

## Overview of IGspectrum Web Applications

IGspectrum's extensive portfolio of web applications are cloud-based with access available 24/7 from any supported browser. A typical contract term is for 3 years, thereafter renewable every 12 months, covering application license, hosting, service management and support, and service upgrades.

Our hosting arrangements, where we work with our partner Rackspace to host all of our cloud based services and applications, conform to: data protection legislation; organisational information governance policies; Data Security & Protection requirements and are provided from a secure ISO27001 accredited facility with a HSCN connection available.

We offer a full suite of cyber security consulting, training and security solutions.

IGspectrum has provided some of the key applications for the new digital hospital at Chase Farm (part of the Royal Free London NHS Foundation Trust) including:

- IGeDocs – all historic paper documents are held electronically and are viewed via this service.
- IGeForms – all key electronic forms which are not being delivered as part of the new EPR will be provided by this service.

IGspectrum provides a number of electronic services, with associated workflows, accessible directly by patients. Examples of this are:

- Family History Form for the West Midlands Regional Genetics Service which enable patients and their relatives to complete their personal history directly from their devices.
- Patient Consultation Recording Service which has been developed to enable patients to listen at home to their outpatient consultations, sharing it with friends and family as they wish.

These and some of our other web applications are described in further detail below and are categorised into the following groups:

- The Paperless Trust.
- Patient / Specialty Portals & Private Patients.
- Cyber-Security Testing & Infrastructure.

**Ordering and invoicing process**

On receipt of a purchase order IGspectrum will invoice the client and initiate the service. Invoice terms are 30 days.

The service includes standard support during the working day, problem resolution and any updates that are released during the contract term.

**Start-up**

Start-up costs are usually included unless significant additional configuration is required.

So for example modifying an existing e-form would be offered at no additional charge, creating a new form would incur a one-off configuration charge with the level of charge dependent on the complexity of the form.

**Training**

A comprehensive service user guide is provided an online tool. Initial on-site training is provided free of charge (one day is usually sufficient) and further training is offered as a chargeable option at a current (June 2019) rate of £400/day.

**Service constraints**

All services are available 24/7 with a 99% uptime.

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## **Service Definitions**

### **The Paperless Trust**

[Clinical Record Viewer](#)

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### **Patient / Specialty Portals & Private Patients**

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### **Cyber-Security Testing & Infrastructure**

[Encryption of Documents and Files](#)

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### Clinical Record Viewer (IGcv)

A solution to your paperless objectives. All historical paper documents held in the medical records files may be viewed.

Collection, scanning and paper destruction capabilities can also be provided. Electronic documents are also uploaded if required.

Clinical/medical records and case notes are viewable in their original format. Users are categorised to ensure full user control with access only provided with those registered to view on a specialty or other agreed basis. The service provides a twin field global search alongside a meta-data search capability (e.g. Hospital number, NHS number, etc.).

Documents can be scanned locally by hospital users and directly uploaded into the service.

#### **Features**

- Repository for medical records / case notes
- Supports navigation and image management functions
- Extensive search facilities
- Automation and digitisation of case notes quickly
- Easy and secure access to case notes
- Data available through any internet-enabled device

#### **Benefits**

- Complete case notes easily viewable
- Search facilities enable quick retrieval of relevant data
- Cost effective

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### **Electronic Document Management (IGeDocs)**

A complete solution to your paperless objectives. All documents, including those containing patient information which are not suitable for storing in your PAS or EPR can be managed here.

We offer collection, scanning, storage, destruction but uniquely all the documents are available to be viewed by our eDocs service. Small volumes of documents can also be loaded by users directly to the platform. Already in use at several hospitals this solution is hugely cost-effective when compared to other document management solutions.

#### **Features**

Forms include: --

MDT meeting workflow

Transfer of Care Forms (Section 2 & 5)

Patient Family History Form

Effective using both static and mobile devices

Enables sharing through approval, alerting and broadcasting functionality

Supports navigation and image management functions

Automated workflow and approval process for the recording of outcomes

Different levels of user access to submit and view data

Encrypted database for secure online submissions and access

#### **Benefits**

Automation and digitisation of forms quickly and cost-effectively

Data accuracy increased through on-line validation

No software installation required

Service complies with the NHS Data Security & Protection requirements

Access to the service through any internet-enabled device

Hosted securely at an ISO27001 accredited facility

Simple e-form creation process

Rapid deployment of new forms

Flexible access using any internet-enabled device

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**Data Sharing Agreement (IGdsp)**

Our unique portal provides a single web-based repository where all reference documents e.g. Information sharing frameworks, protocols, agreements can be held.

It will enable a record and evidence to be shared on Privacy Impact Assessments (PIAs) and Risk Assessments and signoffs by both Caldicott Guardians and DPOs. The service provides automatic alerts when agreements are shortly to expire to ensure that an organisation is operating within the relevant laws and directives. A key feature is the ability to manage multi-agency agreements.

**Features**

- Single repository for information sharing frameworks and protocols, agreements, templates
- Automatic alerts prior to expiry
- Portal controlled opening to the general public for document sharing
- Single view of all agreements
- Multi-agency information sharing agreement templates available
- Sign-off can be achieved inside the portal
- Administrator and user access

**Benefits**

- Easy review and management of all agreements
- Agreements recorded by partner organisation
- Solves protracted issues around capturing signatures / approvals
- Tiered security access enables sharing inside and outside the NHS
- Optional existing templates encourage rapid acceptance and implementation
- Cost effective

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### Electronic Referrals (IGrefer)

Incorporating integrated workflow management this provides a centralised, intuitive, platform on which all referrals can be digitised, automated, accessed, transferred and managed using any web browser on all devices.

Rules and workflows for completing and receiving forms are fully automated and information is captured, stored and made available securely. Trust wide department dashboards are also included.

#### **Forms include:**

- Cancer Referrals
- A&E Referrals
- Neurology and Neurophysiology Referrals
- Mum to be and GP Maternity Referrals

#### **Features**

- Enables sharing through approval, alerting and broadcasting functionality
- Supports navigation and image management functions
- Automated workflow and approval processes
- Different levels of user access to submit and view form data
- Secure online submissions using any internet-enabled device
- Secure system access with data held in an encrypted database

#### **Benefits**

- Automation and digitisation of forms quickly and cost-effectively
- Data accuracy increased through on-line validation
- No software installation required
- Service complies with the NHS IG Toolkit requirements
- Access to the service through any internet-enabled device
- Hosted securely at an ISO27001 accredited facility
- Simple e-referral creation process
- Immediate status and priority view of sent and received referrals
- Rapid deployment of new form
- Cost effective

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**Bespoke Electronic Forms (IGeForms)**

The Electronic Forms service, with integrated workflow management, provides a single centralised, intuitive platform on which existing forms can be automated, accessed and managed using any device with a web browser.

Rules and workflows for completing and submitting forms are fully automated and all information is captured, stored securely and made available to all that require access.

Role based access provides for administration, approval, rejection functions. Signatures (patient or health/social worker/clinician etc.) can also be captured where the service is accessed from tablets and Trust wide and department dashboards are also included.

**Features**

- Digital signatures available
- Effective using both static and mobile devices
- Enables sharing through approval, alerting and broadcasting functionality
- Supports navigation and image management functions
- Automated workflow and approval process for the recording of outcomes
- Different levels of user access to submit and view data
- Encrypted database for secure online submissions and access
- My e-Forms functionality provides personalised use of the service
- Links available to EPR, EDRM and Data Warehouses

**Benefits**

- Automation digitisation of forms quickly and cost-effectively
- Data accuracy increased through on-line validation
- No software installation required
- Service complies with the NHS Data Security & Protection requirements
- Access to the service through any internet-enabled device
- Hosted securely at an ISO27001 accredited facility
- Simple e-form creation process
- Flexible access using any internet-enabled device
- Key element of moving an organisation towards paperless operation
- Rapid deployment of new forms

**Continued ...**



... Continued Bespoke Electronic Forms (IGeForms)

Many forms are already deployed on the platform with some examples being:

Patient completed forms include:

**Family History Form**

Allows patients and other family members to provide historical and current medical information using their own home-based computers and tablets.

**Maternity Referral**

see Maternity Self-referrals (IGmat)

**Private Patients**

see Private Patients Management (IGpp)

Other forms currently in use include:

**MDT Referrals**

This workflow and electronic forms service has recently been deployed to support the Vascular Multi-Disciplinary Team Meeting process.

**Admission & Discharge to Social Care forms**

This innovative, easy to use e-Forms service is being used by 260 ward staff as part of a Trust's 'paperless' strategy.

**Private Patient Service**

This enables patients, and their referrers, to securely submit enquires and medical records to the Private Patients Referral Team.

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**Maternity Self-Referral (IGmat)**

This service allows mums-to-be to self-refer to any maternity clinic within a trust via an e-form on the Trust website.

The mum-to-be provides basic demographic and summary medical history about herself and then makes a selection of the particular clinic she would like to register at.

When complete, the form is received by the relevant maternity unit and an appointment can be made. The referral is automatically relayed to the mum-to-be's GP so that they have full knowledge of the self-referral.

A GP may also use the service to refer a mum-to-be attending their practice.

**Features**

Mums-to-be can self-refer and choose their preferred maternity clinic

Relevant materials and brochures are provided automatically on first enquiry

The GP receives notification of the self-referral

Service also available for GP referrals

**Benefits**

Patient choice and control

GP always fully informed

Significant take-up of the Trust's maternity services

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**Hepatitis Virtual Clinics (IGHvc)**

A platform for the automation and management of many clinical and administrative aspects at a Hepatitis Telephone Clinic.

Appointments, blood tests and investigations are scheduled; reminders and alerts automatically sent to patient, clinic nurses and clinicians; recorded; loaded with relevant information received from the hospital EPR. GP letters are generated automatically.

**Features**

Full feature virtual clinic managing patients through pre-planned pathways

Includes appointment management, reminders and alerts

Telephone interaction is captured electronically

Optionally extended to include a recording of the telephone appointment

Auto-generated GP and Patient letters are sent automatically

Service benefits

**Benefits**

Telephone delivery makes the service more accessible

Automatic actions reduce the need for manual interaction

Cost effective to both patient and clinic

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**Subject Access Requests (IGsar)**

Facilitates access to Medical and Care Records as a result of a Subject Access Request (SAR) under Freedom of Information (FOI) via an IG compliant secure web site link.

The portal can also be used by clinicians and referrers who require access to records but cannot access main hospital systems.

**Features**

Full SAR lifecycle automation

Capture of the Subject Access Request application and security credentials

Uploading patient medical records from the physical or electronic case file/EPR /EDRM/e-Docs

Case file access via a user-friendly screen set up

Navigation and image management functions for medical records personnel and clinicians

Patient medical records release approval process

Notification that case file / medical records are available for viewing via the Patient Portal

Download and print options along with simple and fast navigation functions

Redaction capability

Strong authentication security on records access

**Benefits**

Increased efficiency

Substantial stationery, printing and postage cost reductions

Security improved over mailing paper or electronic media

Hosting available on either our or your own infrastructure

IG compliant access for citizens, patients and/or their authorised representatives

Pre-built interface to local EDRM

Cost effective

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**Liver Transplant Tracking (IGltt)**

This proactively manages post-operative liver transplant patients and provides data on each patient along with patient management facilities.

Built in logic to assists in data entry and the facility to populate blood group and patient demographics from PDS and EPRs. The service also provides a patient dashboard with full reporting.

**Features**

Proactive management of post-operative liver transplant patients

Automatic load of patient and blood group information

Patient dashboard

**Benefits**

Currency of Patient information

Easy viewing dashboard to enable comprehensive assessment

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**Patient Consultation Recording (IGpcr)**

This secure, web-based application provides patients with the ability to playback their hospital consultations, so that they may hear, share with relatives and understand what was originally said. It also allows the consultant to transcribe key information directly into GP letters that can then be sent to the consultant's secretary for formatting and onward delivery.

The Patient Consultation Recording (PCR) service has been developed to enable patients to listen on demand to their consultations. Independent research tells us that most patients forget much of what is said during medical consultations, particularly if bad news is given.

The PCR service enables patients, along with friends and family, to re-listen to what was said. The recordings enable good advice such as lifestyle changes to be reinforced in the security of the patient's own home.

Patients need to hear what was said in context but current outpatient conditions are not conducive to this. Thus, this service is an add-on to current practice that will improve patient experience and potentially clinical outcomes.

**Features**

- A patient consent routine authorises the recording process
- Consultations are recorded via the consultation room computer
- Data is securely transferred to the online service
- Patients are sent an email or text providing login details
- Patients can securely access their consultation recording through any web browser
- Patient authorised third parties (e.g. friends & family) can have access to the recording
- Consultants may also access the sound recordings

**Benefits**

- Patients more likely to understand and adhere to recommended treatment
- Mutual collaboration can foster patient satisfaction and improve healthcare outcomes
- Sharing access with third parties ensures details are not mis-interpreted
- Evidences: decisions, findings, progress, investigations, dates, results, consent, and referrals
- Cost effective

### ... Continued Patient Consultation Recording (IGpccr)

#### Added benefits to the trust

- **Patient Experience:** This is improved with the recording enhancing the overall quality of consultations.
- **Litigation:** 20% of all litigation is based on what was allegedly said during the consultation. The PCR service removes any uncertainty, saving time and money.
- **Data Protection:** If the Trust owns the recording, the Trust owns the copyright.

#### Patient Testimonials

- It is a great improvement regarding medical reporting.
- An excellent and very clear recording with no problems at all.
- Easy to access and nice that you can always refer back to it.
- I have listened with my wife and it was very useful to keep her informed.
- Often important details can't be remembered when anxiety is attached to results.
- Useful in allowing me to listen back to the complete interaction.
- ...the prime function of this is actually amazing. Whereas my mother for example can't remember half the things that are said to her when she is seeing a doctor, this would truly be beneficial for her.
- ...over time, years or decades, it would be really good to refer back to information stored about me.
- ...this would also help a lot where people think they heard something in the room, go down the google path and disrupt their understanding.
- ...this is really simple, effective and helpful for use.
- ...one further and very significant effect of being able to listen to your diagnosis whenever I need to, is that it has proved an invaluable tool in reinforcing my intention to remain abstinent. A diagnosis which can be very shocking at first tends to lose much of its impact with the passage of time. Especially when I have no symptoms and memory becomes blurry as I am forced to stick with difficult lifestyle changes. I listen to the interview regularly and, somehow yet more impactful in my own home than in a hospital environment, it reminds me each time of the seriousness of my situation-that it is very real and ongoing. This has been very motivating in remaining abstinent. Thank you again for the recording.

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**HPB Multidisciplinary Requests (IGHpb)**

The service is designed to improve the efficiency of HPB Multi-Discipline-Teams by ensuring that submissions/referrals contain all the necessary information for a successful MDT review.

The service supports the MDT administration process by greatly reducing unnecessary email exchanges with referrers and provides overview, alerting and tracking capabilities, via a dashboard, of all new and outstanding submissions.

The new service allows the MDT to be totally managed from within the portal with only the IEP imaging being external. The mandatory fields will significantly reduce the number of requests 'rolled over' due to missing information.

The portal will include an interface to the Personal Demographic Service (PDS) to allow auto-filling of the request form based on combinations of NHS Number, First Name, Last Name and DOB.

**Features**

- Patients are sent an email or text providing login details
- Patients can securely access their individual care plan
- Service facilitates management of patients
- Manages telephone and physical appointments
- Patient reminders and alerts are included
- Care plan can be tailored to specific requirements
- Automatic rescheduling to tests based on care plan requirements

**Benefits**

- Patient access through any web browser from their own device
- Patients more likely to understand and adhere to recommended treatment
- Mutual collaboration can foster patient satisfaction and improve healthcare outcomes
- Sharing access with third parties ensures details are not mis-interpreted
- Evidences decisions, clinical findings, progress and investigations
- Evidences dates, results, consent, and referrals
- Patient administration automated with dashboards for nurses and clinicians
- Cost effective

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**MS NeuroResponse (IGnr)**

This Portal is designed to engage people living with Multiple Sclerosis (MS) and their families.

The first cohort at the Royal Free Hospital comprises approximately 500 patients living in the London Borough of Barnet. Within the cohort there are a number of patients that frequently attend A&E with symptoms such as UTI that may have been able to be treated in the community.

To prevent this the NHS 111 service is being adapted to provide a specialist response to these patients. To support this a summary care plan is agreed with the patients. This care plan will be co-completed by patients and clinicians on the online Neuro Patient Response Form, part of the Portal.

Patients access the partially completed form, make comments and commit if they are happy with it. The information is then incorporated into the Adastra system for use by the NHS 111 service.

**Features**

- Patients are sent an email or text providing login details
- Patients can securely access their individual care plan
- Patients can self-report and self-manage
- Service facilitates management of patients
- Manages telephone and physical appointments
- Patient reminders and alerts are included
- Care plan can be tailored to specific requirements
- Automatic rescheduling to tests based on care plan requirements

**Benefits**

- Patient access through any web browser from their own device
- Patients more likely to understand and adhere to recommended treatment
- Patient self-management reduces footfall on clinics and hospitals
- Clinician intervention at any point to alter the care plan
- Mutual collaboration can foster patient satisfaction and improve healthcare outcomes
- Sharing access with third parties ensures details are not mis-interpreted
- Evidences decisions, clinical findings, progress and investigations
- Evidences dates, results, consent, and referrals
- Patient administration automated with dashboards for nurses and clinicians
- Cost effective

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**Private Patients Service (IGpp)**

This service provides full workflow support and management of all aspects of the patient episode for private patients.

The Private Patients unit receive automated notifications of enquiries and can then request the secure transfer of patient records from referrers who are often in other countries. This fully-functional service includes full episode management, clinician allocation and management, appointment selection and finally the secure transmission of any reports or updated records back to the referrer.

The system has been security assured under the Cabinet Office Risk Management and Accreditation Document (RMAD) process.

**Features**

Automatic management of referrals, appointments, patients, episodes and clinicians

Safe and secure transfer of medical and other records

Full workflow coverage

Links to invoicing systems are provided

A full history of all patient episodes is maintained

**Benefits**

Complete patient history aids effective clinical management of the patient

Referrers able to maintain fully accurate patient record

Invoices are accurate and produced in a timely fashion

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**Epilepsy Video Upload (IGev)**

This service allows a parent or carer to upload a video taken while a child is experiencing some form of seizure.

The video can be reviewed by specialist clinicians to decide what type of intervention is required and it can also be securely sent to other clinicians for further opinion.

**Features**

- Supports all main video file types
- Clear instructions provided to parent or carer for video upload
- Clinical staff notified when an upload is received
- Video accessible by specialist nurses and consultants
- A patient dashboard is maintained for each patient
- Historical videos can be viewed for comparison purposes

**Benefits**

- Patient clinical assessment possible without having to attend a clinic
- Patient situation quickly understood and actioned by clinical staff
- Historical comparisons are easily made

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**Pulmonary Hypertension (IGph)**

The service supports the management of on-going Pulmonary Hypertension treatment at home.

Patient test results are automatically loaded from the Patient Record system, supplemented by manual additions where necessary (e.g. FBC and Liver Function) and signed off by clinicians.

Alerts are raised automatically when monthly results are abnormal or late

**Features**

Single source shared by clinicians and nurses

Auto triggering of alerts when results thresholds are exceeded

Results available at a glance

History of all results and alerts available

Results sent securely to a patient's email with appropriate safeguards CHANGE HERE

No need for paper, letters, envelopes and stamps

**Benefits**

Medical staff have an identical view of patient data

Timely alerts and patient/clinician less likely to miss an action

Results unlikely to be missed

Historical view provides complete patient picture

Faster communication between centre and patient

Reduced communication costs between centre and patient

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**Encryption of Documents and Files (IGencrypt)**

The data encryption process which meets the AES 256 standard supports the complete anonymisation of all content in documents and files shared across nhs.net and beyond.

Encrypted information may be reconstituted once the receiving party has been authorised and provided with a decryption code.

Documents may be shared across NHS Net and beyond. Encrypted information may be opened, reconstituted to produce a true facsimile and made legible, once the receiving party has been authorised and provided with a decryption code, by the sender.

There is no charge for decrypting a document thus enabling a cost-effective service and wide user base of recipients.

**Features**

Encrypts any document or file regardless of content

Full encryption to AES 256 standard

Secure online access using any internet-enabled device

Decryption by any recipient only with originating user permission

**Benefits**

Simple to use

Rapid deployment

Data shared securely

Cost effective

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**Secure Health Platform (IGpaas)**

Provides the highest level of security to Healthcare Service providers without the cost and timescales involved in developing and commissioning a secure platform for confidential patient data.

Securely delivered in partnership with some of the world leaders in hosting, computing and security.

Protected by periodic penetration testing. IGspectrum's penetration testing services are accredited by the following organisations: CISSP CREST and CESG.

Provides the highest level of IG compliance and security to Healthcare Service providers without the cost and timescales involved in developing and commissioning their own platform.

Dedicated or cloud servers are selected and various levels of resilience and availability are possible. A HSCN connection is available. ISO27001, Cyber Essentials and all other NHS mandated accreditations are included.

**Features**

- Secure service which can be deployed quickly and effectively
- Fully compliant with regulations including DoH and IGSOC2 (IG Toolkit)
- Protected by periodic penetration testing – see IGsecurity service
- Hosted at secure facilities managed by experienced BS27001 accredited staff
- 100% guaranteed network and infrastructure uptime
- Delivery partners are world leaders in hosting, computing and security
- HSCN Connection available

**Benefits**

- Uptime guarantee ensures that your database is always available
- Hosted configuration meets your required service levels and subsequent dependencies
- Cost effective
- Availability requirements can be satisfied
- Annual cyber-security test
- Help desk during normal working hours
- 24/7 Help Desk available
- Maintenance and enhancement services available
- Capacity management included

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**Cyber-Security Services (IGsecurity)**

Application security testing encompasses the use of manual and automated methods to detect internal and external threats and protect business applications and data, either in static or dynamic form.

This CREST/CISSP service, supported by Defendza (see Service Definition document), includes penetration testing of Firewalls, VLANS, networks, applications and Wi-Fi with remote connections.

Testing includes DNS zone transfers attempts, services enumeration, OS detection and build version fingerprinting, password attacks, firewall traversal attacks, email spoofing and mail/web/relay tests, back-door discovery and uploads.

Our Application security services include scoping, identifying, assessing the security risks of the application/software product and identifying & recommending the risk treatment plans.

**Features**

- Attempts on DNS zone transfers for public IP addresses
- Enumeration of services and Enumeration command support
- OS detection and build version fingerprinting
- Password attacks for public IP addresses
- Firewall traversal attacks
- Checks for anonymous access and file/folder privileges
- Configuration files will be searched and access attempts
- Email spoofing and mail / web/ relay tests
- Web crawls, method support and web directory enumeration
- Upload and Input validation attempts

**Benefits**

- Currency with CYBER latest threats ensures a high protection level
- CREST/CISSP conformance ensures high standard of security
- Comprehensive report enables pro-active protection interventions
- Cost effective

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