Windows 8/8.1, Windows 10 - Monitor (1024 x 768)	- Core 2 Duo or better - 4GB RAM - 80GB HDD - 1 Gb Ethernet connection - USB 2.0 - Optical scroll wheel mouse - Windows 7 (not Home Edition), Windows 8/8.1, Windows 10 - Monitor (1280 x 1024 or better)

Grading / Review Desktop PCs	
Minimum specification	**Recommended specification**
- Intel/AMD CPU – 1.6 GHz - 2GB RAM - 40GB HDD - 10Mb Ethernet connection - USB 1.1 - Scroll Wheel Mouse - Vista (Not Home Edition) SP2, Windows 7 (not Home Edition), Windows 8/8.1, Windows 10 - Monitor (NDESP minimum vertical resolution of 1080 pixels)	- Core 2 Duo or better - 4GB RAM - 80GB HDD - 1 Gb Ethernet connection - USB 2.0 - Optical scroll wheel mouse - Windows 7 (not Home Edition), Windows 8/8.1, Windows 10 - Monitor (Full HD or higher) - Dual Monitors are recommended for Grading / Reading

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Synchronisation Endpoint PCs	
Minimum specification	**Recommended specification**
• A network connection of 1 Mb/s or more for data transfer (e.g. ADSL/VPN/N3) • Remote Access via Remote Desktop or equivalent • Intel/AMD CPU – 1.6 GHz • 2GB RAM • 40GB HDD • 10Mb Ethernet connection • USB 1.1 • Scroll Wheel Mouse • Windows Vista (Not Home Edition) SP2, Windows 7 (not Home Edition), Windows 8/8.1, Windows 10 • SQL Server 2008 Express Edition (4Gb database size limit) • Monitor (1366 x 768)	• A network connection of 8 Mb/s or more for data transfer (e.g. ADSL/VPN/N3) • Remote Access via Remote Desktop or equivalent • Firewalls configured in order to provide remote access to the remote SQL Server database in order to provide support • Core 2 Duo or better • 4GB RAM • 80GB HDD • 1 Gb Ethernet connection • USB 2.0 • Optical scroll wheel mouse • Windows 7 (not Home Edition), Windows 8/8.1(note that 64bit OSs are NOT supported by all camera manufacturers) , Windows 10 • SQL Server 2012/2014/2016 Express Edition • Monitor (1280 x 960 or better) – external monitor recommended for grading laptops with lower screen resolution built-in • Dual Monitors recommended for Grading / Review
Local Data Backup and Disaster Recovery measures	Local Data Backup and Disaster Recovery measures

To reduce risks associated with permanent loss of patient data that may adversely affect patient care or payment by results, optometrists and other remote locations should be required to protect against PC hardware failure and take responsibility for regular data backups and adequate disaster recovery procedures. Third party hardware support cover is advisable. Commissioning organisations are advised to ensure adequate contractual safeguards are present. NPS does not provide data backup and disaster recovery services and take no responsibility or liability for data backups.

NPS will require remote access to all mobile stations and remote messaging endpoints, such as optometrist and primary care practices, that are using synchronisation, in order to provide system support, maintenance and software updates. Suitable network or internet connections include ADSL, VPN, or N3 (UK only). NPS takes no responsibility for implementing or managing these networks or their security.

Camera compatibility is specified by the camera manufacturer. Please check with the manufacturer to make sure the camera is supported by the operating system required. OptoMize utilises the latest camera SDK's from the manufacturers, therefore camera compatibility may be removed should the manufacturer remove support for the camera.

Central Management Server

Used as the central repository of data and for management of the patient care pathway and call / recall system

Minimum specification (for small schemes only)	Recommended specification
• Dual Core Xeon • 4GB RAM • CD ROM Drive • 100Mb Ethernet connection • High performance storage configuration– capacity is dependent on your patient throughput and your local choice of image size • Backup hardware and software dependent on data quantity and internal disaster recovery policy • Windows Server 2008/2008R2 32bit, Windows Server 2012/2012R2 32bit • SQL Server 2008 Standard Edition • Server architecture (not workstation) such as a Dell PowerEdge	• Quad Core Xeon or 2 x Dual Core Xeon • 8GB RAM • DVD ROM Drive • 1Gb Ethernet connection • High performance storage configuration– capacity is dependent on your patient throughput and your local choice of image size • Backup hardware and software - dependent on data quantity and internal disaster recovery policy • Windows Server 2012/2012R2 64bit, Windows Server 2016 • SQL Server 2012 SP1/2014/2016 64bit Standard Edition • Server architecture (not workstation) such as a Dell PowerEdge

We recommend a separate Application Server and a separate SQL Server, for dedicated use by one instance of OptoMize.

Where SQL Server Clustering is required - is supported, but only with a separate Application Server. This requires additional chargeable installation time for the Server and must be made clear at project initiation phase.

Application Server seamless failover can only be provided by a third party solution and NPS has no recommended solution.

Virtual applications servers are supported but are not recommended for the SQL Server. Virtual servers should perform to the equivalent of the physical specifications above.

Server data storage capacity requirements and type will be dependent upon patient throughput, image size and deployment model, for example RAID 0/1/5, NAS.

Remote server access is required for NPS to support the system. This will require setting up via Customer Services prior to software deployment.

- Windows Server 2003, or SQL Server 2005 and lower are not supported by OptoMize V4.4.

- SQL Server 2008 is supported by OptoMize V4.7, however it will be the last version to do so. SQL Server is reaching Microsoft end of support July2019. Future versions of OptoMize will not work on SQL Server 2008.

- The client is responsible for ensuring hardware and procedures necessary for adequate data loss prevention, data backup and disaster recovery are provided and managed properly. This requirement can usually be provided by your local IT services team. NPS strongly recommends adequate provision is made to safeguard clinical data. NPS does not provide data backup and disaster recovery services and take no responsibility or liability for data backups.

- SQL Server Maintenance, for example updating statistics or defragmenting indexes, is the responsibility of local IT. NPS can provide Professional Services to support this activity if required.

Request a demonstration

We would be pleased to demonstrate NPS OptoMize to you. Please email frameworks@northgateps.com to request a demonstration.