BDO

Audit • Advisory • Tax

CYBER LAB & IT AUDIT SERVICES

A Synopsis of Services

BDO CYBER SERVICES

1. IT Audit & Assurance
2. Governance, Risk & Compliance
3. Cyber Strategy Development
4. Remediation Services
5. Network Security Services
6. Data Analytics
7. Digital Forensics
8. Education & Training
9. Protection of Personal Information
10. PCI, Safety & Security Services
11. Cyber Insurance

IT AUDIT & ASSURANCE

BDO is able to provide the necessary assurance on whether an organisation's existing IT risk and control environment is sufficient to safeguard the organisation against preventable losses and to ensure compliance with relevant legislation and internal policies and procedures.

Services Offered

- IT General Controls Reviews (GCRs)
- Application Controls Reviews (ACRs)
- Disaster Recovery Plans Reviews
- Data Integrity/Reports Integrity Reviews
- User Based Security Reviews
- System Development Life Cycle Reviews
- Performing ISAE 3402 Engagements
- POPIA Readiness Assessments
- SAP Basis Reviews
- Process Control Reviews
- Enterprise Resource Planning (ERP) Reviews
- Network Security Reviews
- Logical Security Reviews

GOVERNANCE, RISK & COMPLIANCE

Our IT GRC assessments are fully aligned COBIT, COSO, ITIL, and international standards governing the policies, procedures and guidelines around protecting information assets used throughout your organisation. As your IT Risk Management service provider we support management teams in the achievement of the following:

- Ensure achievement of strategic objectives
- Ensure that the Board is able to discharge its responsibility for enterprise and IT risk management;
- Ensure that the risks which may hamper the achievement of strategic objectives are clearly identified and measured and that effective control measures are implemented; and
- Ensure that business activities are conducted in accordance with relevant legal and regulatory requirements.

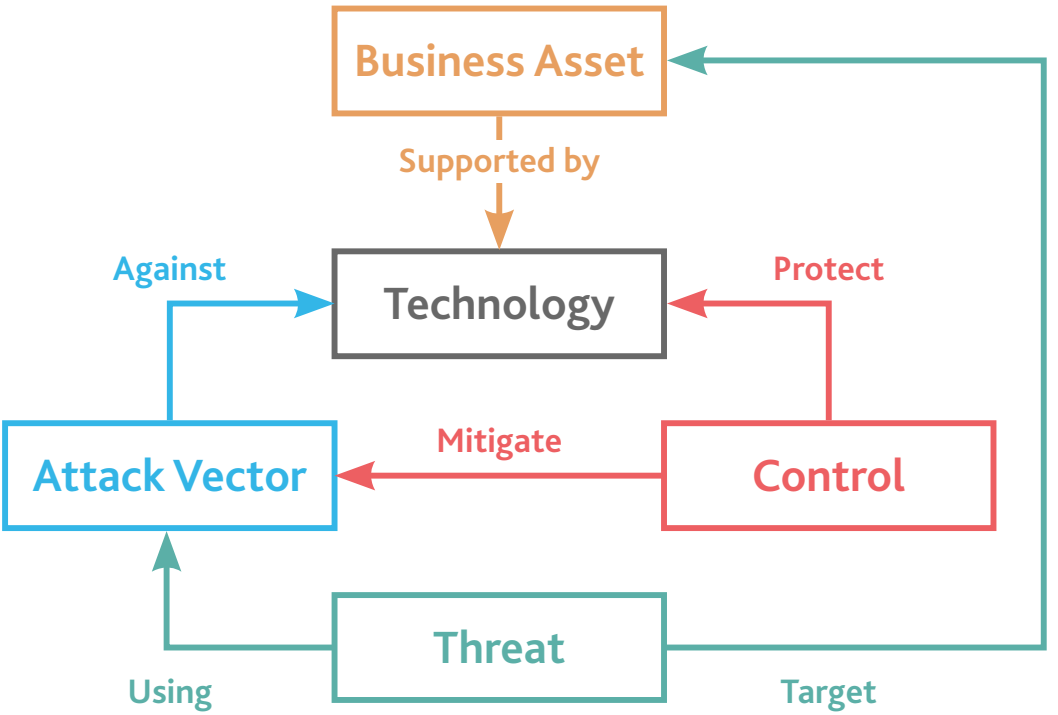
GRC Services Offered

- IT Risk Management Services
- IT Governance Reviews
- COBIT Compliance Review & Maturity Assessments
- Data Migration Re-assurance Services
- Business Process Re-engineering Services
- IT Policy & Procedure Formulation
- IT Service Continuity and DR Planning
- Data Interrogation Services
- ITIL Compliance Assessments
- ISO27001 Compliance Reviews
- ISO 38500 Compliance Reviews
- Continuous Monitoring Services
- Real-time Auditing Services

CYBER STRATEGY DEVELOPMENT

As organisations increasingly link more and more of their operational processes to their cyber infrastructure, effective cyber security is key to an organisation's ability to protect its assets, including its reputation, intellectual property (IP), staff and customers. Developing a strong cyber security strategy is a key aspect in preparing for effective cyber defence. Drawing on BDO's vast experience in Cyber Strategy Development, our advice to clients focuses on four key areas:

1. Understand the cyber security risk in relation to your organisation and critical business operations.
2. Integrate across personnel, technical security, information assurance and physical security
3. Establish protective monitoring to prevent and deter the 'insider' threat
4. Accept that some attacks will breach your defences – and plan on this basis



REMEDIATION SERVICES

Cyber Event and Information Management

BDO was built on monitoring, identifying and remediating the inherent risk associated with Networking and sharing information with customers and business partners. We monitor security devices and outputs in our clients' environment 24 x 7. This data is collected at a central point and analysed for threats and anomalies. The next steps include analysing to address the worst threats first. We also provide onsite remediation services which are a necessity in the larger environments where the focus is more on Application and Infrastructure availability as opposed to cleaning and maintaining the integrity and Security of the client environment. BDO alerts clients of problems by logging tickets which are passed to them for investigation and remediation. The security incidents and tracking thereof is an integral part of a centralised SOC, however this view can be provided to the responsible parties at the client site via customised and client-based dashboards.

SIEM and Virtual SOC

- Event collection
- Event preservation 30-day
- Correlation-based alerting
- Standard security devices collection
- Selected KPI's per device
- Technical intelligence
- Dashboard per device
- Portal access for forensics
- 4 analyst hours per month

SOC-as-a-Service

- Alert analysis and response
- 9x5 or 24x7 service
- Analyst services (16 hours per month)
- Responder on call (SLA)
- Hunting 2h per week
- Case reporting
- Cyber resilience advisory

SIEM and SOC-as-a-Service

- Includes both SIEM and SOC
- 9x5 or 24x7 service
- Alerts workflows creation
- Analyst services
- Operator services
- Includes both SIEM and SOC
- 9x5 or 24x7 service
- Alerts workflows creation
- Analyst services
- Operator services

NETWORK SECURITY SERVICES

Company networks, endpoints and web applications risk providing attackers with pathways to back-end systems and confidential; data based on how its designed, built and maintained. Our team can propose effective countermeasures to address your security challenges before attackers exploit your infrastructure's "weak links" through the application of our Readiness to Resilience and Risk model.

BDO's team of cyber specialists (vulnerability, penetration testers and first responders) are able to respond to both external and internal breaches with speed, efficiency and experience. We offer a full range of cyber incident response services and are able to supply information security support (ISSA) on an ongoing basis.

Services Offered

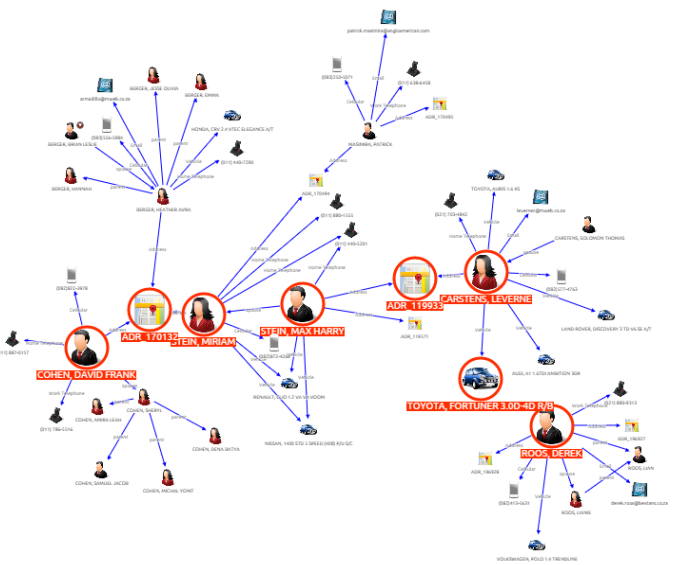
- Cyber Defence Solutions
- Penetration Testing
- Security Vulnerability Assessment
- Cyber Readiness Assessment
- Cyber Risk Assessment
- Social Engineering Practice
- Cyber Risk Assessments
- Liability and Cyber Insurance
- Gap Analysis
- First Responders
- Incident Handling and Response
- Cyber Training
- SOC

DATA ANALYTICS

As IT systems evolve, the risk of fraudulent or erroneous manipulation of business's data increases. Forensic data analytical services provide you with reasonable assurance that your organisation's data is complete, accurate, reliable and valid. Our expert team of data scientists are responsible for data integrity, data mining, data cleansing, data migration and data management. Having developed its very own cutting edge analytics platform (Interrodata), we offer clients immediate access to the following services:

- CAATS
- Advanced Data Analytics
- Advanced Link Analysis
- Data Integration
- Big Data Analysis
- Procurement Review Analysis
- Revenue Assurance Solution
- Revenue Enhancement Analysis
- Continuous Monitoring
- Transactional Segmentation & Scoring
- Scoring Algorithms
- Post-Implementation Reviews
- Data Migration Reviews
- Depreciation Modelling
- Data Compliance Reviews
- Geo Spatial Analysis

A prominent feature of InterroData is its ability to network data entities, which can be drilled down further to observe connections and relationships which may not be easily detected on the surface.



DIGITAL FORENSICS

BDO has over the course of time developed a multi-disciplinary forensic and digital forensic investigative and information gathering methodology that enables us to deliver our services at the highest quality. Our investigative methodology is in accordance with lawful forensic investigation techniques which include, but are not limited to the:

- Understanding the facts of the case under investigation;
- Plan and give direction to the investigation;
- Gather additional information/evidence to substantiate allegations;
- Collate all the additional evidence gathered;
- Analyse the information/evidence gathered;
- Evaluate and validate the information/evidence gathered
- Integrate the information/evidence gathered and reconstruct the criminal case

Services Offered

- Data Access
- Data Recovery
- Network Analysis
- Social Media Network Analysis
- Voice and Video Analytics
- Expert Witnesses
- Smart Device Data Retrieval
- Chip-Off Forensic Extractions
- Spyware Detection
- Operating System and Application Artefact Recovery
- Localisation Services

EDUCATION & TRAINING

In an effort to combat cyber-crime BDO Cyber and Forensics Lab encourages organizational cyber awareness training programs as another weapon of defense against business crime. From basic courses aimed at general staff to advanced cyber courses targeting IT departments, our training curricula are certain to provide the most suitable educational defense against cybercrime.

Option 1: General Staff Training - Meet The Hacker

While heavily focused on Social engineering, this 1 hour training course also covers many of the other exploits used in order to gain unauthorized access to resources.

Option 2: In Depth Security Training - Hackers Mean Business

This 3 hour in-depth overview of all the security fundamentals at the user level is ideally suited for people who work with sensitive information such as the accounts department, and first line support staff such as call center staff.

Option 3: Technical Training - Customized Training For Your I.T. Department

This 6 hour workshop is customized to fit the industry and expertise level of your I.T. department. From basic security risks, to advanced exploitation demonstrations, we show the I.T. department exactly what an attack on their systems would look like from the perspective of the attacker, and more importantly, how to prevent an attack by implementing industry standards and best practices.

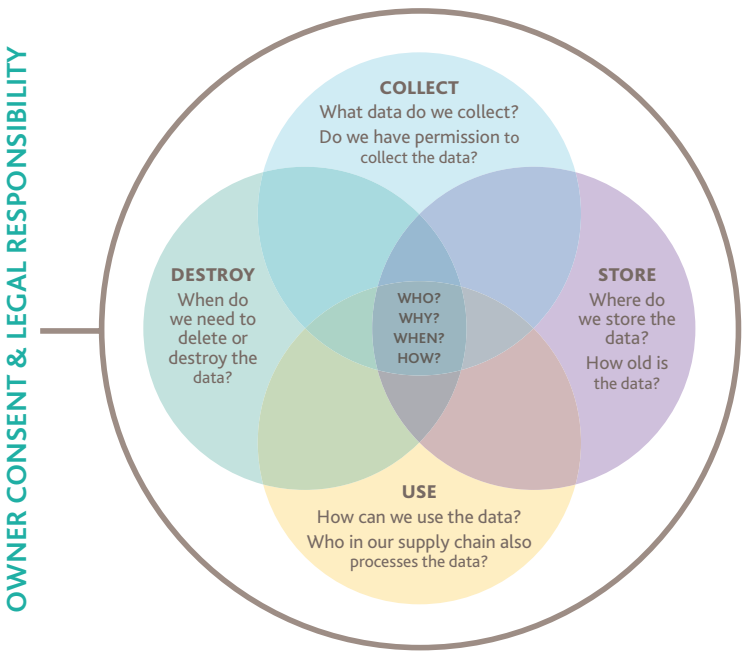
PROTECTION OF PERSONAL INFORMATION (POPIA)

Understand And Address The Impact Of The Protection Of Personal Information Act

Our Personal Information Management Services aims to identify your Protection of Personal Information Act (no 4 of 2013), also known as POPIA, readiness gaps and builds competence in addressing these risks efficiently and effectively. The team will help you prove your POPIA compliance to clients, auditors and the information regulator.

What Is Affected By POPIA?

- Policies and procedures regarding the collection, processing and storage of personal information
- Incident response communication plans around informing customers, clients and suppliers of a data breach
- Staff on-boarding and training procedures
- Contractual agreements with suppliers
- Bring-Your-Own-Device (BYOD) usage
- Data or device encryption capabilities



PCI, SAFETY & SECURITY SERVICES

BDO can help you keep customer payment information safe from fraudulent use by aligning your organisation's data processing methods to the Payment Card Industry Data Security Standard (PCI DSS). Our Payment Card Information Management Process, cover the entire Information Management Process from an initial assessment to remediation, auditing and incident response.

PCI Data Security Standard High-Level Overview

1. Build and maintain a secure network and systems
2. Protect cardholder data
3. Maintain a vulnerability management program
4. Implement strong access control measures
5. Regularly monitor and test networks
6. Maintain an information security policy

CYBER INSURANCE

Many organisations believe that their firewalls and anti-virus programs provide them with sufficient protection against cyber risks such as viruses and hacking. The reality is very different: more than one million people and organisations fall victim to cyber attacks every day. BDO's approach to insurance is geared towards managing, mitigating and migrating critical business risks – an outcome achieved through the provision of value-added risk benefits to policyholders.

BDO Provides Insurance Coverage for:

- Physical damage
  - Property damage as a result of a cyber attack
  - Debris removal (your property)
  - Bodily injury
- Incident Response
  - Cyber attack response coverage
  - Cyber extortion coverage
- Mitigation
  - Pre cyber event guidance
  - Inspection, loss prevention and/or mitigation expenses
- Legal Liability
  - Security and privacy, liability (incl.employee privacy) coverage
  - Privacy regulatory claims coverage
  - PCI-DSS assessment coverage
  - Failure to supply (upon request)
  - Spot rate coverage (upon request)
- Business Interruption
  - Covering Business interruption (Physical and Non-physical events)
  - Business income loss resulting from network disruption, including third party IT vendors for whom the insured is legally liable
  - Digital asset restoration costs

WE TAKE IT PERSONALLY

To find out more about BDO's Cyber Services offering, please contact:

Graham Croock
Director: IT Audit, Risk and Cyber Laboratory
+27824654539
gcroock@bdo.co.za

David Cohen
Executive: Cyber and Forensics Laboratory
+27828830536
dcohen@bdo.co.za

Cyber Hotline
0800-BDO-911

www.bdo.co.za