.





**MSECB Certification - ISO/IEC 27001:2013 & ISO/IEC 27018/2019 & CSA STAR Certification**

*Management System Audit Report*

*of* **Company ABC**



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This audit is based on a sampling process of the available information and the auditors nor MSECB can guarantee that all, if any, non-conformities have been discovered.

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**Executive Summary**

I have audited the Management System (MS) of Company ABC (Organization Name) from May 12th to May 15th 2022.The main objective of this audit was to assess if the MS has been successfully implemented and effective, as well as to evaluate the conformance of the organization to the ISO/IEC 27001:2013, ISO/IEC 27018:2019 and CSA Star requirements. Based on these assessments and evaluations, a decision has been made whether or not to recommend your organization for certification against ISO/IEC 27001:2013, ISO/IEC 27018:2019 and CSA Star Certification.

The audit team has conducted the audit based on the organization’s defined processes in correspondence with the audit plan. The audit conducted by a professional team was a process-based audit with a focus on the significant aspects, risks and objectives.

The CSA STAR Certification is an independent third-party audit of a cloud service provider's (CSP) security that combines ISO/IEC 27001 criteria with the CSA Cloud Controls Matrix (CCM). The following table was used to assess the maturity level for each CCM control and overall domain with a score from 1 to 15:

|  |  |
| --- | --- |
| **Score** | **Descriptor** |
| 1-3 | No Formal Approach |
| 4-6 | Reactive Approach |
| 7-9 | Proactive Approach |
| 10-12 | Improvement-Based Approach |
| 13-15 | Optimizing Approach |

In order to make it possible for an assessor to consistently apply a score to the control area, the grid below outlines what would be required of an organization to achieve each score.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Score** | **1 to 3** | **4 to 6** | **7 to 9** | **10 to 12** | **12 to 15** |
|  | **No formal approach** | **Reactive** | **Proactive** | **Improving** | **Optimizing** |
| **Evidence/definition** | 1. There is no  evidence of a  system in place to  manage the  control area. | 4. There is  evidence of a  system in place  to cover the key  operations in the  control area.  Where required,  the system is  documented. | 7. There is  evidence of a  robust system in  place that covers  all routine  operations in the  control area. | 10. There is  evidence the  system for  managing the  control area is  capable of  managing  contingency  events as well as  routine activity.r | 13. Control area  owners can  demonstrate that  they actively  review best  practice from  their industry and  across their  organization and  apply it to the  control area. |
| **Managed** | 2. There is some  evidence of either  a documented  system or an  accepted way of  working is in  place. | 5. There is a  clearly identified  owner for the  control area who  understands their  scope of  responsibility. | 8. There is  evidence that the  control area is  actively  monitored and  measured and  action evaluated  based on the  evidence. | 11. Input from a  variety of sources  is considered to  decide how to  manage risk and  improve operations  in this  control area. | 14. Control area  owners actively  share best  practice to  support development  in other  areas of the  organization  based on their  experience in this  control area. |
| **Followed/effective** | 3. There is some  evidence of an  accepted way of  working that is  broadly understood  and  followed. | 6. There is  evidence the  system is  understood and  routinely  followed. | 9. There is  evidence that  critical people  operating in the  control area are  appropriately  trained/skilled to  manage routine  operations in the  control area. | 12. There is  evidence that  inputs from a  range of  stakeholders and  monitoring and  measuring  systems have  been taken into  account when  improving  operations in the  control area. | 15. Changes in  the control area  are evaluated  against the  strategic  objective of the  organization. |

Depending on the capability level the client achieves their audit report will categories there performance against the maturity model as either:

|  |  |
| --- | --- |
| **Overall Score** | **Award** |
| Less than 3 | No Award |
| 3-6 | Bronze Award |
| 6-9 | Silver Award |
| Greater than 9 | Gold Award |

If the organization has an average score between 3 and 6, they will get a bronze level. If the organization has an average score between 6 and 9 they will get a silver level. If the organization has an average score greater than 9 they will get a gold level. According to CSA STAR guidelines, if a major nonconformity were noted in a control domain, the maximum possible score would be 6; if a minor nonconformity were noted in a control domain, the maximum possible score would be 9.

# Audit information

## Organization information

|  |  |
| --- | --- |
| Company name: |  |
| Contract number: |  |
| Phone number: |  |
| Website: |  |
| Total number of employees: |  |
| Total number of employees within the scope:  Please provide justification for the employees that are not included in the certification scope. |  |
|  | |
| Contact name: |  |
| Contact email: |  |
| Contact phone: |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sites: | | | | | |
| **Site #** | **Street Address** | **City** | **State, Province, Country** | **Zip Code** | **# of Employees** |
| 1 (main) |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |

## Audit information

|  |  |  |
| --- | --- | --- |
| Audit standard(s): |  | |
| Audit type: | Initial Audit | Surveillance 1 |
| Recertification | Surveillance 2 |
| Other: | |
| Date(s) of audit(s): |  | |
| Duration: |  | |
| Audit team leader: |  | |
| Additional team member(s): |  | |
| Additional attendees and roles: |  | |

|  |  |
| --- | --- |
| **Site #** | **Sites Audited** |
| 1 (main) |  |
| 2 |  |
| 3 |  |
| 4 |  |

## Audit Scope

|  |  |
| --- | --- |
| Certification audit scope: |  |
| Date and version of scope statement: |  |
| Has scope changed since last audit? |  |
| All scope exclusions are appropriate and justified:  Important Note\* Excluded clauses in the audited Management System shall be put in the certificate |  |

# Audit preparation and methodology

## Audit objectives

The main purpose of this audit is to evaluate the implementation and effectiveness of the Information Security Management (ISMS) including evaluation of conformity to the requirements of ISO/IEC 27001:2013, ISO/IEC 27018:2019 and CSA Star requirements.

The specific objectives of this audit are to confirm that:

* The organization has determined the boundaries and applicability of the MS in scope;
* The management system conforms with all the requirements of the audit standard (Clause 4 to 10 of ISO/IEC 27001:2013, ISO/IEC 27018:2019 and CSA Star requirements);
* The management system conforms with all applicable legal and regulatory requirements;
* The management system is capable of achieving the objectives of the organization’s policies;
* The organization has established, implemented, maintained and continually improved its MS, including the processes needed and their interactions, in accordance with the requirements of the ISO/IEC 27001:2013, ISO/IEC 27018:2019 and CSA Star requirements*.*

## Audit criteria

The audit criteria (the set of requirements) for this audit are all normative clauses of ISO/IEC 27001:2013, ISO/IEC 27018:2019 and CSA Star requirements:

* Clause 4 – Context of the organization
* Clause 5 – Leadership
* Clause 6 – Planning
* Clause 7 – Support
* Clause 8 – Operation
* Clause 9 – Performance Evaluation
* Clause 10 – Improvement
* Annex A – Control objectives and controls
* Additional requirements
  + Use of logo and trademark
* Documentation and processes defined in the management system developed by the client

***CSA STAR***

* A&A - Audit and Assurance
* AIS - Application & Interface Security
* BCR - Business Continuity Management & Operational Resilience
* CCC - Change Control & Configuration Management
* CEK - Cryptography, Encryption & Key Management
* DCS - Datacenter Security
* DSP - Data Security & Privacy Lifecycle Management
* GRC - Governance, Risk Management and Compliance
* HRS - Human Resources
* IAM - Identity & Access Management
* IPY - Interoperability & Portability
* IVS- Infrastructure & Virtualization Security
* LOG - Logging and Monitoring
* SEF - Security Incident Management, E-Discovery, & Cloud Forensics
* STA - Supply Chain Management, Transparency, and Accountability
* TVM - Threat & Vulnerability Management
* UEM - Universal Endpoint Management

## Audit methodology

[Please explain the methodology used by the audit team to perform this audit, similar to the sample below]

The audit team has conducted a process-based audit focusing on the significant aspects, risks and objectives. The auditors have used audit procedures to collect evidence in sufficient quantity and quality to validate the conformity of the management system of the organization. The use of audit procedures in a systematic way reduces the audit risk and reinforces the objectivity of the audit conclusions.

The audit team has used a combination of evidence collection procedures to create their audit test plan. The audit methods used consisted of interviews, observations of activities, review of documentation and records, technical tests and analysis of sampling.

The analysis procedure allows the audit team to draw conclusions concerning a whole by examining a part. It allows the auditor to estimate characteristics of a population by directly observing a part of the whole population. The sampling method used during this audit was a systematic sampling (or interval sampling) technique with a margin error of 3 to 5 %.

Technical tests, including testing of the effectiveness of a process or control have not been performed by the auditors themselves. The operations have always been performed by the personnel of the auditee.

## Previous audit results

The results of the last audit of this system have been reviewed, in preparation for this audit in particular to assure appropriate correction and corrective action have been implemented to address any nonconformity identified. This review has concluded that:

any nonconformity identified during previous audits has been corrected and the corrective action continues to be effective

any nonconformity identified during previous audits hasn’t been addressed adequately and the specific issue has been re-defined in the nonconformity section of this report

N/A (no previous audits or no nonconformities during the previous audit)

## Audit planning

[Please describe how the audit was planned by the audit team. Please check the example below]

*The team leader of the audit has established an initial contact with the auditee to make arrangement for this audit, including scheduling the dates. The team leader has validated the feasibility of the audit, the audit objectives, the audit scope, the location and the audit criteria.*

*The audit plan was sent to the auditee and it was confirmed before the opening meeting between the audit team and the auditee.*

*The onsite audit was started with an opening meeting which has been attended by the general manager and the ISMS responsible. The MSECB profile, audit purpose, methodology, reporting system, appeal process and confidentiality were briefly presented to the client during the opening meeting.*

## Key people interviewed

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Title** | **Department / Process** | **Opening Meeting (Yes or No)** | **Closing Meeting (Yes or No)** | **Date of interviewing** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## MSECB complaint and appeal process

Any client may appeal any decision made by the audit team. Appeals must be in writing and are addressed using MSECB’ procedure for handling appeals and disputes. If MSECB fails to resolve the appeal to the organization’s satisfaction, the appeal can be escalated to MSECB Advisory Board.

MSECB Complaint and Appeal Procedure: [www.msecb.com](http://www.msecb.com)

# Significant audit trails followed

**Notes on usage by the auditor:**

*Under the column “Status”, please use the following key to record your assessment result for each clause:*

***A*** *= Acceptable,*

***N/A*** *= Not Applicable (Out of Scope),*

***MaNC*** *= Major Nonconformity*

***MiNC*** *= Minor Nonconformity*

***OBS*** *= Observation*

***OFI*** *= Opportunity for improvement*

*\*nonconformities are explained in “Section 4: Audit Findings”.*

*Evidence should be provided also for ‘Acceptable’ clauses.*

*If nonconformity is identified (Minor or Major), please include the number of the nonconformity in the column “No. of NC”. Detailed description of the nonconformity should be provided in Annex A – Nonconformity Report.*

*If OBS or OFI is identified, please explain in details the finding(s) in section 4.4 and 4.5.*

| **Clause**  **Requirement** | | **Status** | **Audit Evidence** | **No. of NC** |
| --- | --- | --- | --- | --- |
|  | |  | Findings/justification of findings/specifics/notes |  |
| **4 Context of the organization** | | | | | |
| 4.1 | Understanding the organization and its context |  |  |  | |
| 4.2 | Understanding the needs and expectations of interested parties |  |  |  | |
| 4.3 | Determining the scope of the ISMS |  |  |  | |
| 4.4 | Information security management system |  |  |  | |
| **5 Leadership** | | | | | |
| 5.1 | Leadership and commitment |  |  |  | |
| 5.2 | Policy |  |  |  | |
| 5.3 | Organizational roles, responsibilities and authorities |  |  |  | |
| **6 Planning** | | | | | |
| 6.1 | Actions to address risks and opportunities |  |  |  | |
| 6.1.1 | General |  |  |  | |
| 6.1.2 | Information security risk assessment |  |  |  | |
| 6.1.3 | Information security risk treatment |  |  |  | |
| 6.2 | Information security objectives and planning to achieve them |  |  |  | |
| **7 Support** | | | | | |
| 7.1 | Resources |  |  |  | |
| 7.2 | Competence |  |  |  | |
| 7.3 | Awareness |  |  |  | |
| 7.4 | Communication |  |  |  | |
| 7.5 | Documented information |  |  |  | |
| 7.5.1 | General |  |  |  | |
| 7.5.2 | Creating and updating |  |  |  | |
| 7.5.3 | Control of documented information |  |  |  | |
| **8 Operation** | | | | | |
| 8.1 | Operational planning and control |  |  |  | |
| 8.2 | Information security risk assessment |  |  |  | |
| 8.3 | Information security risk treatment |  |  |  | |
| **9 Performance evaluation** | | | | | |
| 9.1 | Monitoring, measurement, analysis and evaluation |  |  |  | |
| 9.2 | Internal audit |  |  |  | |
| 9.3 | Management review |  |  |  | |
| **10 Improvement** | | | | | |
| 10.1 | Nonconformity and corrective action |  |  |  | |
| 10.2 | Continual improvement |  |  |  | |

|  |  |  |  |
| --- | --- | --- | --- |
| **11. Additional requirements** | | | |
| Use of logo and trademark |  |  |  |
| List of documents included in the audited MS |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Control Objective and Controls** | | **Status** | **Audit Evidence** | | **No. of NC** |
|  |
| **A.5 Information security policies** | | | | | |
| **A.5.1 Management direction for information security**  Objective: To provide management direction and support for information security in accordance with business requirements and relevant laws and regulations. | | | | | |
| A.5.1.1 | **Policies for information security.**  Control. A set of policies for information security shall be defined by management, published and communicated to all employees and relevant external parties. |  |  | |  |
| Control 5.1.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. sector-specific guidance also applies for: - Public cloud PII protection implementation guidance - Other information for public cloud PII protection (27018) |  |  | |  |
| A.5.1.2 | **Review of the policies for information security.** Control. The policies for information security shall be reviewed at planned intervals or if significant changes occur to ensure its continuing suitability, adequacy, and effectiveness. |  |  | |  |
| Control 5.1.2 and the associated implementation guidance specified in ISO/IEC 27002 apply. |  |  | |  |
| **A.6 Organization of information security** | | | | | |
| **A.6.1 Internal organization**  Objective: To establish a management framework to initiate and control the implementation and operation of information security within the organization. | | | | | |
| A.6.1.1 | **Information security roles and responsibilities** Control. All information security responsibilities shall be defined and allocated. |  |  | |  |
| Control 6.1.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.6.1.2 | **Segregation of duties**. Control. Conflicting duties and areas of responsibility shall be segregated to reduce opportunities for unauthorized or unintentional modification or misuse of the organization's assets. |  |  | |  |
| A.6.1.3 | **Contact with authorities.** Control. Appropriate contacts with relevant authorities shall be maintained. |  |  | |  |
| A.6.1.4 | **Contact with special interest groups.** Control. Appropriate contacts with special interest groups or other specialist security forums and professional associations shall be maintained. |  |  | |  |
| A.6.1.5 | **Information security in project management.** Control. Information security shall be addressed in project management, regardless of the type of project. |  |  | |  |
| **A.6.2 Mobile devices and teleworking**  Objective: To ensure the security of teleworking and use of mobile devices. | | | | | |
| A.6.2.1 | **Mobile device policy**. Control. A policy and supporting security measures shall be adopted to manage the risks introduced by using mobile devices. |  |  | |  |
| A.6.2.2 | **Teleworking.** Control. A policy and supporting measures shall be implemented to protect information accessed, processed or stored at teleworking sites. |  |  | |  |
| **A.7 Human resource security** | | | | | |
| **A.7.1 Prior to employment**  Objective: To ensure that employees and contractors understand their responsibilities and are suitable for the roles for which they are considered | | | | | |
| A.7.1.1 | **Screening.** Control. Background verification checks on all candidates for employment shall be carried out in accordance with relevant laws, regulations and ethics and shall be proportional to the business requirements, the classification of the information to be accessed and the perceived risks. |  |  | |  |
| A.7.1.2 | **Terms and conditions of employment.** Control. The contractual agreements with employees and contractors shall state their and the organization's responsibilities for information security. |  |  | |  |
| **A.7.2 During employment**  Objective: To ensure that employees and contractors are aware of and fulfil their information security responsibilities. | | | | | |
| A.7.2.1 | **Management responsibilities.** Control. Management shall require all employees and contractors to apply information security in accordance with the established policies and procedures of the organisation. |  |  | |  |
| A.7.2.2 | **Information security awareness, education and training.** Control. All employees of the organization and, where relevant, contractors shall receive appropriate awareness education and training and regular updates in organizational policies and procedures, as relevant for their job function. |  |  | |  |
| Control 7.2.2 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: -Public cloud PII protection implementation guidance -Other information for public cloud PII protection (27018) |  |  | |  |
| A.7.2.3 | **Disciplinary process.** Control. There shall be a formal and communicated disciplinary process in place to take action against employees who have committed an information security breach. |  |  | |  |
| **A.7.3 Termination and change of employment**  Objective: To protect the organization’s interests as part of the process of changing or terminating employment. | | | | | |
| A.7.3.1 | **Termination or change of employment responsibilities.** Control. Information security responsibilities and duties that remain valid after termination or change of employment shall be defined, communicated to the employee or contractor and enforced. |  |  | |  |
| **A.8 Asset management** | | | | | |
| **A.8.1 Responsibility for assets**  Objective: To identify organizational assets and define appropriate protection responsibilities. | | | | | |
| A.8.1.1 | **Inventory of assets**. Control. Assets associated with information and information processing facilities shall be identified and an inventory of these assets shall be drawn up and maintained. |  |  | |  |
| A.8.1.2 | **Ownership of assets.** Control. Assets maintained in the inventory shall be owned. |  |  | |  |
| A.8.1.3 | **Acceptable use of assets.** Control. Rules for the acceptable use of information and of assets associated with information and information processing facilities shall be identified, documented and implemented. |  |  | |  |
| A.8.1.4 | **Return of assets.** Control. All employees and external party users shall return all of the organizational assets in their possession upon termination of their employment, contract or agreement. |  |  | |  |
| **A.8.2 Information classification**  Objective: To ensure that information receives an appropriate level of protection in accordance with its importance to the organization. | | | | | |
| A.8.2.1 | **Classification of information.** Control. Information shall be classified in terms of legal requirements, value, criticality and sensitivity to unauthorised disclosure or modification. |  |  | |  |
| A.8.2.2 | **Labeling of information.** Control. An appropriate set of procedures for information labeling shall be developed and implemented in accordance with the information classification scheme adopted by the organization. |  |  | |  |
| A.8.2.3 | **Handling of assets.** Control. Procedures for handling assets shall be developed and implemented in accordance with the information classification scheme adopted by the organization. |  |  | |  |
| **A.8.3 Media handling**  Objective: To prevent unauthorized disclosure, modification, removal or destruction of information stored on media. | | | | | |
| A.8.3.1 | **Management of removable media.** Control. Procedures shall be implemented for the management of removable media in accordance with the classification scheme adopted by the organization. |  |  | |  |
| A.8.3.2 | **Disposal of media.**  Control. Media shall be disposed of securely when no longer required, using formal procedures. |  |  | |  |
| A.8.3.3 | **Physical media transfer.**  Control. Media containing information shall be protected against unauthorised access, misuse or corruption during transportation. |  |  | |  |
| **A.9 Access control** | | | | | |
| **A.9.1 Business requirements of access control**  Objective: To limit access to information and information processing facilities. | | | | | |
| A.9.1.1 | **Access control policy.**  Control. An access control policy shall be established, documented and reviewed based on business and information security requirements. |  |  | |  |
| A.9.1.2 | **Access to networks and network services.**  Control. Users shall only be provided with access to the network and network services that they have been specifically authorized to use. |  |  | |  |
| **A.9.2 User access management**  Objective: To ensure authorized user access and to prevent unauthorized access to systems and services. | | | | | |
| A.9.2.1 | **User registration and deregistration.** Control. A formal user registration and de-registration process shall be implemented to enable assignment of access rights. |  |  | |  |
| Control 9.2.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: -Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.9.2.2 | **User access provisioning.** Control. A formal user access provisioning process shall be implemented to assign or revoke access rights for all user types to all systems and services. |  |  | |  |
| A.9.2.3 | **Management of privileged access rights**. Control. The allocation and use of privileged access rights shall be restricted and controlled. |  |  | |  |
| A.9.2.4 | **Management of secret authentication information of users.** Control. The allocation of secret authentication information shall be controlled through a formal management process. |  |  | |  |
| A.9.2.5 | **Review of user access rights.**  Control. Asset owners shall review users' access rights at regular intervals. |  |  | |  |
| A.9.2.6 | **Removal or adjustment of access rights.** Control. The access rights of all employees and external party users to information and information processing facilities shall be removed upon termination of their employment, contract or agreement, or adjusted upon change. |  |  | |  |
| **A.9.3 User Responsibilities**  Objective: To make users accountable for safeguarding their authentication information. | | | | | |
| A.9.3.1 | **Use of secret authentication information.** Control. Users shall be required to follow the organization's practices in the use of secret authentication information. |  |  | |  |
| **A.9.4 System and application access control**  Objective: To prevent unauthorized access to systems and applications. | | | | | |
| A.9.4.1 | **Information access restriction.** Control. Access to information and application system functions by users shall be restricted in accordance with the access control policy. |  |  | |  |
| A.9.4.2 | **Secure Log-on procedures.**  Control. Where required by the access control policy, access to systems and applications shall be controlled by a secure log-on procedure. |  |  | |  |
| Control 9.4.2 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.9.4.3 | **Password Management system.** Control. Password management systems shall be interactive and shall ensure quality passwords. |  |  | |  |
| A.9.4.4 | **Use of privileged utility programs.** Control. The use of utility programs that might be capable of overriding system and application controls shall be restricted and tightly controlled. |  |  | |  |
| A.9.4.5 | **Access control to program source code.** Control. Access to program source code shall be restricted. |  |  | |  |
| **A.10 Cryptography** | | | | | |
| **A.10.1 Cryptographic controls**  Objective: To ensure proper and effective use of cryptography to protect the confidentiality, authenticity and/or integrity of information. | | | | | |
| A.10.1.1 | **Policy on the use of cryptographic controls.**  Control. A policy on the use of cryptographic controls for protection of information shall be developed and implemented. |  |  | |  |
| Control 10.1.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. The Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.10.1.2 | **Key Management.**  Control. A policy on the use, protection and lifetime of cryptographic keys shall be developed and implemented through their whole lifecycle. |  |  | |  |
| **A.11 Physical and environmental security** | | | | | |
| **A.11.1 Secure areas**  Objective: To prevent unauthorized physical access, damage and interference to the organization’s information and information processing facilities. | | | | | |
| A.11.1.1 | **Physical security perimeter.**  Control. Security perimeters shall be defined and used to protect areas that contain either sensitive or critical information and information processing facilities. |  |  | |  |
| A.11.1.2 | **Physical entry controls** Control. Secure areas shall be protected by appropriate entry controls to ensure that only authorized personnel are allowed access. |  |  | |  |
| A.11.1.3 | **Securing offices, rooms and facilities.** Control. Physical security for offices, rooms, and facilities shall be designed and applied. |  |  | |  |
| A.11.1.4 | **Protecting against external and environmental threats.** Control. Physical protection against natural disasters, malicious attack or accidents shall be designed and applied. |  |  | |  |
| A.11.1.5 | **Working in secure areas.**  Control. Procedures for working in secure areas shall be designed and applied. |  |  | |  |
| A.11.1.6 | **Delivery and loading areas**. Control. Access points such as delivery and loading areas and other points where unauthorized persons could enter the premises shall be controlled and, if possible, isolated from information processing facilities to avoid unauthorized access. |  |  | |  |
| **A.11.2 Equipment**  Objective: To prevent loss, damage, theft or compromise of assets and interruption to the organization's operations. | | | | | |
| A.11.2.1 | **Equipment siting and protection.** Control. Equipment shall be sited and protected to reduce the risks from environmental threats and hazards, and opportunities for unauthorized access. |  |  | |  |
| A.11.2.2 | **Supporting utilities.**  Control. Equipment shall be protected from power failures and other disruptions caused by failures in supporting utilities. |  |  | |  |
| A.11.2.3 | **Cabling security.**  Control. Power and telecommunications cabling carrying data or supporting information services shall be protected from interception, interference or damage. |  |  | |  |
| A.11.2.4 | **Equipment maintenance.** Control. Equipment shall be correctly maintained to ensure its continued availability and integrity. |  |  | |  |
| A.11.2.5 | **Removal of assets.**  Control. Equipment, information or software shall not be taken off-site without prior authorization. |  |  | |  |
| A.11.2.6 | **Security of equipment and assets off-premises.** Control. Security shall be applied to off-site assets taking into account the different risks of working outside the organization's premises. |  |  | |  |
| A.11.2.7 | **Secure disposal or re-use of equipment.** Control. All items of equipment containing storage media shall be verified to ensure that any sensitive data and licensed software has been removed or securely overwritten prior to disposal or re-use. |  |  | |  |
| Control 11.2.7 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.11.2.8 | **Unattended user equipment.**  Control. Users shall ensure that unattended equipment has appropriate protection. |  |  | |  |
| A.11.2.9 | **Clear Desk and Clear Screen Policy.** Control. A clear desk policy for papers and removable storage media and a clear screen policy for information processing facilities shall be adopted. |  |  | |  |
| **A.12 Operations security** | | | | | |
| **A.12.1 Operational procedures and responsibilities**  Objective: To ensure correct and secure operations of information processing facilities. | | | | | |
| A.12.1.1 | **Documented operating procedures.**  Control. Operating procedures shall be documented and made available to all users who need them. |  |  | |  |
| A.12.1.2 | **Change management.**  Control. Changes to the organization, business processes, information processing facilities and systems that affect information security shall be controlled. |  |  | |  |
| A.12.1.3 | **Capacity management.**  Control. The use of resources shall be monitored, tuned and projections made of future capacity requirements to ensure the required system performance. |  |  | |  |
| A.12.1.4 | **Separation of development, testing and operational environments.** Control. Development, testing and operational environments shall be separated to reduce the risks of unauthorized access or changes to the operational environment. |  |  | |  |
| Control 12.1.4 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| **A.12.2 Protection from malware**  Objective: To ensure that information and information processing facilities are protected against malware. | | | | | |
| A.12.2.1 | **Controls against malware.**  Control. Detection, prevention and recovery controls to protect against malware shall be implemented, combined with appropriate user awareness. |  |  | |  |
| **A.12.3 Backup**  Objective: To protect against loss of data. | | | | | |
| A.12.3.1 | **Information backup.**  Control. Backup copies of information, software and system images shall be taken and tested regularly in accordance with an agreed backup policy. |  |  | |  |
| Control 12.3.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| **A.12.4 Logging and monitoring**  Objective.To log events and generate evidence. | | | | | |
| A.12.4.1 | **Event logging.** Control. Event logs recording user activities, exceptions, faults and information security events shall be produced, kept and regularly reviewed. |  |  | |  |
| Control 12.4.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.12.4.2 | **Protection of log information.**  Control. Logging facilities and log information shall be protected against tampering and unauthorized access. |  |  | |  |
| Control 12.4.2 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.12.4.3 | **Administrator and operator logs.** Control. System administrator and system operator activities shall be logged and the logs protected and regularly reviewed. |  |  | |  |
| A.12.4.4 | **Clock synchronization.** Control. The clocks of all relevant information processing systems within an organization or security domain shall be synchronized to a single reference source. |  |  | |  |
| **A.12.5 Control of operational software**  Objective: To ensure the integrity of operational systems. | | | | | |
| A.12.5.1 | **Installation of software on operational systems.** Control. Procedures shall be implemented to control the installation of software on operational systems. |  |  | |  |
| **A.12.6 Technical Vulnerability Management**  Objective: To prevent exploitation of technical vulnerabilities. | | | | | |
| A.12.6.1 | **Management of technical vulnerabilities.**  Control. Information about technical vulnerabilities of information systems being used shall be obtained in a timely fashion, the organization's exposure to such vulnerabilities evaluated and appropriate measures taken to address the associated risk. |  |  | |  |
| A.12.6.2 | **Restrictions on software installation.** Control. Rules governing the installation of software by users shall be established and implemented. |  |  | |  |
| **A.12.7 Information systems audit considerations**  Objective: To minimize the impact of audit activities on operational systems. | | | | | |
| A.12.7.1 | **Information System Audit controls.**  Control. Audit requirements and activities involving verifications of operational systems shall be carefully planned and agreed to minimize disruptions to business processes. |  |  | |  |
| **A.13 Communications security** | | | | | |
| **A.13.1 Network security management**  Objective: To ensure the protection of information in networks and its supporting information processing facilities. | | | | | |
| A.13.1.1 | **Network controls.**  Control. Networks shall be managed and controlled to protect information in systems and applications. |  |  | |  |
| A.13.1.2 | **Security of network services.** Control. Security mechanisms, service levels and management requirements of all network services shall be identified and included in network services agreements, whether these services are provided in-house or outsourced. |  |  | |  |
| A.13.1.3 | **Segregation in networks.**  Control. Groups of information services, users and information systems shall be segregated on networks. |  |  | |  |
| **A.13.2 Information transfer**  Objective: To maintain the security of information transferred within an organization and with any external entity. | | | | | |
| A.13.2.1 | **Information transfer policies and procedures.** Control. Formal transfer policies, procedures and controls shall be in place to protect the transfer of information through the use of all types of communication facilities. |  |  | |  |
| Control 13.2.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.13.2.2 | **Agreements on information transfer.** Control. Agreements shall address the secure transfer of business information between the organization and external parties. |  |  | |  |
| A.13.2.3 | **Electronic messaging.** Control. Information involved in electronic messaging shall be appropriately protected. |  |  | |  |
| A.13.2.4 | **Confidentiality or nondisclosure agreements.**  Control. Requirements for confidentiality or non-disclosure agreements reflecting the organization's needs for the protection of information shall be identified, regularly reviewed and documented. |  |  | |  |
| **A.14 System acquisition, development and maintenance** | | | | | |
| **A.14.1 Security requirements of information systems**  Objective: To ensure that information security is an integral part of information systems across the entire lifecycle. This also includes the requirements for information systems which provide services over public networks. | | | | | |
| A.14.1.1 | **Information security requirements analysis and specification.** Control. The information security related requirements shall be included in the requirements for new information systems or enhancements to existing information systems. |  |  | |  |
| A.14.1.2 | **Securing application services on public networks.** Control. Information involved in application services passing over public networks shall be protected from fraudulent activity, contract dispute and unauthorized disclosure and modification. |  |  | |  |
| A.14.1.3 | **Protecting application services transactions.**  Control. Information involved in application service transactions shall be protected to prevent incomplete transmission, mis-routing, unauthorized message alteration, unauthorized disclosure, unauthorized message duplication or replay. |  |  | |  |
| **A.14.2 Security in development and support processes**  Objective: To ensure that information security is designed and implemented within the development lifecycle of information systems. | | | | | |
| A.14.2.1 | **Secure development policy.** Control. Rules for the development of software and systems shall be established and applied to developments within the organization. |  |  | |  |
| A.14.2.2 | **System change control procedures.** Control. Changes to systems within the development lifecycle shall be controlled by the use of formal change control procedures. |  |  | |  |
| A.14.2.3 | **Technical review of applications after operating platform changes.** Control. When operating platforms are changed, business critical applications shall be reviewed and tested to ensure there is no adverse impact o organizational operations or security. |  |  | |  |
| A.14.2.4 | **Restrictions on changes to software packages.** Control. Modifications to software packages shall be discouraged, limited to necessary changes and all changes shall be strictly controlled. |  |  | |  |
| A.14.2.5 | **Secure systems engineering principles.** Control. Principles for engineering secure systems shall be established, documented, maintained and applied to any information system implementation efforts. |  |  | |  |
| A.14.2.6 | **Secure development environment.** Control. Organizations shall establish and appropriately protect secure development environments for system development and integration efforts that cover the entire system development lifecycle. |  |  | |  |
| A.14.2.7 | **Outsourced development.**  Control. The organization shall supervise and monitor the activity of out sourced system development. |  |  | |  |
| A.14.2.8 | **System security testing.**  Control. Testing of security functionality shall be carried out during development. |  |  | |  |
| A.14.2.9 | **System acceptance testing.** Control. Acceptance testing programs and related criteria shall be established for new information systems, upgrades and new versions. |  |  | |  |
| **A.14.3 Test data** | | | | | |
| Objective: To ensure the protection of data used for testing. | | | | | |
| A.14.3.1 | **Protection of test data.**  Control. Test data shall be selected carefully, protected and controlled. |  |  | |  |
| **A.15 Supplier relationships** | | | | | |
| **A.15.1 Information security in supplier relationships**  Objective: To ensure protection of the organization’s assets that is accessible by suppliers. | | | | | |
| A.15.1.1 | **Information security policy for supplier relationships.** Control. Information security requirements for mitigating the risks associated with supplier's access to the organization's assets shall be agreed with the supplier and documented. |  |  | |  |
| A.15.1.2 | **Addressing security within supplier agreements.** Control. All relevant information security requirements shall be established and agreed with each supplier that may access, process, store, communicated, or provide IT infrastructure components for, the organization's information. |  |  | |  |
| A.15.1.3 | **Information and communication technology supply chain.** Control. Agreements with suppliers shall include requirements to address the information security risks associated with information and communications technology services and product supply chain. |  |  | |  |
| **A.15.2 Supplier service delivery management**  Objective: To maintain an agreed level of information security and service delivery in line with supplier agreements. | | | | | |
| A.15.2.1 | **Monitoring and review of supplier services.**  Control. Organizations shall regularly monitor, review and audit supplier service delivery. |  |  | |  |
| A.15.2.2 | **Managing changes to supplier services.**  Control. Changes to the provision of services by suppliers, including maintaining and improving existing information security policies, procedures and controls, shall be managed, taking account of the criticality of business information, systems and processes involved and re-assessment of risks. |  |  | |  |
| **A.16 Information security incident management** | | | | | |
| **A.16.1 Management of information security incidents and improvements**  Objective: To ensure a consistent and effective approach to the management of information security incidents, including communication on security events and weaknesses. | | | | | |
| A.16.1.1 | **Responsibilities and procedures.** Control. Management of responsibilities and procedures shall be established to ensure a quick, effective and orderly response to information security incidents. |  |  | |  |
| Control 16.1.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies: - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.16.1.2 | **Reporting information security events.**  Control. Information security events shall be reported through appropriate management channels as quickly as possible. |  |  | |  |
| A.16.1.3 | **Reporting information security weaknesses.**  Control. Employees and contractors using the organization's information systems and services shall be required to note and report any observed or suspected information security weaknesses in systems or services. |  |  | |  |
| A.16.1.4 | **Assessment of and decision on information security events.** Control. Information security events shall be assessed and it shall be decided if they are to be classified as information security incidents. |  |  | |  |
| A.16.1.5 | **Response to information security incidents.**  Control. Information security incidents shall be responded to in accordance with the documented procedures. |  |  | |  |
| A.16.1.6 | **Learning from information security incidents.** Control. Knowledge gained from analyzing and resolving information security incidents shall be used to reduce the likelihood or impact of future incidents. |  |  | |  |
| A.16.1.7 | **Collection of evidence.** Control. The organization shall define and apply procedures for the identification, collection, acquisition and preservation of information, which can serve as evidence. |  |  | |  |
| **A.17 Information security aspects of business continuity management** | | | | | |
| **A.17.1 Information security continuity**  Objective: Information security continuity shall be embedded in the organization’s business continuity management systems. | | | | | |
| A.17.1.1 | **Planning information security continuity.** Control. The organization shall determine its requirements for information security and the continuity of information security management in adverse situations, e.g. during a crisis or disaster. |  |  | |  |
| A.17.1.2 | **Implementing information security continuity.** Control. The organization shall establish, document, implement and maintain processes, procedures and controls to ensure the required level of continuity for information security during an adverse situation. |  |  | |  |
| A.17.1.3 | **Verify, review and evaluate information security continuity.**  Control. The organization shall verify the established and implemented information security continuity controls at regular intervals in order to ensure that they are valid and effective during adverse situations. |  |  | |  |
| **A.17.2 Redundancies**  Objective:To ensure availability of information processing facilities. | | | | | |
| A.17.2.1 | **Availability of information processing facilities.**  Control. Information processing facilities shall be implemented with redundancy sufficient to meet availability requirements. |  |  | |  |
| **A.18 Compliance** | | | | | |
| **A.18.1 Compliance with legal and contractual requirements**  Objective: To avoid breaches of legal, statutory, regulatory or contractual obligations related to information security and of any security requirements. | | | | | |
| A.18.1.1 | **Identification of applicable legislation and contractual requirements.** Control. All relevant legislative statutory, regulatory, contractual requirements and the organization's approach to meet these requirements shall be explicitly identified, documented and kept up to date for each information system and the organization. |  |  | |  |
| A.18.1.2 | **Intellectual property rights.** Control. Appropriate procedures shall be implemented to ensure compliance with legislative, regulatory and contractual requirements related to intellectual property rights and use of proprietary software products. |  |  | |  |
| A.18.1.3 | **Protection of records.** Control. Records shall be protected from loss, destruction, falsification, unauthorized access and unauthorized release, in accordance with legislatory, regulatory, contractual and business requirements. |  |  | |  |
| A.18.1.4 | **Privacy and protection of personally identifiable information.** Control. Privacy and protection of personally identifiable information shall be ensured as required in relevant legislation and regulation where applicable. |  |  | |  |
| A.18.1.5 | **Regulation of cryptographic controls.**  Control. Cryptographic controls shall be used in compliance with all relevant agreements, legislation and regulations. |  |  | |  |
| **A.18.2 Information security reviews**  Objective: To ensure that information security is implemented and operated in accordance with the organizational policies and procedures. | | | | | |
| A.18.2.1 | **Independent review of information security.**  Control. The organization's approach to managing information security and its implementation (i.e. control objectives, control, policies, processes and procedures for information security) shall be reviewed independently at planned intervals or when significant changes occur. |  |  | |  |
| Control 18.2.1 and the associated implementation guidance and other information specified in ISO/IEC 27002 apply. Sector-specific guidance also applies. - Public cloud PII protection implementation guidance (27018) |  |  | |  |
| A.18.2.2 | **Compliance with security policies and standards**. Control. Managers shall regularly review the compliance of information processing and procedures within their area of responsibility with the appropriate security policies, standards and any other security requirements. |  |  | |  |
| A.18.2.3 | **Technical compliance review.** Control. Information systems shall be regularly reviewed for compliance with the organization's information security policies and standards. |  |  | |  |

# CSA STAR Requirements

The CSA STAR Certification leverages the requirements of the ISO/IEC 27001 together with the CSA Cloud Controls Matrix (CCM) v4.0. MSECB evaluated the maturity level across each control domain.

|  |  |  |
| --- | --- | --- |
| **Control Domain** | **Audit Evidence** | **Score** |
| Audit & Assurance (A&A) |  |  |
| Application & Interface Security (AIS) |  |  |
| Business Continuity Management and Operational Resilience (BCR) |  |  |
| Change Control and Configuration Management (CCC) |  |  |
| Cryptography, Encryption and Key Management (CEK) |  |  |
| Datacenter Security (DCS) |  |  |
| Data Security and Privacy Lifecycle Management (DSP) |  |  |
| Governance, Risk Management and Compliance (GRC) |  |  |
| Human Resources (HRS) |  |  |
| Identity and Access Management (IAM) |  |  |
| Interoperability and Portability (IPY) |  |  |
| Infrastructure and Virtualization Security (IVS) |  |  |
| Logging and Monitoring (LOG) |  |  |
| Security Incident Management, E-Discovery, and Cloud Forensics (SEF) |  |  |
| Supply Chain Management, Transparency, and Accountability (STA) |  |  |
| Threat and Vulnerability Management (TVM) |  |  |
| Universal Endpoint Management (UEM) |  |  |

| **Control Objective and Controls** | | **Control Title** | **Score** | |
| --- | --- | --- | --- | --- |
| **Audit & Assurance (A&A)** | | | | |
| A&A-01 | **Control:** Establish, document, approve, communicate, apply, evaluate and maintain audit and assurance policies and procedures and standards. Review and update the policies and procedures at least annually | Audit and Assurance  Policy and Procedures |  | |
| A&A-02 | **Control:** Conduct independent audit and assurance assessments according to relevant standards at least annually. | Independent  Assessments |  | |
| A&A-03 | **Control:**  Perform independent audit and assurance assessments according to risk-based plans and policies. | Risk Based Planning Assessment |  | |
| A&A-04 | **Control:**  Verify compliance with all relevant standards, regulations, legal/contractual, and statutory requirements applicable to the audit. | Requirements  Compliance |  | |
| A&A-05 | **Control:**  Define and implement an audit management process to support audit planning, risk analysis, security control assessment, conclusion, remediation schedules, report generation, and review of past reports and supporting evidence. | Audit Management  Process |  | |
| A&A-06 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain a risk-based corrective action plan to remediate audit findings, review and report remediation status to relevant stakeholders. | Remediation |  | |
| **Application & Interface Security (AIS)** | | | | |
| AIS-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for application security to provide guidance to the  appropriate planning, delivery and support of the organization’s application security capabilities. Review and update the policies and procedures at least annually. | Application and  Interface Security  Policy and Procedures |  | |
| AIS-02 | **Control:**  Establish, document and maintain baseline requirements for securing different applications. | Application Security  Baseline Requirements |  | |
| AIS-03 | **Control:**  Define and implement technical and operational metrics in alignment with business objectives, security requirements, and compliance obligations. | Application Security  Metrics |  | |
| AIS-04 | **Control:**  Define and implement a SDLC process for application design, development, deployment, and operation in accordance with security requirements defined by the organization. | Secure Application  Design and  Development |  | |
| AIS-05 | **Control:**  Implement a testing strategy, including criteria for acceptance of new information systems, upgrades and new versions, which provides application security assurance and maintains compliance while enabling organizational speed of delivery goals. Automate when applicable and possible. | Automated Application  Security Testing |  | |
| AIS-06 | **Control:**  Establish and implement strategies and capabilities for secure, standardized, and compliant application deployment. Automate where possible. | Automated Secure  Application  Deployment |  | |
| AIS-07 | **Control:**  Define and implement a process to remediate application security vulnerabilities, automating remediation when possible. | Application  Vulnerability  Remediation |  | |
| **Business Continuity Management & Operational Resilience (BCR)** | | | | |
| BCR-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain business continuity management and operational resilience policies and procedures. Review and update the policies and procedures at least annually. | Business Continuity Management Policy and Procedures |  | |
| BCR-02 | **Control:**  Determine the impact of business disruptions and risks to establish criteria for developing business continuity and operational resilience strategies and capabilities. | Risk Assessment and Impact Analysis |  | |
| BCR-03 | **Control:**  Establish strategies to reduce the impact of, withstand, and recover from business disruptions within risk appetite. | Business Continuity Strategy |  | |
| BCR-04 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain a business continuity plan based on the results of the operational resilience strategies and capabilities. | Business Continuity  Planning |  | |
| BCR-05 | **Control:**  Develop, identify, and acquire documentation that is relevant to support the business continuity and operational resilience programs. Make the documentation available to authorized stakeholders and review periodically. | Documentation |  | |
| BCR-06 | **Control:**  Exercise and test business continuity and operational resilience plans at least annually or upon significant changes. | Business Continuity  Exercises |  | |
| BCR-07 | **Control:**  Establish communication with stakeholders and participants in the course of business continuity and resilience procedures. | Communication |  | |
| BCR-08 | **Control:**  Periodically backup data stored in the cloud. Ensure the confidentiality, integrity and availability of the backup, and verify data restoration from backup for resiliency. | Backup |  | |
| BCR-09 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain a disaster response plan to recover from natural and man-made disasters. Update the plan at least annually or upon significant changes. | Disaster Response Plan |  | |
| BCR-10 | **Control:**  Exercise the disaster response plan annually or upon significant changes, including if possible local emergency authorities. | Response Plan Exercise |  | |
| BCR-11 | **Control:**  Supplement business-critical equipment with redundant equipment independently located at a reasonable minimum distance in accordance with applicable industry standards. | Equipment  Redundancy |  | |
| **Change Control & Configuration Management (CCC)** | | | | |
| CCC-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for managing the risks associated with applying changes to organization assets, including application, systems, infrastructure, configuration, etc., regardless of whether the assets are managed internally or externally (i.e., outsourced). Review and update the policies and procedures at least annually. | Change Management  Policy and Procedures |  | |
| CCC-02 | **Control:**  Follow a defined quality change control, approval and testing process with established baselines, testing, and release standards. | Quality Testing |  | |
| CCC-03 | **Control:**  Manage the risks associated with applying changes to organization assets, including application, systems, infrastructure, configuration, etc., regardless of whether the assets are managed internally or externally (i.e., outsourced). | Change Management  Technology |  | |
| CCC-04 | **Control:**  Restrict the unauthorized addition, removal, update, and management of organization assets. | Unauthorized Change  Protection |  | |
| CCC-05 | **Control:**  Include provisions limiting changes directly impacting CSCs owned environments/tenants to explicitly authorized requests within service level agreements between CSPs and CSCs. | Change Agreements |  | |
| CCC-06 | **Control:**  Establish change management baselines for all relevant authorized changes on organization assets. | Change Management  Baseline |  | |
| CCC-07 | **Control:**  Implement detection measures with proactive notification in case of changes deviating from the established baseline. | Detection of Baseline Deviation |  | |
| CCC-08 | **Control:**  Implement a procedure for the management of exceptions, including emergencies, in the change and configuration process. Align the procedure with the requirements of GRC-04: Policy Exception Process. | Exception  Management |  | |
| CCC-09 | **Control:**  Define and implement a process to proactively roll back changes to a previously known good state in case of errors or security concerns. | Change Restoration |  | |
| **Cryptography, Encryption & Key Management (CEK)** | | | | |
| CEK-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for Cryptography, Encryption and Key Management. Review and update the policies and procedures at least annually. | Encryption and Key Management Policy and Procedures |  | |
| CEK-02 | **Control:**  Define and implement cryptographic, encryption and key management roles and responsibilities. | CEK Roles and  Responsibilities |  | |
| CEK-03 | **Control:**  Provide cryptographic protection to data at-rest and in-transit, using cryptographic libraries certified to approved standards. | Data Encryption |  | |
| CEK-04 | **Control:**  Use encryption algorithms that are appropriate for data protection, considering the classification of data, associated risks, and usability of the encryption technology. | Encryption Algorithm |  | |
| CEK-05 | **Control:**  Establish a standard change management procedure, to accommodate changes from internal and external sources, for review, approval, implementation and communication of cryptographic, encryption and key management technology changes. | Encryption Change  Management |  | |
| CEK-06 | **Control:**  Manage and adopt changes to cryptography-, encryption-, and key management-related systems (including policies and procedures) that fully account for downstream effects of proposed changes, including residual risk, cost, and benefits analysis. | Encryption Change Cost Benefit Analysis |  | |
| CEK-07 | **Control:**  Establish and maintain an encryption and key management risk program that includes provisions for risk assessment, risk treatment, risk context, monitoring, and feedback. | Encryption Risk  Management |  | |
| CEK-08 | **Control:**  CSPs must provide the capability for CSCs to manage their own data encryption keys. | CSC Key Management  Capability |  | |
| CEK-09 | **Control:**  Audit encryption and key management systems, policy and processes with a frequency that is proportional to the risk exposure of the system with audit occurring preferably continuously but at least annually and after any security event(s). | Encryption and Key Management Audit |  | |
| CEK-10 | **Control:**  Generate Cryptographic keys using industry accepted cryptographic libraries specifying the algorithm strength and the random number generator used. | Key Generation |  | |
| CEK-11 | **Control:**  Manage cryptographic secret and private keys that are provisioned for a unique purpose. | Key Purpose |  | |
| CEK-12 | **Control:**  Rotate cryptographic keys in accordance with the calculated cryptoperiod, which includes provisions for considering the risk of information disclosure and legal and regulatory requirements. | Key Rotation |  | |
| CEK-13 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to revoke and remove cryptographic keys prior to the end of its established cryptoperiod, when a key is compromised, or an entity is no longer part of the organization, which include provisions for legal and regulatory requirements. | Key Revocation |  | |
| CEK-14 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to destroy keys stored outside a secure environment and revoke keys stored in Hardware Security Modules (HSMs) when they are no longer needed, which include provisions for legal and regulatory requirements. | Key Destruction |  | |
| CEK-15 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to create keys in a pre-activated state when they have been generated but not authorized for use, which include provisions for legal and regulatory requirements. | Key Activation |  | |
| CEK-16 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to monitor, review and approve key transitions from any state to/from suspension, which include provisions for legal and regulatory requirements. | Key Suspension |  | |
| CEK-17 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to deactivate keys at the time of their expiration date, which include provisions for legal and regulatory requirements. | Key Deactivation |  | |
| CEK-18 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to manage archived keys in a secure repository requiring least privilege access, which include provisions for legal and regulatory requirements. | Key Archival |  | |
| CEK-19 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to use compromised keys to encrypt information only in controlled circumstances, and thereafter exclusively for decrypting data and never for encrypting data, which include provisions for legal and regulatory requirements. | Key Compromise |  | |
| CEK-20 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to assess the risk to operational continuity versus the risk of the keying material and the information it protects being exposed if control of the keying material is lost, which include provisions for legal and regulatory requirements. | Key Recovery |  | |
| CEK-21 | **Control:**  Define, implement and evaluate processes, procedures and technical measures in order for the key management system to track and report all cryptographic materials and changes in status, which include provisions for legal and regulatory requirements. | Key Inventory  Management |  | |
| **Datacenter Security (DCS)** | | | | |
| DCS-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for the secure disposal of equipment used outside the organization’s premises. If the equipment is not physically destroyed a data destruction procedure that renders recovery of information impossible must be applied. Review and update the policy and procedures at least annually. | Off-Site Equipment  Disposal Policy and Procedures |  | |
| DCS-02 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for the relocation or transfer of hardware, software, or data/information to an offsite or alternate location. The relocation or transfer request requires the written or cryptographically verifiable authorization. Review and update the policies and procedures at least annually. | Off-Site Transfer  Authorization Policy and Procedures |  | |
| DCS-03 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for maintaining a safe and secure working environment in offices, rooms, and facilities. Review and update the policies and procedures at least annually. | Secure Area Policy and  Procedures |  | |
| DCS-04 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for the secure transportation of physical media. Review and update the policies and procedures at least annually. | Secure Media  Transportation Policy and Procedures |  | |
| DCS-05 | **Control:**  Classify and document the physical, and logical assets (e.g., applications) based on the organizational business risk. | Assets Classification |  | |
| DCS-06 | **Control:**  Catalogue and track all relevant physical and logical assets located at all of the CSP’s sites within a secured system. | Assets Cataloguing  and Tracking |  | |
| DCS-07 | **Control:**  Implement physical security perimeters to safeguard personnel, data, and information systems. Establish physical security perimeters between the administrative and business areas and the data storage and processing facilities areas. | Controlled Access Points |  | |
| DCS-08 | **Control:**  Use equipment identification as a method for connection authentication. | Equipment  Identification |  | |
| DCS-09 | **Control:**  Allow only authorized personnel access to secure areas, with all ingress and egress points restricted, documented, and monitored by physical access control mechanisms. Retain access control records on a periodic basis as deemed appropriate by the organization. | Secure Area  Authorization |  | |
| DCS-10 | **Control:**  Implement, maintain, and operate datacenter surveillance systems at the external perimeter and at all the ingress and egress points to detect unauthorized ingress and egress attempts. | Surveillance System |  | |
| DCS-11 | **Control:**  Train datacenter personnel to respond to unauthorized ingress or egress attempts. | Unauthorized Access  Response Training |  | |
| DCS-12 | **Control:**  Define, implement and evaluate processes, procedures and technical measures that ensure a risk-based protection of power and telecommunication cables from a threat of interception, interference or damage at all facilities, offices and rooms. | Cabling Security |  | |
| DCS-13 | **Control:**  Implement and maintain data center environmental control systems that monitor, maintain and test for continual effectiveness the temperature and humidity conditions within accepted industry standards. | Environmental  Systems |  | |
| DCS-14 | **Control:**  Secure, monitor, maintain, and test utilities services for continual effectiveness at planned intervals. | Secure Utilities |  | |
| DCS-15 | **Control:**  Keep business-critical equipment away from locations subject to high probability for environmental risk events. | Equipment Location |  | |
| **Data Security & Privacy Lifecycle Management (DSP)** | | | | |
| DSP-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for the classification, protection and handling of data throughout its lifecycle, and according to all applicable laws and regulations, standards, and risk level. Review and update the policies and procedures at least annually. | Security and Privacy Policy and Procedures |  | |
| DSP-02 | **Control:**  Apply industry accepted methods for the secure disposal of data from storage media such that data is not recoverable by any forensic means. | Secure Disposal |  | |
| DSP-03 | **Control:**  Create and maintain a data inventory, at least for any sensitive data and personal data. | Data Inventory |  | |
| DSP-04 | **Control:**  Classify data according to its type and sensitivity level. | Data Classification |  | |
| DSP-05 | **Control:**  Create data flow documentation to identify what data is processed, stored or transmitted where. Review data flow documentation at defined intervals, at least annually, and after any change. | Data Flow  Documentation |  | |
| DSP-06 | **Control:**  Document ownership and stewardship of all relevant documented personal and sensitive data. Perform review at least annually. | Data Ownership and  Stewardship |  | |
| DSP-07 | **Control:**  Develop systems, products, and business practices based upon a principle of security by design and industry best practices. | Data Protection by Design and Default |  | |
| DSP-08 | **Control:**  Develop systems, products, and business practices based upon a principle of privacy by design and industry best practices. Ensure that systems’ privacy settings are configured by default, according to all applicable laws and regulations. | Data Privacy by Design and Default |  | |
| DSP-09 | **Control:**  Conduct a Data Protection Impact Assessment (DPIA) to evaluate the origin, nature, particularity and severity of the risks upon the processing of personal data, according to any applicable laws, regulations and industry best practices. | Data Protection Impact Assessment |  | |
| DSP-10 | **Control:**  Define, implement and evaluate processes, procedures and technical measures that ensure any transfer of personal or sensitive data is protected from unauthorized access and only processed within scope as permitted by the respective laws and regulations. | Sensitive Data Transfer |  | |
| DSP-11 | **Control:**  Define and implement processes, procedures and technical measures to enable data subjects to request access to, modification, or deletion of their personal data, according to any applicable laws and regulations. | Personal Data Access, Reversal, Rectification and Deletion |  | |
| DSP-12 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to ensure that personal data is processed according to any applicable laws and regulations and for the purposes declared to the data subject. | Limitation of Purpose in Personal Data  Processing |  | |
| DSP-13 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for the transfer and sub-processing of personal data within the service supply chain, according to any applicable laws and regulations. | Personal Data  Sub-processing |  | |
| DSP-14 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to disclose the details of any personal or sensitive data access by sub-processors to the data owner prior to initiation of that processing. | Disclosure of Data Sub-processors |  | |
| DSP-15 | **Control:**  Obtain authorization from data owners, and manage associated risk before replicating or using production data in non-production environments. | Limitation of  Production Data Use |  | |
| DSP-16 | **Control:**  Data retention, archiving and deletion is managed in accordance with business requirements, applicable laws and regulations. | Data Retention and Deletion |  | |
| DSP-17 | **Control:**  Define and implement processes, procedures and technical measures to protect sensitive data throughout its lifecycle. | Sensitive Data  Protection |  | |
| DSP-18 | **Control:**  The CSP must have in place, and describe to CSCs the procedure to manage and respond to requests for disclosure of Personal Data by Law Enforcement Authorities according to applicable laws and regulations. The CSP must give special attention to the notification procedure to interested CSCs, unless otherwise prohibited, such as a prohibition under criminal law to preserve confidentiality of a law enforcement investigation. | Disclosure Notification |  | |
| DSP-19 | **Control:**  Define and implement processes, procedures and technical measures to specify and document the physical locations of data, including any locations in which data is processed or backed up. | Data Location |  | |
| **Governance, Risk Management and Compliance (GRC)** | | | | |
| GRC-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for an information governance program, which is sponsored by the leadership of the organization. Review and update the policies and procedures at least annually. | Governance Program Policy and Procedures |  | |
| GRC-02 | **Control:**  Establish a formal, documented, and leadership sponsored Enterprise Risk Management (ERM) program that includes policies and procedures for identification, evaluation, ownership, treatment, and acceptance of cloud security and privacy risks. | Risk Management  Program |  | |
| GRC-03 | **Control:**  Review all relevant organizational policies and associated procedures at least annually or when a substantial change occurs within the organization. | Organizational Policy Reviews |  | |
| GRC-04 | **Control:**  Establish and follow an approved exception process as mandated by the governance program whenever a deviation from an established policy occurs. | Policy Exception Process |  | |
| GRC-05 | **Control:**  Develop and implement an Information Security Program, which includes programs for all the relevant domains of the CCM. | Information Security  Program |  | |
| GRC-06 | **Control:**  Define and document roles and responsibilities for planning, implementing, operating, assessing, and improving governance programs. | Governance  Responsibility Model |  | |
| GRC-07 | **Control:**  Identify and document all relevant standards, regulations, legal/contractual, and statutory requirements, which are applicable to your organization. | Information System Regulatory Mapping |  | |
| GRC-08 | **Control:**  Establish and maintain contact with cloud-related special interest groups and other relevant entities in line with business context. | Special Interest Groups |  | |
| **Human Resources (HRS)** | | | | |
| HRS-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for background verification of all new employees (including but not limited to remote employees, contractors, and third parties) according to local laws, regulations, ethics, and contractual constraints and proportional to the data classification to be accessed, the business requirements, and acceptable risk. Review and update the policies and procedures at least annually. | Background Screening  Policy and Procedures |  | |
| HRS-02 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for defining allowances and conditions for the acceptable use of organizationally-owned or managed assets. Review and update the policies and procedures at least annually | Acceptable Use of Technology Policy and  Procedures |  | |
| HRS-03 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures that require unattended workspaces to not have openly visible confidential data. Review and update the policies and procedures at least annually. | Clean Desk Policy and  Procedures |  | |
| HRS-04 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures to protect information accessed, processed or stored at remote sites and locations. Review and update the policies and procedures at least annually. | Remote and Home Working Policy and  Procedures |  | |
| HRS-05 | **Control:**  Establish and document procedures for the return of organization-owned assets by terminated employees. | Asset returns |  | |
| HRS-06 | **Control:**  Establish, document, and communicate to all personnel the procedures outlining the roles and responsibilities concerning changes in employment. | Employment  Termination |  | |
| HRS-07 | **Control:**  Employees sign the employee agreement prior to being granted access to organizational information systems, resources and assets. | Employment  Agreement Process |  | |
| HRS-08 | **Control:**  The organization includes within the employment agreements provisions and/or terms for adherence to established information governance and security policies. | Employment  Agreement Content |  | |
| HRS-09 | **Control:**  Document and communicate roles and responsibilities of employees, as they relate to information assets and security. | Personnel Roles and  Responsibilities |  | |
| HRS-10 | **Control:**  Identify, document, and review, at planned intervals, requirements for non-disclosure/confidentiality agreements reflecting the organization’s needs for the protection of data and operational details. | Non-Disclosure  Agreements |  | |
| HRS-11 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain a security awareness training program for all employees of the organization and provide regular training updates. | Security Awareness  Training |  | |
| HRS-12 | **Control:**  Provide all employees with access to sensitive organizational and personal data with appropriate security awareness training and regular updates in organizational procedures, processes, and policies relating to their professional function relative to the organization. | Personal and Sensitive  Data Awareness and  Training |  | |
| HRS-13 | **Control:**  Make employees aware of their roles and responsibilities for maintaining awareness and compliance with established policies and procedures and applicable legal, statutory, or regulatory compliance obligations. | Compliance User Responsibility |  | |
| **Identity & Access Management (IAM)** | | | | |
| IAM-01 | **Control:**  Establish, document, approve, communicate, implement, apply, evaluate and maintain policies and procedures for identity and access management. Review and update the policies and procedures at least annually. | Identity and Access Management Policy and Procedures |  | |
| IAM-02 | **Control:**  Establish, document, approve, communicate, implement, apply, evaluate and maintain strong password policies and procedures. Review and update the policies and procedures at least annually. | Strong Password Policy and Procedures |  | |
| IAM-03 | **Control:**  Manage, store, and review the information of system identities, and level of access. | Identity Inventory |  | |
| IAM-04 | **Control:**  Employ the separation of duties principle when implementing information system access. | Separation of Duties |  | |
| IAM-05 | **Control:**  Employ the least privilege principle when implementing information system access. | Least Privilege |  | |
| IAM-06 | **Control:**  Define and implement a user access provisioning process which authorizes, records, and communicates access changes to data and assets. | User Access  Provisioning |  | |
| IAM-07 | **Control:**  De-provision or respectively modify access of movers / leavers or system identity changes in a timely manner in order to effectively adopt and communicate identity and access management policies. | User Access Changes  and Revocation |  | |
| IAM-08 | **Control:**  Review and validate user access for least privilege and separation of duties with a frequency that is commensurate with organizational risk tolerance. | User Access Review |  | |
| IAM-09 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for the segregation of privileged access roles such that administrative access to data, encryption and key management capabilities and logging capabilities are distinct and separated. | Segregation of  Privileged Access Roles |  | |
| IAM-10 | **Control:**  Define and implement an access process to ensure privileged access roles and rights are granted for a time limited period, and implement procedures to prevent the culmination of segregated privileged access. | Management of  Privileged Access Roles |  | |
| IAM-11 | **Control:**  Define, implement and evaluate processes and procedures for customers to participate, where applicable, in the granting of access for agreed, high risk (as defined by the organizational risk assessment) privileged access roles. | CSCs Approval for Agreed Privileged  Access Roles |  | |
| IAM-12 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to ensure the logging infrastructure is read-only for all with write access, including privileged access roles, and that the ability to disable it is controlled through a procedure that ensures the segregation of duties and break glass procedures. | Safeguard Logs Integrity |  | |
| IAM-13 | **Control:**  Define, implement and evaluate processes, procedures and technical measures that ensure users are identifiable through unique IDs or which can associate individuals to the usage of user IDs. | Uniquely Identifiable Users |  | |
| IAM-14 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for authenticating access to systems, application and data assets, including multi factor authentication for at least privileged user and sensitive data access. Adopt digital certificates or alternatives which achieve an equivalent level of security for system identities. | Strong Authentication |  | |
| IAM-15 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for the secure management of passwords. | Passwords  Management |  | |
| IAM-16 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to verify access to data and system functions is authorized. | Authorization  Mechanisms |  | |
| **Interoperability & Portability (IPY)** | | | | |
| IPY-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for interoperability and portability including requirements for:  a. Communications between application interfaces  b. Information processing interoperability  c. Application development portability  d. Information/Data exchange, usage, portability, integrity, and persistence  Review and update the policies and procedures at least annually. | Interoperability and Portability Policy and  Procedures |  | |
| IPY-02 | **Control:**  Provide application interface(s) to CSCs so that they programmatically retrieve their data to enable interoperability and portability. | Application Interface  Availability |  | |
| IPY-03 | **Control:**  Implement cryptographically secure and standardized network protocols for the management, import and export of data. | Secure Interoperability  and Portability  Management |  | |
| IPY-04 | **Control:**  Agreements must include provisions specifying CSCs access to data upon contract termination and will include:  a. Data format  b. Length of time the data will be stored  c. Scope of the data retained and made available to the CSCs  d. Data deletion policy | Data Portability  Contractual  Obligations |  | |
| **Infrastructure & Virtualization Security (IVS)** | | | | |
| IVS-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for infrastructure and virtualization security. Review and update the policies and procedures at least annually | Infrastructure and Virtualization Security Policy and Procedures |  | |
| IVS-02 | **Control:**  Plan and monitor the availability, quality, and adequate capacity of resources in order to deliver the required system performance as determined by the business. | Capacity and Resource  Planning |  | |
| IVS-03 | **Control:**  Monitor, encrypt and restrict communications between environments to only authenticated and authorized connections, as justified by the business. Review these configurations at least annually, and support them by a documented justification of all allowed services, protocols, ports, and compensating controls. | Network Security |  | |
| IVS-04 | **Control:**  Harden host and guest OS, hypervisor or infrastructure control plane according to their respective best practices, and supported by technical controls, as part of a security baseline. | OS Hardening and Base Controls |  | |
| IVS-05 | **Control:**  Separate production and non-production environments. | Production and  Non-Production  Environments |  | |
| IVS-06 | **Control:**  Design, develop, deploy and configure applications and infrastructures such that CSP and CSC (tenant) user access and intra-tenant access is appropriately segmented and segregated, monitored and restricted from other tenants. | Segmentation and Segregation |  | |
| IVS-07 | **Control:**  Use secure and encrypted communication channels when migrating servers, services, applications, or data to cloud environments. Such channels must include only up-to-date and approved protocols | Migration to Cloud Environments |  | |
| IVS-08 | **Control:**  Identify and document high-risk environments. | Network Architecture  Documentation |  | |
| IVS-09 | **Control:**  Define, implement and evaluate processes, procedures and defense-in-depth techniques for protection, detection, and timely response to network-based attacks. | Network Defense |  | |
| **Logging and Monitoring (LOG)** | | | | |
| LOG-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for logging and monitoring. Review and update the policies and procedures at least annually. | Logging and  Monitoring Policy and  Procedures |  | |
| LOG-02 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to ensure the security and retention of audit logs. | Audit Logs Protection |  | |
| LOG-03 | **Control:**  Identify and monitor security-related events within applications and the underlying infrastructure. Define and implement a system to generate alerts to responsible stakeholders based on such events and corresponding metrics. | Security Monitoring  and Alerting |  | |
| LOG-04 | **Control:**  Restrict audit logs access to authorized personnel and maintain records that provide unique access accountability. | Audit Logs Access and  Accountability |  | |
| LOG-05 | **Control:**  Monitor security audit logs to detect activity outside of typical or expected patterns. Establish and follow a defined process to review and take appropriate and timely actions on detected anomalies. | Audit Logs Monitoring  and Response |  | |
| LOG-06 | **Control:**  Use a reliable time source across all relevant information processing systems. | Clock Synchronization |  | |
| LOG-07 | **Control:**  Establish, document and implement which information meta/data system events should be logged. Review and update the scope at least annually or whenever there is a change in the threat environment. | Logging Scope |  | |
| LOG-08 | **Control:**  Generate audit records containing relevant security information. | Log Records |  | |
| LOG-09 | **Control:**  The information system protects audit records from unauthorized access, modification, and deletion. | Log Protection |  | |
| LOG-10 | **Control:**  Establish and maintain a monitoring and internal reporting capability over the operations of cryptographic, encryption and key management policies, processes, procedures, and controls. | Encryption Monitoring and Reporting |  | |
| LOG-11 | **Control:**  Log and monitor key lifecycle management events to enable auditing and reporting on usage of cryptographic keys. | Transaction/Activity Logging |  | |
| LOG-12 | **Control:**  Monitor and log physical access using an auditable access control system. | Access Control Logs |  | |
| LOG-13 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for the reporting of anomalies and failures of the monitoring system and provide immediate notification to the accountable party. | Failures and Anomalies  Reporting |  | |
| **Security Incident Management, E-Discovery, & Cloud Forensics (SEF)** | | | | |
| SEF-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for Security Incident Management, E-Discovery, and Cloud Forensics. Review and update the policies and procedures at least annually. | Security Incident  Management Policy and Procedures |  | |
| SEF-02 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for the timely management of security incidents. Review and update the policies and procedures at least annually. | Service Management  Policy and Procedures |  | |
| SEF-03 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain a security incident response plan, which includes but is not limited to: relevant internal departments, impacted CSCs, and other business critical relationships (such as supply-chain) that may be impacted. | Incident Response  Plans |  | |
| SEF-04 | **Control:**  Test and update as necessary incident response plans at planned intervals or upon significant organizational or environmental changes for effectiveness. | Incident Response  Testing |  | |
| SEF-05 | **Control:**  Establish and monitor information security incident metrics. | Incident Response  Metrics |  | |
| SEF-06 | **Control:**  Define, implement and evaluate processes, procedures and technical measures supporting business processes to triage security-related events. | Event Triage Processes |  | |
| SEF-07 | **Control:**  Define and implement processes, procedures and technical measures for security breach notifications. Report security breaches and assumed security breaches including any relevant supply chain breaches, as per applicable SLAs, laws and regulations. | Security Breach  Notification |  | |
| SEF-08 | **Control:**  Maintain points of contact for applicable regulation authorities, national and local law enforcement, and other legal jurisdictional authorities. | Points of Contact  Maintenance |  | |
| **Supply Chain Management, Transparency, and Accountability (STA)** | | | | |
| STA-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for the application of the Shared Security Responsibility Model (SSRM) within the organization. Review and update the policies and procedures at least annually. | SSRM Policy and Procedures |  | |
| STA-02 | **Control:**  Apply, document, implement and manage the SSRM throughout the supply chain for the cloud service offering. | SSRM Supply Chain |  | |
| STA-03 | **Control:**  Provide SSRM Guidance to the CSC detailing information about the SSRM applicability throughout the supply chain. | SSRM Guidance |  | |
| STA-04 | **Control:**  Delineate the shared ownership and applicability of all CSA CCM controls according to the SSRM for the cloud service offering. | SSRM Control  Ownership |  | |
| STA-05 | **Control:**  Review and validate SSRM documentation for all cloud services offerings the organization uses. | SSRM Documentation  Review |  | |
| STA-06 | **Control:**  Implement, operate, and audit or assess the portions of the SSRM which the organization is responsible for. | SSRM Control  Implementation |  | |
| STA-07 | **Control:**  Develop and maintain an inventory of all supply chain relationships. | Supply Chain Inventory |  | |
| STA-08 | **Control:**  CSPs periodically review risk factors associated with all organizations within their supply chain. | Supply Chain Risk Management |  | |
| STA-09 | **Control:**  Service agreements between CSPs and CSCs (tenants) must incorporate at least the following mutually-agreed upon provisions and/or terms:  • Scope, characteristics and location of business relationship and services offered  • Information security requirements (including SSRM)  • Change management process  • Logging and monitoring capability  • Incident management and communication procedures  • Right to audit and third party assessment  • Service termination  • Interoperability and portability requirements  • Data privacy | Primary Service and Contractual  Agreement |  | |
| STA-10 | **Control:**  Review supply chain agreements between CSPs and CSCs at least annually. | Supply Chain  Agreement Review |  | |
| STA-11 | **Control:**  Define and implement a process for conducting internal assessments to confirm conformance and effectiveness of standards, policies, procedures, and service level agreement activities at least annually. | Internal Compliance  Testing |  | |
| STA-12 | **Control:**  Implement policies requiring all CSPs throughout the supply chain to comply with information security, confidentiality, access control, privacy, audit, personnel policy and service level requirements and standards. | Supply Chain  Service Agreement  Compliance |  | |
| STA-13 | **Control:**  Periodically review the organization’s supply chain partners’ IT governance policies and procedures. | Supply Chain  Governance Review |  | |
| STA-14 | **Control:**  Define and implement a process for conducting security assessments periodically for all organizations within the supply chain. | Supply Chain Data Security Assessment |  | |
| **Threat & Vulnerability Management (TVM)** | | | | |
| TVM-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures to identify, report and prioritize the remediation of vulnerabilities, in order to protect systems against vulnerability exploitation. Review and update the policies and procedures at least annually. | Threat and  Vulnerability  Management Policy and Procedures |  | |
| TVM-02 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures to protect against malware on managed assets. Review and update the policies and procedures at least annually. | Malware Protection  Policy and Procedures |  | |
| TVM-03 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to enable both scheduled and emergency responses to vulnerability identifications, based on the identified risk. | Vulnerability  Remediation Schedule |  | |
| TVM-04 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to update detection tools, threat signatures, and indicators of compromise on a weekly, or more frequent basis. | Detection Updates |  | |
| TVM-05 | **Control:**  Define, implement and evaluate processes, procedures, and technical measures to identify updates for applications which use third-party or open source libraries according to the organization’s vulnerability management policy. | External Library  Vulnerabilities |  | |
| TVM-06 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for the periodic performance of penetration testing by independent third parties. | Penetration Testing |  | |
| TVM-07 | **Control:**  Define, implement and evaluate processes, procedures and technical measures for the detection of vulnerabilities on organizationally managed assets at least monthly. | Vulnerability  Identification |  | |
| TVM-08 | **Control:**  Use a risk-based model for effective prioritization of vulnerability remediation using an industry recognized framework. | Vulnerability  Prioritization |  | |
| TVM-09 | **Control:**  Define and implement a process for tracking and reporting vulnerability identification and remediation activities that includes stakeholder notification. | Vulnerability  Management  Reporting |  | |
| TVM-10 | **Control:**  Establish, monitor and report metrics for vulnerability identification and remediation at defined intervals. | Vulnerability  Management Metrics |  | |
| **Universal Endpoint Management (UEM)** | | | | |
| UEM-01 | **Control:**  Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for all endpoints. Review and update the policies and procedures at least annually. | Endpoint Devices  Policy and Procedures |  | |
| UEM-02 | **Control:**  Define, document, apply and evaluate a list of approved services, applications and sources of applications (stores) acceptable for use by endpoints when accessing or storing organization-managed data. | Application and  Service Approval |  | |
| UEM-03 | **Control:**  Define and implement a process for the validation of the endpoint device compatibility with operating systems and applications. | Compatibility |  | |
| UEM-04 | **Control:**  Maintain an inventory of all endpoints used to store and access company data. | Endpoint Inventory |  | |
| UEM-05 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to enforce policies and controls for all endpoints permitted to access systems and/or store, transmit, or process organizational data. | Endpoint Management |  | |
| UEM-06 | **Control:**  Configure all relevant interactive-use endpoints to require an automatic lock screen. | Automatic Lock Screen |  | |
| UEM-07 | **Control:**  Manage changes to endpoint operating systems, patch levels, and/or applications through the company’s change management processes. | Operating Systems |  | |
| UEM-08 | **Control:**  Protect information from unauthorized disclosure on managed endpoint devices with storage encryption. | Storage Encryption |  | |
| UEM-09 | **Control:**  Configure managed endpoints with anti-malware detection and prevention technology and services. | Anti-Malware  Detection and  Prevention |  | |
| UEM-10 | **Control:**  Configure managed endpoints with properly configured software firewalls. | Software Firewall |  | |
| UEM-11 | **Control:**  Configure managed endpoints with Data Loss Prevention (DLP) technologies and rules in accordance with a risk assessment. | Data Loss Prevention |  | |
| UEM-12 | **Control:**  Enable remote geo-location capabilities for all managed mobile endpoints. | Remote Locate |  | |
| UEM-13 | **Control:**  Define, implement and evaluate processes, procedures and technical measures to enable the deletion of company data remotely on managed endpoint devices. | Remote Wipe |  | |
| UEM-14 | **Control:**  Define, implement and evaluate processes, procedures and technical and/or contractual measures to maintain proper security of third-party endpoints with access to organizational assets. | Third-Party Endpoint  Security Posture |  | |
| **TOTAL SCORE** | | | |  |

# Audit findings

The audit findings were communicated to the senior management of the organization during the closing meeting. The final conclusion of the audit results and recommendation by the audit team was also communicated to the management during the meeting.

## Audit finding definition

The evaluation of the audit findings is based on the following definitions:

**Major Nonconformities (MaNC)**

The **absence** or **total failure** of a **system** to meet a requirement. It may be either:

* A number of minor nonconformities against one requirement can represent a total failure of the system and thus be considered a major nonconformance; or
* Any nonconformance that would result in the probable shipment of a nonconforming product. A condition that may result in the failure or materially reduce the usability of the products or services for their intended purpose; or
* A nonconformance that judgment and experience indicate is likely either to result in the failure of the ISMS system or to materially reduce its ability to assure controlled processes and products.

**Minor Nonconformities (MiNC)**

A **nonconformance** that judgment and experience **indicate is not likely to result in the failure** of the ISMS system or **reduce its ability** to assure controlled processes or products. It may be either:

* A failure in some part of the supplier's documented ISMS system relative to a requirement; or
* A single observed lapse in following one item of a company’s ISMS system.

**Observations (OBS)**

Any issues which are **likely to become a NC,** if not treated until the next audit are marked as observations (OBS). No response is required.

**Opportunities for Improvement (OFI)**

If **certain aspects** which generally comply with the requirements of the standard should be improved, then they are marked as opportunities for improvement (OFI). These OFIs help to **improve the management system** as a whole or named processes. No response is required.

## Major nonconformities (see also Annex A)

Please explain if there are major non-conformities found during the audit.

## Minor nonconformities (see also Annex A)

Please explain if there are minor non-conformities found during the audit.

## Observations

Please list any noted observations or issues that can possibly turn to non-conformities.

## Opportunities for improvement

*Please list any noted opportunities for improvement without any specific recommendations for correction.*

## Agreed follow-up activities

Nonconformities detailed here need to be addressed through the organization’s corrective action process, in accordance with the relevant corrective action requirements of the audit standard, including actions to analyze the cause of the nonconformity, prevent recurrence, and complete the maintained records.

Corrective actions to address the identified major nonconformities, shall be carried out immediately and MSECB shall be notified of the actions taken within 30 days. To confirm the actions taken, evaluate their effectiveness, and determine whether certification can be granted or continued, a MSECB auditor will perform a follow up visit within 90 days.

Corrective actions to address the identified minor nonconformities shall be documented on an action plan and be sent for review by the client to the auditor within 30 days. If the actions are deemed to be satisfactory, they will be followed up during the next scheduled visit.

Nonconformities shall be addressed through the client’s corrective action process, including:

* Actions taken to determine the extent of and contain the specific nonconformance.
* Root Cause (results of an investigation to determine the most basic cause(s) of the nonconformance).
* Actions taken to correct the nonconformance and, in response to the root cause, to eliminate recurrence of the nonconformance.
* Corrective action response shall be submitted to the MSECB Lead Auditor.
* Client must maintain corrective action records, including objective evidence, for at least three (3) years.

## Uncertainty / obstacles that could affect the reliability of audit conclusions

Please specify.

## Unresolved diverging opinions between the audit team & auditee

Please specify.

# Audit conclusions and audit recommendation

## System management conformance and capability

*[Please describe if the management system has proven conformity with the requirements of the audit standard and provided adequate structure to support implementation and maintenance of the management system*

*i.e:*

* *demonstration of effective implementation and maintenance of MS*
* *demonstration of established and tracking of proper key performance objectives and targets*
* *implementation of internal audit programme etc. ]*

## Audit conclusions

|  |  |
| --- | --- |
| Has there been any serious deviation from the audit plan? (If yes, please specify) | Yes  No |
| Are there any significant issues impacting the audit program? (If yes, please specify) | Yes  No |
| Are there any significant changes affecting the management system since last audit took place? (If yes, please list the significant changes) | Yes  No  N/A |
| Are there any unresolved issues affecting the management system since last audit took place? (If yes, please list the unresolved issues) | Yes  No  N/A |
| The verification of the effectiveness of the corrective action taken regarding previously identified nonconformities has been performed and is satisfactory (please list any comments if needed) | Yes  No  N/A |
| The management system is designed to achieve the organization’s policy objectives | Yes  No |
| The management system is designed to meet statutory, regulatory and contractual requirements | Yes  No |
| The internal audit and management review processes are in place and adequate | Yes  No |
| The audit was successful in meeting the stated objectives | Yes  No |
| STAR Certification requirements were applied | Yes  No |

## Recommendation

*Lead Auditor Recommendation:*

*(Please recommend whether the management system of the organization being audited, should be certified or not certified with ISO 27001 MS Certificate and CSA STAR Certification)*

# Annex A: Nonconformity report

## Nonconformity Report

Note: If more than one nonconformity identified, please add additional nonconformity reports

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NON CONFORMITY REPORT** | | | | | | | | | |
| **TO BE COMPLETED BY AUDITOR** | **DATE** | **ORGANIZATION** | | | | | **NC ID** | | |
|  |  | | | | |  | | |
| **STANDARD:** ISO/IEC 27001:2013 | | | | |
| **NON CONFORMITY OBSERVED IN PROCESS/ AREA** | | |  | | | | | |
| **REQUIREMENT OF THE STANDARD:** | | | | | | **CLAUSE:** | | |
| **NON CONFORMITY – DESCRIPTION OF OBJECTIVE EVIDENCE** | | | | | | | | |
|  | | | | | | | | |
| **GRADE (Major/ Minor)** | | **LEAD AUDITOR** | | **AUDITOR** | | | **BUSINESS PROCESS REP.** | |
|  | |  | |  | | |  | |
| **TO BE COMPLETED BEFORE** | |
|  | |
| **TO BE COMPLETED BY THE ORGANIZATION** | **ROOT CAUSE ANALYSIS (What failed in the system to allow this NC to occur ?)** | | | | | | | | |
|  | | | | | | | | |
| **CORRECTION & CORRECTIVE ACTION (What is done to solve this problem and to prevent recurrence)** | | | | | | | | |
| CORRECTION:  CORRECTIVE ACTION: | | | | | | | | |
| **VERIFICATION OF CORRECTIVE ACTIONS** | | **DATE OF COMPLETION** | |  | | | | |
| **ORGANIZATION REPRESENTATIVE** | |  | | | | |
| **TO BE COMPLETED BY AUDITOR** | **VERIFICATION OF CORRECTIONS / CORRECTIVE ACTIONS** | | **DATE** | | **STATUS** | **LEAD AUDITOR** | | | |
|  | |  |  | | | |
| **AUDITOR COMMENTS (including evidences verified to accept the corrections/ correcive actions)** | |  | | | | | | |

# Annex B: Certification Information

|  |  |  |
| --- | --- | --- |
| **GENERAL INFORMATION** | | |
| **Number of Certificates** (for hardcopy) |  | |
| **Languages** | English | French |
| **Name of the company** (to be put in the certificate) |  | |
| **Address** (to be put in the certificate) |  | |
| **Certification Scope Statement** (to be put in the certificate)  **Important Note\***  Scope Statement should be concise and shall indicate **only** the processes and procedures within the management system that were assessed during the audit.  Company’s name or address should not be written in this statement as they are mentioned in dedicated spaces.  For ISO/IEC 27001, it is obligatory to put SoA version as well. |  | |
| **Excluded clauses in the audited Management System** (to be put in the certificate) |  | |
| **DELIVERY ADDRESS** | | |
| Title (Mr., Ms.) |  | |
| First name |  | |
| Last name |  | |
| Address |  | |
| City |  | |
| Country |  | |
| Province/State/Region |  | |
| ZIP/Postal code |  | |
| Email address |  | |

# Annex C: Surveillance Plan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Surveillance Plan ISO/IEC 27001:2013 and ISO/IEC 27018 :2019** | | | | | | |
| **1**: Initial Audit  **2:** Surveillance 1 Audit  **3**: Surveillance 2 Audit  **4**: Recertification Audit | | | **Plan** | | | |
| **1**  **(202X)** | **2**  **(202X)** | **3**  **(202X)** | **4**  **(202X)** |
| **ISO/IEC 27001:2013 Clauses** | | | | | | |
| **4 Context of the organization** | | | | | | |
| **4.1** | Understanding the organization and its context | |  |  |  |  |
| **4.2** | Understanding the needs and expectations of interested parties | |  |  |  |  |
| **4.3** | Determining the scope of the information security management system | |  |  |  |  |
| **4.4** | Information security management system | |  |  |  |  |
| **5 Leadership** | | | | | | |
| **5.1** | Leadership and commitment | |  |  |  |  |
| **5.2** | Policy | |  |  |  |  |
| **5.3** | Organizational roles, responsibilities and authorities | |  |  |  |  |
| **6 Planning** | | | | | | |
| **6.1** | Actions to address risks and opportunities | |  |  |  |  |
| **6.2** | Information security objectives and planning to achieve them | |  |  |  |  |
| **7 Support** | | | | | | |
| **7.1** | Resources | |  |  |  |  |
| **7.2** | Competence | |  |  |  |  |
| **7.3** | Awareness | |  |  |  |  |
| **7.4** | Communication | |  |  |  |  |
| **7.5** | Documented information | |  |  |  |  |
| **8 Operation** | | | | | | |
| **8.1** | Operational planning and control | |  |  |  |  |
| **8.2** | Information security risk assessment | |  |  |  |  |
| **8.3** | Information security risk treatment | |  |  |  |  |
| **9 Performance Evaluation** | | | | | | |
| **9.1** | Monitoring, measurement, analysis and evaluation | |  |  |  |  |
| **9.2** | Internal audit | |  |  |  |  |
| **9.3** | Management review | |  |  |  |  |
| **10 Improvement** | | | | | | |
| **10.1** | Nonconformity and corrective action | |  |  |  |  |
| **10.2** | Continual improvement | |  |  |  |  |
| **Control objectives and controls** | | | | | | |
| **A.5** | Information security policies | |  |  |  |  |
| **A.6** | Organization of information security | |  |  |  |  |
| **A.7** | Human resource security | |  |  |  |  |
| **A.8** | Asset management | |  |  |  |  |
| **A.9** | Access control | |  |  |  |  |
| **A.10** | Cryptography | |  |  |  |  |
| **A.11** | Physical and environmental security | |  |  |  |  |
| **A.12** | Operations security | |  |  |  |  |
| **A.13** | Communications security | |  |  |  |  |
| **A.14** | System acquisition, development and maintenance | |  |  |  |  |
| **A.15** | Supplier relationships | |  |  |  |  |
| **A.16** | Information security incident management | |  |  |  |  |
| **A.17** | Information security aspects of business continuity management | |  |  |  |  |
| **A.18** | Compliance | |  |  |  |  |
| **11. Additional requirements** | | | | | | |
|  | Use of Logo | |  |  |  |  |
|  | List of documents included in the audited MS | |  |  |  |  |
| **Notes and comments:** | |  | | | | |

# 8. Annex D: Surveillance Plan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Surveillance Plan CSA STAR Certification** | | | | | |
| **1**: Initial Audit  **2:** Surveillance 1 Audit  **3**: Surveillance 2 Audit  **4**: Recertification Audit | | **Plan** | | | |
| **1**  **(202X)** | **2**  **(202X)** | **3**  **(202X)** | **4**  **(202X)** |
| **CSA STAR Requirements Certification** | | | | | |
|  | | | | | |
| **A&A** | Audit and Assurance |  |  |  |  |
| **AIS** | Application & Interface Security |  |  |  |  |
| **BCR** | Business Continuity Management &  Operational Resilience |  |  |  |  |
| **CCC** | Change Control & Configuration Management |  |  |  |  |
| **CEK** | Cryptography, Encryption & Key Management |  |  |  |  |
| **DCS** | Datacenter Security |  |  |  |  |
| **DSP** | Data Security & Privacy Lifecycle Management |  |  |  |  |
| **GRC** | Governance, Risk Management and Compliance |  |  |  |  |
| **HRS** | Human Resources |  |  |  |  |
| **IAM** | Identity & Access Management |  |  |  |  |
| **IPY** | Interoperability & Portability |  |  |  |  |
| **IVS** | Infrastructure & Virtualization Security |  |  |  |  |
| **LOG** | Logging and Monitoring |  |  |  |  |
| **SEF** | Security Incident Management, E-Discovery, & Cloud Forensics |  |  |  |  |
| **STA** | Supply Chain Management, Transparency, and Accountability |  |  |  |  |
| **TVM** | Threat & Vulnerability Management |  |  |  |  |
| **UEM** | Universal Endpoint Management |  |  |  |  |

*For completed visits, mark “X” in the box for each clause/process covered.*

*For planned visits, mark “O” in the box for each clause/process to be covered.*