



CONSENSUS ASSESSMENTS INITIATIVE QUESTIONNAIRE VERSION 4.0.1

Question ID	Question	CSP CAIQ Answer	SSRM Control Ownership	CSP Implementation Description (Optional/Recommended)	CSC Responsibilities (Optional/Recommended)	CCM Control ID
A&A-01.1	Are audit and assurance policies, procedures, and standards established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC			A&A-01
A&A-01.2	Are audit and assurance policies, procedures, and standards reviewed and updated at least annually?	Yes	Shared CSP and CSC			
A&A-02.1	Are independent audit and assurance assessments conducted according to relevant standards at least annually?	Yes	Shared CSP and CSC			A&A-02
A&A-03.1	Are independent audit and assurance assessments performed according to risk-based plans and policies?	Yes	Shared CSP and CSC			A&A-03
A&A-04.1	Is compliance verified regarding all relevant standards, regulations, legal/contractual, and statutory requirements applicable to the audit?	Yes	Shared CSP and CSC			A&A-04
A&A-05.1	Is an audit management process defined and implemented to support audit planning, risk analysis, security control assessments, conclusions, remediation schedules, report generation, and reviews of past reports and supporting evidence?	Yes	Shared CSP and CSC			A&A-05
A&A-06.1	Is a risk-based corrective action plan to remediate audit findings established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC			A&A-06
A&A-06.2	Is the remediation status of audit findings reviewed and reported to relevant stakeholders?	Yes	Shared CSP and CSC			
AIS-01.1	Are application security policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained to guide appropriate planning, delivery, and support of the organization's application security capabilities?	Yes	Shared CSP and CSC			AIS-01
AIS-01.2	Are application security policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC			
AIS-02.1	Are baseline requirements to secure different applications established, documented, and maintained?	Yes	CSP-owned			AIS-02
AIS-03.1	Are technical and operational metrics defined and implemented according to business objectives, security requirements, and compliance obligations?	Yes	CSP-owned			AIS-03
AIS-04.1	Is an SDLC process defined and implemented for application design, development, deployment, and operation per organizationally designed security requirements?	Yes	CSP-owned			AIS-04
AIS-05.1	Does the testing strategy outline criteria to accept new information systems, upgrades, and new versions while ensuring application security, compliance adherence, and organizational speed of delivery goals?	Yes	CSP-owned			AIS-05
AIS-05.2	Is testing automated when applicable and possible?	Yes	CSP-owned			
AIS-06.1	Are strategies and capabilities established and implemented to deploy application code in a secure, standardized, and compliant manner?	Yes	CSP-owned			AIS-06
AIS-06.2	Is the deployment and integration of application code automated where possible?	Yes	CSP-owned			
AIS-07.1	Are application security vulnerabilities remediated following defined processes?	Yes	CSP-owned			AIS-07

AIS-07.2	Is the remediation of application security vulnerabilities automated when possible?	No	CSP-owned	
BCR-01.1	Are business continuity management and operational resilience policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSP-owned	BCR-01
BCR-01.2	Are the policies and procedures reviewed and updated at least annually?	Yes	CSP-owned	
BCR-02.1	Are criteria for developing business continuity and operational resiliency strategies and capabilities established based on business disruption and risk impacts?	Yes	CSP-owned	BCR-02
BCR-03.1	Are strategies developed to reduce the impact of, withstand, and recover from business disruptions in accordance with risk appetite?	Yes	CSP-owned	BCR-03
BCR-04.1	Are operational resilience strategies and capability results incorporated to establish, document, approve, communicate, apply, evaluate, and maintain a business continuity plan?	Yes	CSP-owned	BCR-04
BCR-05.1	Is relevant documentation developed, identified, and acquired to support business continuity and operational resilience plans?	Yes	CSP-owned	
BCR-05.2	Is business continuity and operational resilience documentation available to authorized stakeholders?	Yes	CSP-owned	BCR-05
BCR-05.3	Is business continuity and operational resilience documentation reviewed periodically?	Yes	CSP-owned	
BCR-06.1	Are the business continuity and operational resilience plans exercised and tested at least annually and when significant changes occur?	No	CSP-owned	BCR-06
BCR-07.1	Do business continuity and resilience procedures establish communication with stakeholders and participants?	Yes	CSP-owned	BCR-07
BCR-08.1	Is cloud data periodically backed up?	Yes	CSP-owned	
BCR-08.2	Is the confidentiality, integrity, and availability of backup data ensured?	Yes	CSP-owned	BCR-08
BCR-08.3	Can backups be restored appropriately for resiliency?	Yes	CSP-owned	
BCR-09.1	Is a disaster response plan established, documented, approved, applied, evaluated, and maintained to ensure recovery from natural and man-made disasters?	Yes	CSP-owned	BCR-09
BCR-09.2	Is the disaster response plan updated at least annually, and when significant changes occur?	Yes	CSP-owned	
BCR-10.1	Is the disaster response plan exercised annually or when significant changes occur?	No	CSP-owned	BCR-10
BCR-10.2	Are local emergency authorities included, if possible, in the exercise?	Yes	CSP-owned	
BCR-11.1	Is business-critical equipment supplemented with redundant equipment independently located at a reasonable minimum distance in accordance with applicable industry standards?	NA	CSP-owned	BCR-11
CCC-01.1	Are risk management policies and procedures associated with changing organizational assets including applications, systems, infrastructure, configuration, etc., established, documented, approved, communicated, applied, evaluated and maintained (regardless of whether asset management is internal or external)?	Yes	Shared CSP and CSC	CCC-01
CCC-01.2	Are the policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	
CCC-02.1	Is a defined quality change control, approval and testing process (with established baselines, testing, and release standards) followed?	Yes	Shared CSP and CSC	CCC-02

CCC-03.1	Are risks associated with changing organizational assets (including applications, systems, infrastructure, configuration, etc.) managed, regardless of whether asset management occurs internally or externally (i.e., outsourced)?	Yes	Shared CSP and CSC		CCC-03
CCC-04.1	Is the unauthorized addition, removal, update, and management of organization assets restricted?	Yes	Shared CSP and CSC		CCC-04
CCC-05.1	Are provisions to limit changes that directly impact CSC-owned environments and require tenants to authorize requests explicitly included within the service level agreements (SLAs) between CSPs and CSCs?	Yes	Shared CSP and CSC		CCC-05
CCC-06.1	Are change management baselines established for all relevant authorized changes on organizational assets?	Yes	Shared CSP and CSC		CCC-06
CCC-07.1	Are detection measures implemented with proactive notification if changes deviate from established baselines?	Yes	Shared CSP and CSC		CCC-07
CCC-08.1	Is a procedure implemented to manage exceptions, including emergencies, in the change and configuration process?	Yes	Shared CSP and CSC		CCC-08
CCC-08.2	Is the procedure aligned with the requirements of the GRC-04: Policy Exception Process?	No	Shared CSP and CSC		CCC-08
CCC-09.1	Is a process to proactively roll back changes to a previously known "good state" defined and implemented in case of errors or security concerns?	Yes	Shared CSP and CSC		CCC-09
CEK-01.1	Are cryptography, encryption, and key management policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSC-owned		CEK-01
CEK-01.2	Are cryptography, encryption, and key management policies and procedures reviewed and updated at least annually?	Yes	CSC-owned		CEK-01
CEK-02.1	Are cryptography, encryption, and key management roles and responsibilities defined and implemented?	Yes	CSC-owned		CEK-02
CEK-03.1	Are data at-rest and in-transit cryptographically protected using cryptographic libraries certified to approved standards?	Yes	CSC-owned		CEK-03
CEK-04.1	Are appropriate data protection encryption algorithms used that consider data classification, associated risks, and encryption technology usability?	Yes	CSC-owned		CEK-04
CEK-05.1	Are standard change management procedures established to review, approve, implement and communicate cryptography, encryption, and key management technology changes that accommodate internal and external sources?	Yes	CSC-owned		CEK-05
CEK-06.1	Are changes to cryptography-, encryption- and key management-related systems, policies, and procedures, managed and adopted in a manner that fully accounts for downstream effects of proposed changes, including residual risk, cost, and benefits analysis?	Yes	CSC-owned		CEK-06
CEK-07.1	Is a cryptography, encryption, and key management risk program established and maintained that includes risk assessment, risk treatment, risk context, monitoring, and feedback provisions?	Yes	CSC-owned		CEK-07
CEK-08.1	Are CSPs providing CSCs with the capacity to manage their own data encryption keys?	Yes	CSC-owned		CEK-08
CEK-09.1	Are encryption and key management systems, policies, and processes audited with a frequency proportional to the system's risk exposure, and after any security event?	Yes	CSC-owned		CEK-09
CEK-09.2	Are encryption and key management systems, policies, and processes audited (preferably continuously but at least annually)?	Yes	CSC-owned		CEK-09

CEK-10.1	Are cryptographic keys generated using industry-accepted and approved cryptographic libraries that specify algorithm strength and random number generator specifications?	Yes	CSC-owned	CEK-10
CEK-11.1	Are private keys provisioned for a unique purpose managed, and is cryptography secret?	Yes	CSC-owned	CEK-11
CEK-12.1	Are cryptographic keys rotated based on a cryptoperiod calculated while considering information disclosure risks and legal and regulatory requirements?	Yes	CSC-owned	CEK-12
CEK-13.1	Are cryptographic keys revoked and removed before the end of the established cryptoperiod (when a key is compromised, or an entity is no longer part of the organization) per defined, implemented, and evaluated processes, procedures, and technical measures to include legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-13
CEK-14.1	Are processes, procedures and technical measures to destroy unneeded keys defined, implemented and evaluated to address key destruction outside secure environments, revocation of keys stored in hardware security modules (HSMs), and include applicable legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-14
CEK-15.1	Are processes, procedures, and technical measures to create keys in a pre-activated state (i.e., when they have been generated but not authorized for use) being defined, implemented, and evaluated to include legal and regulatory requirement provisions?	No	CSC-owned	CEK-15
CEK-16.1	Are processes, procedures, and technical measures to monitor, review and approve key transitions (e.g., from any state to/from suspension) being defined, implemented, and evaluated to include legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-16
CEK-17.1	Are processes, procedures, and technical measures to deactivate keys (at the time of their expiration date) being defined, implemented, and evaluated to include legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-17
CEK-18.1	Are processes, procedures, and technical measures to manage archived keys in a secure repository (requiring least privilege access) being defined, implemented, and evaluated to include legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-18
CEK-19.1	Are processes, procedures, and technical measures to encrypt information in specific scenarios (e.g., only in controlled circumstances and thereafter only for data decryption and never for encryption) being defined, implemented, and evaluated to include legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-19
CEK-20.1	Are processes, procedures, and technical measures to assess operational continuity risks (versus the risk of losing control of keying material and exposing protected data) being defined, implemented, and evaluated to include legal and regulatory requirement provisions?	Yes	CSC-owned	CEK-20
CEK-21.1	Are key management system processes, procedures, and technical measures being defined, implemented, and evaluated to track and report all cryptographic materials and status changes that include legal and regulatory requirements provisions?	Yes	CSC-owned	CEK-21
DCS-01.1	Are policies and procedures for the secure disposal of equipment used outside the organization's premises established, documented, approved, communicated, enforced, and maintained?	NA		

DCS-01.2	Is a data destruction procedure applied that renders information recovery impossible if equipment is not physically destroyed?	NA		DCS-01
DCS-01.3	Are policies and procedures for the secure disposal of equipment used outside the organization's premises reviewed and updated at least annually?	NA		
DCS-02.1	Are policies and procedures for the relocation or transfer of hardware, software, or data/information to an offsite or alternate location established, documented, approved, communicated, implemented, enforced, maintained?	NA		
DCS-02.2	Does a relocation or transfer request require written or cryptographically verifiable authorization?	NA		DCS-02
DCS-02.3	Are policies and procedures for the relocation or transfer of hardware, software, or data/information to an offsite or alternate location reviewed and updated at least annually?	NA		
DCS-03.1	Are policies and procedures for maintaining a safe and secure working environment (in offices, rooms, and facilities) established, documented, approved, communicated, enforced, and maintained?	NA		DCS-03
DCS-03.2	Are policies and procedures for maintaining safe, secure working environments (e.g., offices, rooms) reviewed and updated at least annually?	NA		
DCS-04.1	Are policies and procedures for the secure transportation of physical media established, documented, approved, communicated, enforced, evaluated, and maintained?	NA		DCS-04
DCS-04.2	Are policies and procedures for the secure transportation of physical media reviewed and updated at least annually?	NA		
DCS-05.1	Is the classification and documentation of physical and logical assets based on the organizational business risk?	NA		DCS-05
DCS-06.1	Are all relevant physical and logical assets at all CSP sites cataloged and tracked within a secured system?	NA		DCS-06
DCS-07.1	Are physical security perimeters implemented to safeguard personnel, data, and information systems?	NA		DCS-07
DCS-07.2	Are physical security perimeters established between administrative and business areas, data storage, and processing facilities?	NA		
DCS-08.1	Is equipment identification used as a method for connection authentication?	NA		DCS-08
DCS-09.1	Are solely authorized personnel able to access secure areas, with all ingress and egress areas restricted, documented, and monitored by physical access control mechanisms?	NA		DCS-09
DCS-09.2	Are access control records retained periodically, as deemed appropriate by the organization?	NA		
DCS-10.1	Are external perimeter datacenter surveillance systems and surveillance systems at all ingress and egress points implemented, maintained, and operated?	NA		DCS-10
DCS-11.1	Are datacenter personnel trained to respond to unauthorized access or egress attempts?	NA		DCS-11
DCS-12.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to ensure risk-based protection of power and telecommunication cables from interception, interference, or damage threats at all facilities, offices, and rooms?	NA		DCS-12

DCS-13.1	Are data center environmental control systems designed to monitor, maintain, and test that on-site temperature and humidity conditions fall within accepted industry standards effectively implemented and maintained?	NA			DCS-13
DCS-14.1	Are utility services secured, monitored, maintained, and tested at planned intervals for continual effectiveness?	NA			DCS-14
DCS-15.1	Is business-critical equipment segregated from locations subject to a high probability of environmental risk events?	NA			DCS-15
DSP-01.1	Are policies and procedures established, documented, approved, communicated, enforced, evaluated, and maintained for the classification, protection, and handling of data throughout its lifecycle according to all applicable laws and regulations, standards, and risk level?	Yes	CSC-owned		DSP-01
DSP-01.2	Are data security and privacy policies and procedures reviewed and updated at least annually?	Yes	CSC-owned		
DSP-02.1	Are industry-accepted methods applied for secure data disposal from storage media so information is not recoverable by any forensic means?	Yes	CSC-owned		DSP-02
DSP-03.1	Is a data inventory created and maintained for sensitive and personal information (at a minimum)?	Yes	CSC-owned		DSP-03
DSP-04.1	Is data classified according to type and sensitivity levels?	Yes	CSC-owned		DSP-04
DSP-05.1	Is data flow documentation created to identify what data is processed and where it is stored and transmitted?	Yes	CSC-owned		DSP-05
DSP-05.2	Is data flow documentation reviewed at defined intervals, at least annually, and after any change?	Yes	CSC-owned		
DSP-06.1	Is the ownership and stewardship of all relevant personal and sensitive data documented?	Yes	CSC-owned		DSP-06
DSP-06.2	Is data ownership and stewardship documentation reviewed at least annually?	Yes	CSC-owned		
DSP-07.1	Are systems, products, and business practices based on security principles by design and per industry best practices?	Yes	CSC-owned		DSP-07
DSP-08.1	Are systems, products, and business practices based on privacy principles by design and according to industry best practices?	Yes	CSC-owned		
DSP-08.2	Are systems' privacy settings configured by default and according to all applicable laws and regulations?	Yes	CSC-owned		DSP-08
DSP-09.1	Is a data protection impact assessment (DPIA) conducted when processing personal data and evaluating the origin, nature, particularity, and severity of risks according to any applicable laws, regulations and industry best practices?	Yes	CSC-owned		DSP-09
DSP-10.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to ensure any transfer of personal or sensitive data is protected from unauthorized access and only processed within scope (as permitted by respective laws and regulations)?	Yes	CSC-owned		DSP-10
DSP-11.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to enable data subjects to request access to, modify, or delete personal data (per applicable laws and regulations)?	Yes	CSC-owned		DSP-11
DSP-12.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to ensure personal data is processed (per applicable laws and regulations and for the purposes declared to the data subject)?	Yes	CSC-owned		DSP-12
DSP-13.1	Are processes, procedures, and technical measures defined, implemented, and evaluated for the transfer and sub-processing of personal data within the service supply chain (according to any applicable laws and regulations)?	Yes	CSC-owned		DSP-13

DSP-14.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to disclose details to the data owner of any personal or sensitive data access by sub-processors before processing initiation?	Yes	CSC-owned	DSP-14
DSP-15.1	Is authorization from data owners obtained, and the associated risk managed, before replicating or using production data in non-production environments?	Yes	CSC-owned	DSP-15
DSP-16.1	Do data retention, archiving, and deletion practices follow business requirements, applicable laws, and regulations?	Yes	CSC-owned	DSP-16
DSP-17.1	Are processes, procedures, and technical measures defined and implemented to protect sensitive data throughout its lifecycle?	Yes	CSC-owned	DSP-17
DSP-18.1	Does the CSP 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?	Yes	CSC-owned	DSP-18
DSP-18.2	Does the CSP 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?	Yes	CSC-owned	
DSP-19.1	Are processes, procedures, and technical measures defined and implemented to specify and document physical data locations, including locales where data is processed or backed up?	Yes	CSC-owned	DSP-19
GRC-01.1	Are information governance program policies and procedures sponsored by organizational leadership established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	GRC-01
GRC-01.2	Are the policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	
GRC-02.1	Is there an established 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?	Yes	Shared CSP and CSC	GRC-02
GRC-03.1	Are all relevant organizational policies and associated procedures reviewed at least annually, or when a substantial organizational change occurs?	Yes	Shared CSP and CSC	GRC-03
GRC-04.1	Is an approved exception process mandated by the governance program established and followed whenever a deviation from an established policy occurs?	No	Shared CSP and CSC	GRC-04
GRC-05.1	Has an information security program (including programs of all relevant CCM domains) been developed and implemented?	Yes	Shared CSP and CSC	GRC-05
GRC-06.1	Are roles and responsibilities for planning, implementing, operating, assessing, and improving governance programs defined and documented?	Yes	Shared CSP and CSC	GRC-06
GRC-07.1	Are all relevant standards, regulations, legal/contractual, and statutory requirements applicable to your organization identified and documented?	Yes	Shared CSP and CSC	GRC-07
GRC-08.1	Is contact established and maintained with cloud-related special interest groups and other relevant entities?	Yes	Shared CSP and CSC	GRC-08
HRS-01.1	Are background verification policies and procedures of all new employees (including but not limited to remote employees, contractors, and third parties) established, documented, approved, communicated, applied, evaluated, and maintained?	No	Shared CSP and CSC	HRS-01
HRS-01.2	Are background verification policies and procedures designed according to local laws, regulations, ethics, and contractual constraints and proportional to the data classification to be accessed, business requirements, and acceptable risk?	NA	Shared CSP and CSC	

HRS-01.3	Are background verification policies and procedures reviewed and updated at least annually?	NA	Shared CSP and CSC	
HRS-02.1	Are policies and procedures for defining allowances and conditions for the acceptable use of organizationally-owned or managed assets established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	HRS-02
HRS-02.2	Are the policies and procedures for defining allowances and conditions for the acceptable use of organizationally-owned or managed assets reviewed and updated at least annually?	Yes	Shared CSP and CSC	
HRS-03.1	Are policies and procedures requiring unattended workspaces to conceal confidential data established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	HRS-03
HRS-03.2	Are policies and procedures requiring unattended workspaces to conceal confidential data reviewed and updated at least annually?	Yes	Shared CSP and CSC	
HRS-04.1	Are policies and procedures to protect information accessed, processed, or stored at remote sites and locations established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	HRS-04
HRS-04.2	Are policies and procedures to protect information accessed, processed, or stored at remote sites and locations reviewed and updated at least annually?	Yes	Shared CSP and CSC	
HRS-05.1	Are return procedures of organizationally-owned assets by terminated employees established and documented?	Yes	Shared CSP and CSC	HRS-05
HRS-06.1	Are procedures outlining the roles and responsibilities concerning changes in employment established, documented, and communicated to all personnel?	Yes	Shared CSP and CSC	HRS-06
HRS-07.1	Are employees required to sign an employment agreement before gaining access to organizational information systems, resources, and assets?	Yes	Shared CSP and CSC	HRS-07
HRS-08.1	Are provisions and/or terms for adherence to established information governance and security policies included within employment agreements?	Yes	Shared CSP and CSC	HRS-08
HRS-09.1	Are employee roles and responsibilities relating to information assets and security documented and communicated?	Yes	Shared CSP and CSC	HRS-09
HRS-10.1	Are requirements for non-disclosure/confidentiality agreements reflecting organizational data protection needs and operational details identified, documented, and reviewed at planned intervals?	Yes	Shared CSP and CSC	HRS-10
HRS-11.1	Is a security awareness training program for all employees of the organization established, documented, approved, communicated, applied, evaluated and maintained?	Yes	Shared CSP and CSC	HRS-11
HRS-11.2	Are regular security awareness training updates provided?	Yes	Shared CSP and CSC	
HRS-12.1	Are all employees granted access to sensitive organizational and personal data provided with appropriate security awareness training?	Yes	Shared CSP and CSC	HRS-12
HRS-12.2	Are all employees granted access to sensitive organizational and personal data provided with regular updates in procedures, processes, and policies relating to their professional function?	Yes	Shared CSP and CSC	
HRS-13.1	Are employees notified of their roles and responsibilities to maintain awareness and compliance with established policies, procedures, and applicable legal, statutory, or regulatory compliance obligations?	Yes	Shared CSP and CSC	HRS-13
IAM-01.1	Are identity and access management policies and procedures established, documented, approved, communicated, implemented, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	IAM-01
IAM-01.2	Are identity and access management policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	

IAM-02.1	Are strong password policies and procedures established, documented, approved, communicated, implemented, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	
IAM-02.2	Are strong password policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	IAM-02
IAM-03.1	Is system identity information and levels of access managed, stored, and reviewed?	Yes	Shared CSP and CSC	IAM-03
IAM-04.1	Is the separation of duties principle employed when implementing information system access?	Yes	Shared CSP and CSC	IAM-04
IAM-05.1	Is the least privilege principle employed when implementing information system access?	Yes	Shared CSP and CSC	IAM-05
IAM-06.1	Is a user access provisioning process defined and implemented which authorizes, records, and communicates data and assets access changes?	Yes	Shared CSP and CSC	IAM-06
IAM-07.1	Is a process in place to de-provision or modify the access, in a timely manner, of movers / leavers or system identity changes, to effectively adopt and communicate identity and access management policies?	Yes	Shared CSP and CSC	IAM-07
IAM-08.1	Are reviews and revalidation of user access for least privilege and separation of duties completed with a frequency commensurate with organizational risk tolerance?	Yes	Shared CSP and CSC	IAM-08
IAM-09.1	Are processes, procedures, and technical measures for the segregation of privileged access roles defined, implemented, and evaluated such that administrative data access, encryption, key management capabilities, and logging capabilities are distinct and separate?	Yes	Shared CSP and CSC	IAM-09
IAM-10.1	Is an access process defined and implemented to ensure privileged access roles and rights are granted for a limited period?	Yes	Shared CSP and CSC	IAM-10
IAM-10.2	Are procedures implemented to prevent the culmination of segregated privileged access?	Yes	Shared CSP and CSC	IAM-10
IAM-11.1	Are processes and procedures for customers to participate, where applicable, in granting access for agreed, high risk as (defined by the organizational risk assessment) privileged access roles defined, implemented and evaluated?	Yes	Shared CSP and CSC	IAM-11
IAM-12.1	Are processes, procedures, and technical measures to ensure the logging infrastructure is "read-only" for all with write access (including privileged access roles) defined, implemented, and evaluated?	NA	Shared CSP and CSC	IAM-12
IAM-12.2	Is the ability to disable the "read-only" configuration of logging infrastructure controlled through a procedure that ensures the segregation of duties and break glass procedures?	NA	Shared CSP and CSC	IAM-12
IAM-13.1	Are processes, procedures, and technical measures that ensure users are identifiable through unique identification (or can associate individuals with user identification usage) defined, implemented, and evaluated?	Yes	Shared CSP and CSC	IAM-13
IAM-14.1	Are processes, procedures, and technical measures for authenticating access to systems, application, and data assets including multifactor authentication for a least-privileged user and sensitive data access defined, implemented, and evaluated?	No	Shared CSP and CSC	IAM-14
IAM-14.2	Are digital certificates or alternatives that achieve an equivalent security level for system identities adopted?	Yes	Shared CSP and CSC	IAM-14
IAM-15.1	Are processes, procedures, and technical measures for the secure management of passwords defined, implemented, and evaluated?	Yes	Shared CSP and CSC	IAM-15
IAM-16.1	Are processes, procedures, and technical measures to verify access to data and system functions authorized, defined, implemented, and evaluated?	Yes	Shared CSP and CSC	IAM-16

IPY-01.1	Are policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained for communications between application services (e.g., APIs)?	Yes	CSC-owned		IPY-01
IPY-01.2	Are policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained for information processing interoperability?	Yes	CSC-owned		
IPY-01.3	Are policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained for application development portability?	Yes	CSC-owned		
IPY-01.4	Are policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained for information/data exchange, usage, portability, integrity, and persistence?	Yes	CSC-owned		
IPY-01.5	Are interoperability and portability policies and procedures reviewed and updated at least annually?	Yes	CSC-owned		
IPY-02.1	Are CSCs able to programmatically retrieve their data via an application interface(s) to enable interoperability and portability?	Yes	CSC-owned		IPY-02
IPY-03.1	Are cryptographically secure and standardized network protocols implemented for the management, import, and export of data?	Yes	CSC-owned		IPY-03
IPY-04.1	Do agreements include provisions specifying CSC data access upon contract termination, and have the following? a. Data format b. Duration data will be stored c. Scope of the data retained and made available to the CSCs d. Data deletion policy	Yes	CSC-owned		IPY-04
IVS-01.1	Are infrastructure and virtualization security policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained?	NA	CSP-owned		IVS-01
IVS-01.2	Are infrastructure and virtualization security policies and procedures reviewed and updated at least annually?	NA	CSP-owned		
IVS-02.1	Is resource availability, quality, and capacity planned and monitored in a way that delivers required system performance, as determined by the business?	NA	CSP-owned		IVS-02
IVS-03.1	Are communications between environments monitored?	NA	CSP-owned		IVS-03
IVS-03.2	Are communications between environments encrypted?	NA	CSP-owned		
IVS-03.3	Are communications between environments restricted to only authenticated and authorized connections, as justified by the business?	NA	CSP-owned		
IVS-03.4	Are network configurations reviewed at least annually?	NA	CSP-owned		
IVS-03.5	Are network configurations supported by the documented justification of all allowed services, protocols, ports, and compensating controls?	NA	CSP-owned		
IVS-04.1	Is every host and guest OS, hypervisor, or infrastructure control plane hardened (according to their respective best practices) and supported by technical controls as part of a security baseline?	NA	CSP-owned		IVS-04
IVS-05.1	Are production and non-production environments separated?	NA	CSP-owned		IVS-05
IVS-06.1	Are applications and infrastructures designed, developed, deployed, and configured such that CSP and CSC (tenant) user access and intra-tenant access is appropriately segmented, segregated, monitored, and restricted from other tenants?	NA	CSP-owned		IVS-06
IVS-07.1	Are secure and encrypted communication channels including only up-to-date and approved protocols used when migrating servers, services, applications, or data to cloud environments?	Yes	Shared CSP and CSC		IVS-07

IVS-08.1	Are high-risk environments identified and documented?	NA	CSP-owned		IVS-08
IVS-09.1	Are processes, procedures, and defense-in-depth techniques defined, implemented, and evaluated for protection, detection, and timely response to network-based attacks?	NA	CSP-owned		IVS-09
LOG-01.1	Are logging and monitoring policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSP-owned		LOG-01
LOG-01.2	Are policies and procedures reviewed and updated at least annually?	Yes	CSP-owned		
LOG-02.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to ensure audit log security and retention?	Yes	CSP-owned		LOG-02
LOG-03.1	Are security-related events identified and monitored within applications and the underlying infrastructure?	Yes	CSP-owned		
LOG-03.2	Is a system defined and implemented to generate alerts to responsible stakeholders based on security events and their corresponding metrics?	No	CSP-owned		LOG-03
LOG-04.1	Is access to audit logs restricted to authorized personnel, and are records maintained to provide unique access accountability?	Yes	CSP-owned		LOG-04
LOG-05.1	Are security audit logs monitored to detect activity outside of typical or expected patterns?	Yes	CSP-owned		
LOG-05.2	Is a process established and followed to review and take appropriate and timely actions on detected anomalies?	No	CSP-owned		LOG-05
LOG-06.1	Is a reliable time source being used across all relevant information processing systems?	Yes	CSP-owned		LOG-06
LOG-07.1	Are logging requirements for information meta/data system events established, documented, and implemented?	Yes	CSP-owned		
LOG-07.2	Is the scope reviewed and updated at least annually, or whenever there is a change in the threat environment?	Yes	CSP-owned		LOG-07
LOG-08.1	Are audit records generated, and do they contain relevant security information?	Yes	CSP-owned		LOG-08
LOG-09.1	Does the information system protect audit records from unauthorized access, modification, and deletion?	Yes	CSP-owned		LOG-09
LOG-10.1	Are monitoring and internal reporting capabilities established to report on cryptographic operations, encryption, and key management policies, processes, procedures, and controls?	Yes	CSP-owned		LOG-10
LOG-11.1	Are key lifecycle management events logged and monitored to enable auditing and reporting on cryptographic keys' usage?	Yes	CSP-owned		LOG-11
LOG-12.1	Is physical access logged and monitored using an auditable access control system?	No	CSP-owned		LOG-12
LOG-13.1	Are processes and technical measures for reporting monitoring system anomalies and failures defined, implemented, and evaluated?	No	CSP-owned		LOG-13
LOG-13.2	Are accountable parties immediately notified about anomalies and failures?	Yes	CSP-owned		
SEF-01.1	Are policies and procedures for security incident management, e-discovery, and cloud forensics established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSC-owned		SEF-01
SEF-01.2	Are policies and procedures reviewed and updated annually?	Yes	CSC-owned		
SEF-02.1	Are policies and procedures for timely management of security incidents established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSC-owned		
SEF-02.2	Are policies and procedures for timely management of security incidents reviewed and updated at least annually?	Yes	CSC-owned		SEF-02

SEF-03.1	Is a security incident response plan that includes relevant internal departments, impacted CSCs, and other business-critical relationships (such as supply-chain) established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSC-owned		SEF-03
SEF-04.1	Is the security incident response plan tested and updated for effectiveness, as necessary, at planned intervals or upon significant organizational or environmental changes?	No	CSC-owned		SEF-04
SEF-05.1	Are information security incident metrics established and monitored?	No	CSC-owned		SEF-05
SEF-06.1	Are processes, procedures, and technical measures supporting business processes to triage security-related events defined, implemented, and evaluated?	Yes	CSC-owned		SEF-06
SEF-07.1	Are processes, procedures, and technical measures for security breach notifications defined and implemented?	Yes	CSC-owned		
SEF-07.2	Are security breaches and assumed security breaches reported (including any relevant supply chain breaches) as per applicable SLAs, laws, and regulations?	Yes	CSC-owned		SEF-07
SEF-08.1	Are points of contact maintained for applicable regulation authorities, national and local law enforcement, and other legal jurisdictional authorities?	Yes	CSC-owned		SEF-08
STA-01.1	Are policies and procedures implementing the shared security responsibility model (SSRM) within the organization established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	CSC-owned		STA-01
STA-01.2	Are the policies and procedures that apply the SSRM reviewed and updated annually?	Yes	CSC-owned		
STA-02.1	Is the SSRM applied, documented, implemented, and managed throughout the supply chain for the cloud service offering?	Yes	CSC-owned		STA-02
STA-03.1	Is the CSC given SSRM guidance detailing information about SSRM applicability throughout the supply chain?	Yes	CSP-owned		STA-03
STA-04.1	Is the shared ownership and applicability of all CSA CCM controls delineated according to the SSRM for the cloud service offering?	Yes	CSP-owned		STA-04
STA-05.1	Is SSRM documentation for all cloud services the organization uses reviewed and validated?	Yes	Shared CSP and CSC		STA-05
STA-06.1	Are the portions of the SSRM the organization is responsible for implemented, operated, audited, or assessed?	Yes	Shared CSP and CSC		STA-06
STA-07.1	Is an inventory of all supply chain relationships developed and maintained?	Yes	Shared CSP and CSC		STA-07
STA-08.1	Are risk factors associated with all organizations within the supply chain periodically reviewed by CSPs?	Yes	Shared CSP and CSC		STA-08

STA-09.1	Do service agreements between CSPs and CSCs (tenants) incorporate at least the following mutually agreed upon provisions and/or terms? <ul style="list-style-type: none"> • 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 	Yes	Shared CSP and CSC	STA-09
STA-10.1	Are supply chain agreements between CSPs and CSCs reviewed at least annually?	Yes	Shared CSP and CSC	STA-10
STA-11.1	Is there a process for conducting internal assessments at least annually to confirm the conformance and effectiveness of standards, policies, procedures, and SLA activities?	No	Shared CSP and CSC	STA-11
STA-12.1	Are policies that require all supply chain CSPs to comply with information security, confidentiality, access control, privacy, audit, personnel policy, and service level requirements and standards implemented?	Yes	Shared CSP and CSC	STA-12
STA-13.1	Are supply chain partner IT governance policies and procedures reviewed periodically?	Yes	Shared CSP and CSC	STA-13
STA-14.1	Is a process to conduct periodic security assessments for all supply chain organizations defined and implemented?	No	Shared CSP and CSC	STA-14
TVM-01.1	Are policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained to identify, report, and prioritize the remediation of vulnerabilities to protect systems against vulnerability exploitation?	Yes	Shared CSP and CSC	TVM-01
TVM-01.2	Are threat and vulnerability management policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	
TVM-02.1	Are policies and procedures to protect against malware on managed assets established, documented, approved, communicated, applied, evaluated, and maintained?	Yes	Shared CSP and CSC	TVM-02
TVM-02.2	Are asset management and malware protection policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	
TVM-03.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to enable scheduled and emergency responses to vulnerability identifications (based on the identified risk)?	Yes	Shared CSP and CSC	TVM-03
TVM-04.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to update detection tools, threat signatures, and compromise indicators weekly (or more frequent) basis?	No	Shared CSP and CSC	TVM-04
TVM-05.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to identify updates for applications that use third-party or open-source libraries (according to the organization's vulnerability management policy)?	No	Shared CSP and CSC	TVM-05
TVM-06.1	Are processes, procedures, and technical measures defined, implemented, and evaluated for periodic, independent, third-party penetration testing?	No	Shared CSP and CSC	TVM-06

TVM-07.1	Are processes, procedures, and technical measures defined, implemented, and evaluated for vulnerability detection on organizationally managed assets at least monthly?	No	Shared CSP and CSC	TVM-07
TVM-08.1	Is vulnerability remediation prioritized using a risk-based model from an industry-recognized framework?	Yes	Shared CSP and CSC	TVM-08
TVM-09.1	Is a process defined and implemented to track and report vulnerability identification and remediation activities that include stakeholder notification?	Yes	Shared CSP and CSC	TVM-09
TVM-10.1	Are metrics for vulnerability identification and remediation established, monitored, and reported at defined intervals?	No	Shared CSP and CSC	TVM-10
UEM-01.1	Are policies and procedures established, documented, approved, communicated, applied, evaluated, and maintained for all endpoints?	Yes	Shared CSP and CSC	UEM-01
UEM-01.2	Are universal endpoint management policies and procedures reviewed and updated at least annually?	Yes	Shared CSP and CSC	UEM-01
UEM-02.1	Is there a defined, documented, applicable and evaluated list containing approved services, applications, and the sources of applications (stores) acceptable for use by endpoints when accessing or storing organization-managed data?	Yes	Shared CSP and CSC	UEM-02
UEM-03.1	Is a process defined and implemented to validate endpoint device compatibility with operating systems and applications?	No	Shared CSP and CSC	UEM-03
UEM-04.1	Is an inventory of all endpoints used and maintained to store and access company data?	Yes	Shared CSP and CSC	UEM-04
UEM-05.1	Are processes, procedures, and technical measures defined, implemented and evaluated, to enforce policies and controls for all endpoints permitted to access systems and/or store, transmit, or process organizational data?	Yes	Shared CSP and CSC	UEM-05
UEM-06.1	Are all relevant interactive-use endpoints configured to require an automatic lock screen?	No	Shared CSP and CSC	UEM-06
UEM-07.1	Are changes to endpoint operating systems, patch levels, and/or applications managed through the organizational change management process?	Yes	Shared CSP and CSC	UEM-07
UEM-08.1	Is information protected from unauthorized disclosure on managed endpoints with storage encryption?	Yes	Shared CSP and CSC	UEM-08
UEM-09.1	Are anti-malware detection and prevention technology services configured on managed endpoints?	Yes	Shared CSP and CSC	UEM-09
UEM-10.1	Are software firewalls configured on managed endpoints?	Yes	Shared CSP and CSC	UEM-10
UEM-11.1	Are managed endpoints configured with data loss prevention (DLP) technologies and rules per a risk assessment?	Yes	Shared CSP and CSC	UEM-11
UEM-12.1	Are remote geolocation capabilities enabled for all managed mobile endpoints?	Yes	Shared CSP and CSC	UEM-12
UEM-13.1	Are processes, procedures, and technical measures defined, implemented, and evaluated to enable remote company data deletion on managed endpoint devices?	Yes	Shared CSP and CSC	UEM-13
UEM-14.1	Are processes, procedures, and technical and/or contractual measures defined, implemented, and evaluated to maintain proper security of third-party endpoints with access to organizational assets?	Yes	Shared CSP and CSC	UEM-14

End of Standard

CCM Control Specification	CCM Control Title	CCM Domain Title
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	Audit & Assurance
Conduct independent audit and assurance assessments according to relevant standards at least annually.	Independent Assessments	
Perform independent audit and assurance assessments according to risk-based plans and policies.	Risk Based Planning Assessment	
Verify compliance with all relevant standards, regulations, legal/contractual, and statutory requirements applicable to the audit.	Requirements Compliance	
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	
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
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	
Establish, document and maintain baseline requirements for securing different applications.	Application Security Baseline Requirements	
Define and implement technical and operational metrics in alignment with business objectives, security requirements, and compliance obligations.	Application Security Metrics	
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	
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	
Establish and implement strategies and capabilities for secure, standardized, and compliant application deployment. Automate where possible.	Automated Secure Application Deployment	
Define and implement a process to remediate application security vulnerabilities, automating remediation when possible.	Application Vulnerability	

	Vulnerability Remediation	
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	Business Continuity Management and Operational Resilience
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	
Establish strategies to reduce the impact of, withstand, and recover from business disruptions within risk appetite.	Business Continuity Strategy	
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	
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	
Exercise and test business continuity and operational resilience plans at least annually or upon significant changes.	Business Continuity Exercises	
Establish communication with stakeholders and participants in the course of business continuity and resilience procedures.	Communication	
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	
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	
Exercise the disaster response plan annually or upon significant changes, including if possible local emergency authorities.	Response Plan Exercise	
Supplement business-critical equipment with redundant equipment independently located at a reasonable minimum distance in accordance with applicable industry standards.	Equipment Redundancy	
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	
Follow a defined quality change control, approval and testing process with established baselines, testing, and release standards.	Quality Testing	

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	Change Control and Configuration Management
Restrict the unauthorized addition, removal, update, and management of organization assets.	Unauthorized Change Protection	
Include provisions limiting changes directly impacting CSCs owned environments/tenants to explicitly authorized requests within service level agreements between CSPs and CSCs.	Change Agreements	
Establish change management baselines for all relevant authorized changes on organization assets.	Change Management Baseline	
Implement detection measures with proactive notification in case of changes deviating from the established baseline.	Detection of Baseline Deviation	
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	
Define and implement a process to proactively roll back changes to a previous known good state in case of errors or security concerns.	Change Restoration	
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	
Define and implement cryptographic, encryption and key management roles and responsibilities.	CEK Roles and Responsibilities	
Provide cryptographic protection to data at-rest and in-transit, using cryptographic libraries certified to approved standards.	Data Encryption	
Use encryption algorithms that are appropriate for data protection, considering the classification of data, associated risks, and usability of the encryption	Encryption Algorithm	
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	Encryption Change Management	
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	
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	
CSPs must provide the capability for CSCs to manage their own data encryption keys.	CSC Key Management Capability	
Audit encryption and key management systems, policies, 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	

Generate Cryptographic keys using industry accepted cryptographic libraries specifying the algorithm strength and the random number generator used.	Key Generation	Cryptography, Encryption & Key Management
Manage cryptographic secret and private keys that are provisioned for a unique purpose.	Key Purpose	
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	
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	
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	
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	
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	
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	
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	
Define, implement and evaluate processes, procedures and technical measures to use compromised keys to encrypt information only in controlled circumstance, and thereafter exclusively for decrypting data and never for encrypting data, which include provisions for legal and regulatory requirements.	Key Compromise	
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	Key Recovery	
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	
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	Off-Site Equipment	

destruction procedure that renders recovery of information impossible must be applied. Review and update the policies and procedures at least annually.	Disposal Policy and Procedures
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
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
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
Classify and document the physical, and logical assets (e.g., applications) based on the organizational business risk.	Assets Classification
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
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
Use equipment identification as a method for connection authentication.	Equipment
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
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
Train datacenter personnel to respond to unauthorized ingress or egress attempts.	Unauthorized Access Response Training
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

Datacenter Security

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	Data Security and Privacy Lifecycle Management
Secure, monitor, maintain, and test utilities services for continual effectiveness at planned intervals.	Secure Utilities	
Keep business-critical equipment away from locations subject to high probability for environmental risk events.	Equipment Location	
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	
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	
Create and maintain a data inventory, at least for any sensitive data and personal data.	Data Inventory	
Classify data according to its type and sensitivity level.	Data Classification	
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	
Document ownership and stewardship of all relevant documented personal and sensitive data. Perform review at least annually.	Data Ownership and Stewardship	
Develop systems, products, and business practices based upon a principle of security by design and industry best practices.	Data Protection by Design and Default	
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	
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	
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	
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	
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	
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	

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	
Obtain authorization from data owners, and manage associated risk before replicating or using production data in non-production environments.	Limitation of Production Data Use	
Data retention, archiving and deletion is managed in accordance with business requirements, applicable laws and regulations.	Data Retention and Deletion	
Define and implement, processes, procedures and technical measures to protect sensitive data throughout it's lifecycle.	Sensitive Data Protection	
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	
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	
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	Governance, Risk and Compliance
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	
Review all relevant organizational policies and associated procedures at least annually or when a substantial change occurs within the organization.	Organizational Policy Reviews	
Establish and follow an approved exception process as mandated by the governance program whenever a deviation from an established policy occurs.	Policy Exception Process	
Develop and implement an Information Security Program, which includes programs for all the relevant domains of the CCM.	Information Security Program	
Define and document roles and responsibilities for planning, implementing, operating, assessing, and improving governance programs.	Governance Responsibility Model	
Identify and document all relevant standards, regulations, legal/contractual, and statutory requirements, which are applicable to your organization.	Information System Regulatory Mapping	
Establish and maintain contact with cloud-related special interest groups and other relevant entities in line with business context.	Special Interest Groups	
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	

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	Human Resources
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	
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	
Establish and document procedures for the return of organization-owned assets by terminated employees.	Asset returns	
Establish, document, and communicate to all personnel the procedures outlining the roles and responsibilities concerning changes in employment.	Employment Termination	
Employees sign the employee agreement prior to being granted access to organizational information systems, resources and assets.	Employment Agreement Process	
The organization includes within the employment agreements provisions and/or terms for adherence to established information governance and security	Employment Agreement Content	
Document and communicate roles and responsibilities of employees, as they relate to information assets and security.	Personnel Roles and Responsibilities	
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	
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	
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	
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	
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	

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
Manage, store, and review the information of system identities, and level of access.	Identity Inventory
Employ the separation of duties principle when implementing information system access.	Separation of Duties
Employ the least privilege principle when implementing information system access.	Least Privilege
Define and implement a user access provisioning process which authorizes, records, and communicates access changes to data and assets.	User Access Provisioning
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
Review and revalidate user access for least privilege and separation of duties with a frequency that is commensurate with organizational risk tolerance.	User Access Review
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
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
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
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
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
Define, implement and evaluate processes, procedures and technical measures for authenticating access to systems, application and data assets, including multifactor 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
Define, implement and evaluate processes, procedures and technical measures for the secure management of passwords.	Passwords Management
Define, implement and evaluate processes, procedures and technical measures to verify access to data and system functions is authorized.	Authorization Mechanisms

Identity & Access Management

<p>Establish, document, approve, communicate, apply, evaluate and maintain policies and procedures for interoperability and portability including requirements for:</p> <ul style="list-style-type: none"> a. Communications between application interfaces b. Information processing interoperability c. Application development portability d. Information/Data exchange, usage, portability, integrity, and persistence <p>Review and update the policies and procedures at least annually.</p>	<p>Interoperability and Portability Policy and Procedures</p>	<p>Interoperability & Portability</p>
<p>Provide application interface(s) to CSCs so that they programmatically retrieve their data to enable interoperability and portability.</p>	<p>Application Interface Availability</p>	
<p>Implement cryptographically secure and standardized network protocols for the management, import and export of data.</p>	<p>Secure Interoperability and Portability Management</p>	
<p>Agreements must include provisions specifying CSCs access to data upon contract termination and will include:</p> <ul style="list-style-type: none"> 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 	<p>Data Portability Contractual Obligations</p>	
<p>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.</p>	<p>Infrastructure and Virtualization Security Policy and Procedures</p>	<p>Infrastructure & Virtualization Security</p>
<p>Plan and monitor the availability, quality, and adequate capacity of resources in order to deliver the required system performance as determined by the</p>	<p>Capacity and Resource Planning</p>	
<p>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.</p>	<p>Network Security</p>	
<p>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.</p>	<p>OS Hardening and Base Controls</p>	
<p>Separate production and non-production environments.</p>	<p>Production and</p>	
<p>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.</p>	<p>Segmentation and Segregation</p>	
<p>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.</p>	<p>Migration to Cloud Environments</p>	

Identify and document high-risk environments.	Network Architecture	
Define, implement and evaluate processes, procedures and defense-in-depth techniques for protection, detection, and timely response to network-based attacks.	Network Defense	
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	Logging and Monitoring
Define, implement and evaluate processes, procedures and technical measures to ensure the security and retention of audit logs.	Audit Logs Protection	
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	
Restrict audit logs access to authorized personnel and maintain records that provide unique access accountability.	Audit Logs Access and Accountability	
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	
Use a reliable time source across all relevant information processing systems.	Clock Synchronization	
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	
Generate audit records containing relevant security information.	Log Records	
The information system protects audit records from unauthorized access, modification, and deletion.	Log Protection	
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 and monitor key lifecycle management events to enable auditing and reporting on usage of cryptographic keys.	Transaction/Activity Logging	
Monitor and log physical access using an auditable access control system.	Access Control Logs	
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	
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	
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	

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	Security Incident Management, E-Discovery, & Cloud Forensics
Test and update as necessary incident response plans at planned intervals or upon significant organizational or environmental changes for effectiveness.	Incident Response Testing	
Establish and monitor information security incident metrics.	Incident Response	
Define, implement and evaluate processes, procedures and technical measures supporting business processes to triage security-related events.	Event Triage Processes	
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	
Maintain points of contact for applicable regulation authorities, national and local law enforcement, and other legal jurisdictional authorities.	Points of Contact Maintenance	
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	
Apply, document, implement and manage the SSRM throughout the supply chain for the cloud service offering.	SSRM Supply Chain	
Provide SSRM Guidance to the CSC detailing information about the SSRM applicability throughout the supply chain.	SSRM Guidance	
Delineate the shared ownership and applicability of all CSA CCM controls according to the SSRM for the cloud service offering.	SSRM Control Ownership	
Review and validate SSRM documentation for all cloud services offerings the organization uses.	SSRM Documentation Review	
Implement, operate, and audit or assess the portions of the SSRM which the organization is responsible for.	SSRM Control Implementation	
Develop and maintain an inventory of all supply chain relationships.	Supply Chain Inventory	
CSPs periodically review risk factors associated with all organizations within their supply chain.	Supply Chain Risk Management	

<p>Service agreements between CSPs and CSCs (tenants) must incorporate at least the following mutually-agreed upon provisions and/or terms:</p> <ul style="list-style-type: none"> • 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	Supply Chain Management, Transparency, and Accountability
Review supply chain agreements between CSPs and CSCs at least annually.	Supply Chain Agreement	
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	
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	
Periodically review the organization's supply chain partners' IT governance policies and procedures.	Supply Chain Governance Review	Threat & Vulnerability Management
Define and implement a process for conducting security assessments periodically for all organizations within the supply chain.	Supply Chain Data Security Assessment	
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	
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	
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	
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	
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	
Define, implement and evaluate processes, procedures and technical measures for the periodic performance of penetration testing by independent third parties.	Penetration Testing	

Define, implement and evaluate processes, procedures and technical measures for the detection of vulnerabilities on organizationally managed assets at least monthly.	Vulnerability Identification	Universal Endpoint Management
Use a risk-based model for effective prioritization of vulnerability remediation using an industry recognized framework.	Vulnerability Prioritization	
Define and implement a process for tracking and reporting vulnerability identification and remediation activities that includes stakeholder notification.	Vulnerability Management Reporting	
Establish, monitor and report metrics for vulnerability identification and remediation at defined intervals.	Vulnerability Management Metrics	
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	
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	
Define and implement a process for the validation of the endpoint device's compatibility with operating systems and applications.	Compatibility	
Maintain an inventory of all endpoints used to store and access company data.	Endpoint Inventory	
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	
Configure all relevant interactive-use endpoints to require an automatic lock screen.	Automatic Lock Screen	
Manage changes to endpoint operating systems, patch levels, and/or applications through the company's change management processes.	Operating Systems	
Protect information from unauthorized disclosure on managed endpoint devices with storage encryption.	Storage Encryption	
Configure managed endpoints with anti-malware detection and prevention technology and services.	Anti-Malware Detection and Prevention	
Configure managed endpoints with properly configured software firewalls.	Software Firewall	
Configure managed endpoints with Data Loss Prevention (DLP) technologies and rules in accordance with a risk assessment.	Data Loss Prevention	
Enable remote geo-location capabilities for all managed mobile endpoints.	Remote Locate	
Define, implement and evaluate processes, procedures and technical measures to enable the deletion of company data remotely on managed endpoint devices.	Remote Wipe	
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	