Set Theory Relationship Mapping (STRM)

Reference Document : **Secure Controls Framework (SCF) version 2024.3**
Focal Document: **European Union (EU) NIS2 Directive**
Focal Document Source: **https://www.enisa.europa.eu/topics/cybersecurity-policy/nis-directive-new**
STRM URL: **https://securecontrolsframework.com/content/strm/scf-2024-nis2.pdf**

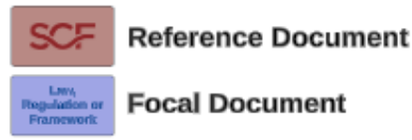
Set Theory Relationship Mapping (STRM) is well-suited for mapping between sets of elements that exist in two distinct concepts that are mostly the same as each other (e.g., cybersecurity & data privacy requirements). STRM also allows the strength of the mapping to be captured.

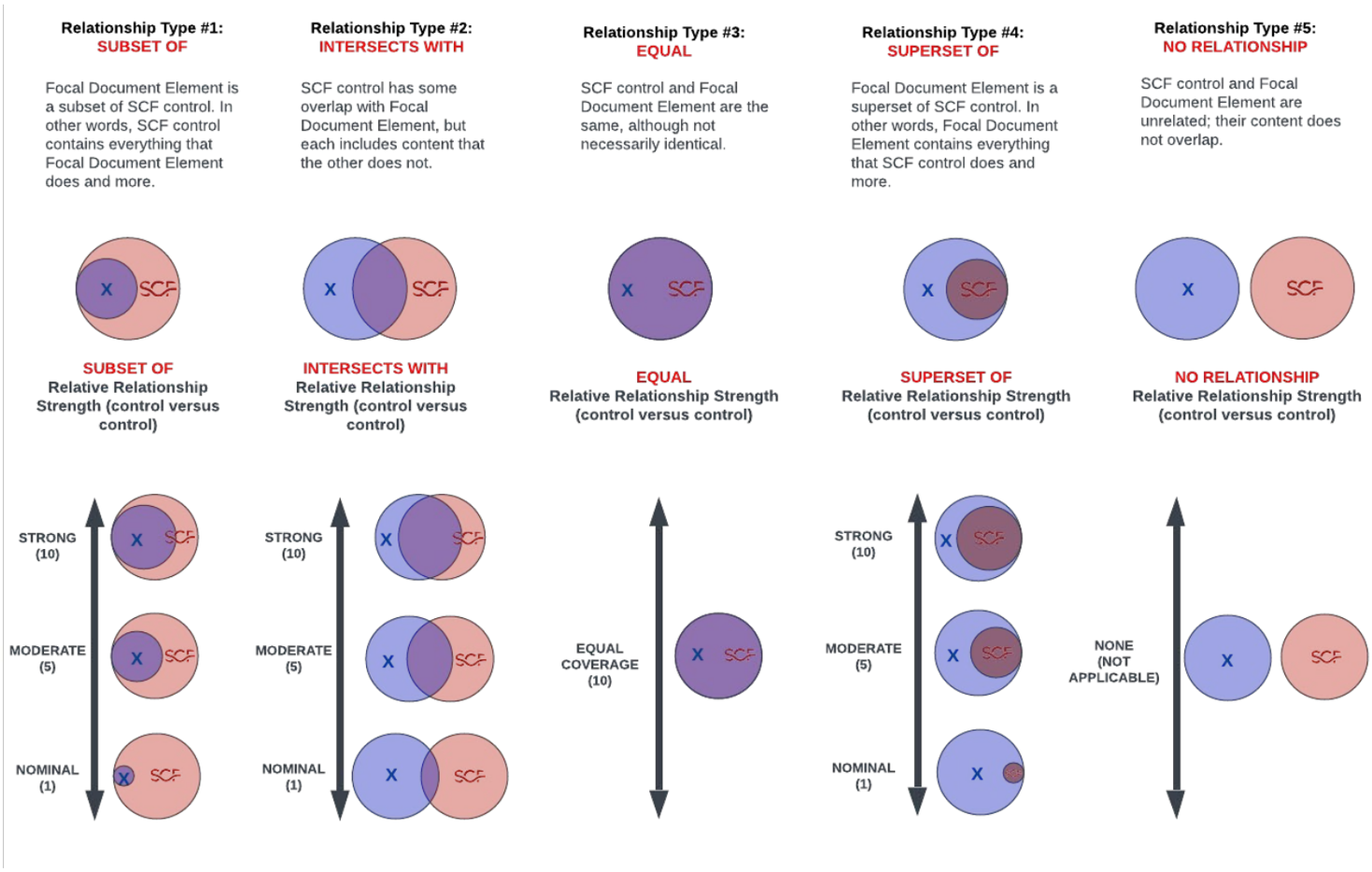
STRM relies on a justification for the relationship claim. There are three (3) options for the rationale, which is a high-level context within which the two concepts are related:

1. **Syntactic**: How similar is the wording that expresses the two concepts? This is a word-for-word analysis of the relationship, not an interpretation of the language.
2. **Semantic**: How similar are the meanings of the two concepts? This involves some interpretation of each concept's language.
3. **Functional**: How similar are the results of executing the two concepts? This involves understanding what will happen if the two concepts are implemented, performed, or otherwise executed.

Based on NIST IR 8477, STRM supports five (5) five relationship types to describe the logical similarity between two distinct concepts:

1. **Subset Of**
2. **Intersects With**
3. **Equal**
4. **Superset Of**
5. **No Relationship**





FDE #	Focal Document Element (FDE) Description	STRM Rationale	STRM Relationship	SCF Control	SCF #	Secure Controls Framework (SCF) Control Description	Strength of Relationship (optional)	Notes (optional)
Article 21.1	Member States shall ensure that essential and important entities take appropriate and proportionate technical, operational and organisational measures to manage the risks posed to the security of network and information systems which those entities use for their operations or for the provision of their services, and to prevent or minimise the impact of incidents on recipients of their services and on other services. Taking into account the state-of-the-art and, where applicable, relevant European and international standards, as well as the cost of implementation, the measures referred to in the first subparagraph shall ensure a level of security of network and information systems appropriate to the risks posed. When assessing the proportionality of those measures, due account shall be taken of the degree of the entity's exposure to risks, the entity's size and the likelihood of occurrence of incidents and their severity, including their societal and economic impact.	Functional	intersects with	Statutory, Regulatory & Contractual Compliance	CPL-01	Mechanisms exist to facilitate the identification and implementation of relevant statutory, regulatory and contractual controls.	5	
		Functional	intersects with	Cybersecurity & Data Protection Assessments	CPL-03	Mechanisms exist to ensure managers regularly review the processes and documented procedures within their area of responsibility to adhere to appropriate cybersecurity & data protection policies, standards and other applicable requirements.	5	
		Functional	intersects with	Functional Review Of Cybersecurity & Data Protection Controls	CPL-03.2	Mechanisms exist to regularly review technology assets for adherence to the organization's cybersecurity & data protection policies and standards.	5	
		Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Risk Management Program	RSK-01	Mechanisms exist to facilitate the implementation of strategic, operational and tactical risk management controls.	5	
		Functional	intersects with	Risk Assessment	RSK-04	Mechanisms exist to conduct recurring assessments of risk that includes the likelihood and magnitude of harm, from unauthorized access, use, disclosure, disruption, modification or destruction of the organization's systems and data.	5	
		Functional	intersects with	Secure Engineering Principles	SEA-01	Mechanisms exist to facilitate the implementation of industry-recognized cybersecurity & data privacy practices in the specification, design, development, implementation and modification of systems and services.	5	
Article 21.2	The measures referred to in paragraph 1 shall be based on an all-hazards approach that aims to protect network and information systems and the physical environment of those systems from incidents, and shall include at least the following:	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
Article 21.2(a)	policies on risk analysis and information system security;	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Risk Management Program	RSK-01	Mechanisms exist to facilitate the implementation of strategic, operational and tactical risk management controls.	5	
Article 21.2(b)	incident handling;	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Incident Response Operations	IRO-01	Mechanisms exist to implement and govern processes and documentation to facilitate an organization-wide response capability for cybersecurity & data privacy-related incidents.	5	
		Functional	intersects with	Incident Handling	IRO-02	Mechanisms exist to cover the preparation, automated detection or intake of incident reporting, analysis, containment, eradication and recovery.	5	
Article 21.2(c)	business continuity, such as backup management and disaster recovery, and crisis management;	Functional	subset of	Business Continuity Management System (BCMS)	BCD-01	Mechanisms exist to facilitate the implementation of contingency planning controls to help ensure resilient assets and services (e.g., Continuity of Operations Plan (COOP) or Business Continuity & Disaster Recovery (BC/DR) playbooks).	10	
		Functional	intersects with	Data Backups	BCD-11	Mechanisms exist to create recurring backups of data, software and/or system images, as well as verify the integrity of these backups, to ensure the availability of the data to satisfying Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs).	5	
		Functional	intersects with	Information System Recovery & Reconstitution	BCD-12	Mechanisms exist to ensure the secure recovery and reconstitution of systems to a known state after a disruption, compromise or failure.	5	
		Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
Article 21.2(d)	supply chain security, including security-related aspects concerning the relationships between each entity and its direct suppliers or service providers;	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Risk Management Program	RSK-01	Mechanisms exist to facilitate the implementation of strategic, operational and tactical risk management controls.	5	
		Functional	intersects with	Supply Chain Risk Management (SCRM) Plan	RSK-09	Mechanisms exist to develop a plan for Supply Chain Risk Management (SCRM) associated with the development, acquisition, maintenance and disposal of systems, system components and services, including documenting selected mitigating actions and monitoring performance against those plans.	5	
		Functional	intersects with	Third-Party Management	TPM-01	Mechanisms exist to facilitate the implementation of third-party management controls.	5	
		Functional	intersects with	Supply Chain Protection	TPM-03	Mechanisms exist to evaluate security risks associated with the services and product supply chain.	5	
		Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	

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Article 21.2(e)	security in network and information systems acquisition, development and maintenance, including vulnerability handling and disclosure;	Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Maintenance Operations	MNT-01	Mechanisms exist to develop, disseminate, review & update procedures to facilitate the implementation of maintenance controls across the enterprise.	5	
		Functional	intersects with	Network Security Controls (NSC)	NET-01	Mechanisms exist to develop, govern & update procedures to facilitate the implementation of Network Security Controls (NSC).	5	
		Functional	intersects with	Technology Development & Acquisition	TDA-01	Mechanisms exist to facilitate the implementation of tailored development and acquisition strategies, contract tools and procurement methods to meet unique business needs.	5	
		Functional	intersects with	Third-Party Management	TPM-01	Mechanisms exist to facilitate the implementation of third-party management controls.	5	
		Functional	intersects with	Vulnerability & Patch Management Program (VPMP)	VPM-01	Mechanisms exist to facilitate the implementation and monitoring of vulnerability management controls.	5	
Article 21.2(f)	policies and procedures to assess the effectiveness of cybersecurity risk-management measures;	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Steering Committee & Program Oversight	GOV-01.1	Mechanisms exist to coordinate cybersecurity, data protection and business alignment through a steering committee or advisory board, comprised of key cybersecurity, data privacy and business executives, which meets formally and on a regular basis.	5	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Measures of Performance	GOV-05	Mechanisms exist to develop, report and monitor cybersecurity & data privacy program measures of performance.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Risk Management Program	RSK-01	Mechanisms exist to facilitate the implementation of strategic, operational and tactical risk management controls.	5	
Article 21.2(g)	basic cyber hygiene practices and cybersecurity training;	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Cybersecurity & Data Privacy-Minded Workforce	SAT-01	Mechanisms exist to facilitate the implementation of security workforce development and awareness controls.	5	
Article 21.2(h)	policies and procedures regarding the use of cryptography and, where appropriate, encryption;	Functional	intersects with	Use of Cryptographic Controls	CRY-01	Mechanisms exist to facilitate the implementation of cryptographic protections controls using known public standards and trusted cryptographic technologies.	5	
		Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
Article 21.2(i)	human resources security, access control policies and asset management;	Functional	intersects with	Asset Governance	AST-01	Mechanisms exist to facilitate an IT Asset Management (ITAM) program to implement and manage asset management controls.	5	
		Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Human Resources Security Management	HRS-01	Mechanisms exist to facilitate the implementation of personnel security controls.	5	
		Functional	intersects with	Identity & Access Management (IAM)	IAC-01	Mechanisms exist to facilitate the implementation of identification and access management controls.	5	
Article 21.2(j)	the use of multi-factor authentication or continuous authentication solutions, secured voice, video and text communications and secured emergency communication systems within the entity, where appropriate.	Functional	subset of	Cybersecurity & Data Protection Governance Program	GOV-01	Mechanisms exist to facilitate the implementation of cybersecurity & data protection governance controls.	10	
		Functional	intersects with	Publishing Cybersecurity & Data Protection Documentation	GOV-02	Mechanisms exist to establish, maintain and disseminate cybersecurity & data protection policies, standards and procedures.	5	
		Functional	intersects with	Operationalizing Cybersecurity & Data Protection Practices	GOV-15	Mechanisms exist to compel data and/or process owners to operationalize cybersecurity & data privacy practices for each system, application and/or service under their control.	5	
		Functional	intersects with	Select Controls	GOV-15.1	Mechanisms exist to compel data and/or process owners to select required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Implement Controls	GOV-15.2	Mechanisms exist to compel data and/or process owners to implement required cybersecurity & data privacy controls for each system, application and/or service under their control.	5	
		Functional	intersects with	Identity & Access Management (IAM)	IAC-01	Mechanisms exist to facilitate the implementation of identification and access management controls.	5	
		Functional	intersects with	Multi-Factor Authentication (MFA)	IAC-06	Automated mechanisms exist to enforce Multi-Factor Authentication (MFA) for: ▪ Remote network access; ▪ Third-party systems, applications and/or services; and/ or ▪ Non-console access to critical systems or systems that store, transmit and/or process sensitive/regulated data.	5	
		Functional	intersects with	Cybersecurity & Data Privacy In Project Management	PRM-04	Mechanisms exist to assess cybersecurity & data privacy controls in system project development to determine the extent to which the controls are implemented correctly, operating as intended and producing the desired outcome with respect to meeting the requirements.	5	
		Functional	intersects with	Cybersecurity & Data Privacy Requirements Definition	PRM-05	Mechanisms exist to identify critical system components and functions by performing a criticality analysis for critical systems, system components or services at pre-defined decision points in the Secure Development Life Cycle (SDLC).	5	
		Functional	intersects with	Secure Development Life Cycle (SDLC) Management	PRM-07	Mechanisms exist to ensure changes to systems within the Secure Development Life Cycle (SDLC) are controlled through formal change control procedures.	5	
		Functional	intersects with	Supply Chain Risk Management (SCRM) Plan	RSK-09	Mechanisms exist to develop a plan for Supply Chain Risk Management (SCRM) associated with the development, acquisition, maintenance and disposal of systems, system components and services, including documenting selected mitigating actions and monitoring performance against those plans.	5	
		Functional	intersects with	Technology Development & Acquisition	TDA-01	Mechanisms exist to facilitate the implementation of tailored development and acquisition strategies, contract tools and procurement methods to meet unique business needs.	5	
		Functional	intersects with	Secure Coding	TDA-06	Mechanisms exist to develop applications based on secure coding principles.	5	
		Functional	intersects with	Third-Party Management	TPM-01	Mechanisms exist to facilitate the implementation of third-party management controls.	5	

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Article 21.3	Member States shall ensure that, when considering which measures referred to in paragraph 2, point (d), of this Article are appropriate, entities take into account the vulnerabilities specific to each direct supplier and service provider and the overall quality of products and cybersecurity practices of their suppliers and service providers, including their secure development procedures. Member States shall also ensure that, when considering which measures referred to in that point are appropriate, entities are required to take into account the results of the coordinated security risk assessments of critical supply chains carried out in accordance with Article 22(1).	Functional	intersects with	Third-Party Inventories	TPM-01.1	Mechanisms exist to maintain a current, accurate and complete list of External Service Providers (ESPs) that can potentially impact the Confidentiality, Integrity, Availability and/or Safety (CIAS) of the organization's systems, applications, services and data.	5	
		Functional	intersects with	Third-Party Criticality Assessments	TPM-02	Mechanisms exist to identify, prioritize and assess suppliers and partners of critical systems, components and services using a supply chain risk assessment process relative to their importance in supporting the delivery of high-value services.	5	
		Functional	intersects with	Supply Chain Protection	TPM-03	Mechanisms exist to evaluate security risks associated with the services and product supply chain.	5	
		Functional	intersects with	Acquisition Strategies, Tools & Methods	TPM-03.1	Mechanisms exist to utilize tailored acquisition strategies, contract tools and procurement methods for the purchase of unique systems, system components or services.	5	
		Functional	intersects with	Limit Potential Harm	TPM-03.2	Mechanisms exist to utilize security safeguards to limit harm from potential adversaries who identify and target the organization's supply chain.	5	
		Functional	intersects with	Processes To Address Weaknesses or Deficiencies	TPM-03.3	Mechanisms exist to address identified weaknesses or deficiencies in the security of the supply chain	5	
		Functional	intersects with	Third-Party Services	TPM-04	Mechanisms exist to mitigate the risks associated with third-party access to the organization's systems and data.	5	
		Functional	intersects with	Third-Party Risk Assessments & Approvals	TPM-04.1	Mechanisms exist to conduct a risk assessment prior to the acquisition or outsourcing of technology-related services.	5	
		Functional	intersects with	Third-Party Processing, Storage and Service Locations	TPM-04.4	Mechanisms exist to restrict the location of information processing/storage based on business requirements.	5	
		Functional	intersects with	Third-Party Contract Requirements	TPM-05	Mechanisms exist to require contractual requirements for cybersecurity & data privacy requirements with third-parties, reflecting the organization's needs to protect its systems, processes and data.	5	
		Functional	intersects with	Contract Flow-Down Requirements	TPM-05.2	Mechanisms exist to ensure cybersecurity & data privacy requirements are included in contracts that flow-down to applicable sub-contractors and suppliers.	5	
		Functional	intersects with	Responsible, Accountable, Supportive, Consulted & Informed (RASCI) Matrix	TPM-05.4	Mechanisms exist to document and maintain a Responsible, Accountable, Supportive, Consulted & Informed (RASCI) matrix, or similar documentation, to delineate assignment for cybersecurity & data privacy controls between internal stakeholders and External Service Providers (ESPs).	5	
		Functional	intersects with	Third-Party Scope Review	TPM-05.5	Mechanisms exist to perform recurring validation of the Responsible, Accountable, Supportive, Consulted & Informed (RASCI) matrix, or similar documentation, to ensure cybersecurity & data privacy control assignments accurately reflect current business practices, compliance obligations, technologies and stakeholders.	5	
		Functional	intersects with	First-Party Declaration (1PD)	TPM-05.6	Mechanisms exist to obtain a First-Party Declaration (1PD) from applicable External Service Providers (ESPs) that provides assurance of compliance with specified statutory, regulatory and contractual obligations for cybersecurity & data privacy controls, including any flow-down requirements to subcontractors.	5	
		Functional	intersects with	Break Clauses	TPM-05.7	Mechanisms exist to include "break clauses" within contracts for failure to meet contract criteria for cybersecurity and/or data privacy controls.	5	
		Functional	intersects with	Third-Party Personnel Security	TPM-06	Mechanisms exist to control personnel security requirements including security roles and responsibilities for third-party providers.	5	
		Functional	intersects with	Review of Third-Party Services	TPM-08	Mechanisms exist to monitor, regularly review and audit External Service Providers (ESPs) for compliance with established contractual requirements for cybersecurity & data privacy controls.	5	
		Functional	intersects with	Third-Party Deficiency Remediation	TPM-09	Mechanisms exist to address weaknesses or deficiencies in supply chain elements identified during independent or organizational assessments of such elements.	5	
		Functional	intersects with	Managing Changes To Third-Party Services	TPM-10	Mechanisms exist to control changes to services by suppliers, taking into account the criticality of business information, systems and processes that are in scope by the third-party.	5	
Article 21.4	Member States shall ensure that an entity that finds that it does not comply with the measures provided for in paragraph 2 takes, without undue delay, all necessary, appropriate and proportionate corrective measures.	Functional	intersects with	Non-Compliance Oversight	CPL-01.1	Mechanisms exist to document and review instances of non-compliance with statutory, regulatory and/or contractual obligations to develop appropriate risk mitigation actions.	5	
		Functional	intersects with	Threat Analysis & Flaw Remediation During Development	IAO-04	Mechanisms exist to require system developers and integrators to create and execute a Security Test and Evaluation (ST&E) plan to identify and remediate flaws during development.	5	
		Functional	intersects with	Plan of Action & Milestones (POA&M)	IAO-05	Mechanisms exist to generate a Plan of Action and Milestones (POA&M), or similar risk register, to document planned remedial actions to correct weaknesses or deficiencies noted during the assessment of the security controls and to reduce or eliminate known vulnerabilities.	5	
		Functional	intersects with	Risk Remediation	RSK-06	Mechanisms exist to remediate risks to an acceptable level.	5	
		Functional	intersects with	Developer Threat Analysis & Flaw Remediation	TDA-15	Mechanisms exist to require system developers and integrators to create a Security Test and Evaluation (ST&E) plan and implement the plan under the witness of an independent party.	5	
		Functional	intersects with	Third-Party Deficiency Remediation	TPM-09	Mechanisms exist to address weaknesses or deficiencies in supply chain elements identified during independent or organizational assessments of such elements.	5	
		Functional	intersects with	Vulnerability Remediation Process	VPM-02	Mechanisms exist to ensure that vulnerabilities are properly identified, tracked and remediated.	5	
		Functional	intersects with	Continuous Vulnerability Remediation Activities	VPM-04	Mechanisms exist to address new threats and vulnerabilities on an ongoing basis and ensure assets are protected against known attacks.	5	
		Functional	intersects with	Centralized Management of Flaw Remediation Processes	VPM-05.1	Mechanisms exist to centrally-manage the flaw remediation process.	5	
Article 21.5	By 17 October 2024, the Commission shall adopt implementing acts laying down the technical and the methodological requirements of the measures referred to in paragraph 2 with regard to DNS service providers, TLD name registries, cloud computing service providers, data centre service providers, content delivery network providers, managed service providers, managed security service providers, providers of online market places, of online search engines and of social networking services platforms, and trust service providers.	Functional	intersects with	System Hardening Through Baseline Configurations	CFG-02	Mechanisms exist to develop, document and maintain secure baseline configurations for technology platforms that are consistent with industry-accepted system hardening standards.	5	
		Functional	intersects with	Network Security Controls (NSC)	NET-01	Mechanisms exist to develop, govern & update procedures to facilitate the implementation of Network Security Controls (NSC).	5	
		Functional	subset of	Secure Engineering Principles	SEA-01	Mechanisms exist to facilitate the implementation of industry-recognized cybersecurity & data privacy practices in the specification, design, development, implementation and modification of systems and services.	10	
Article 23.1	Each Member State shall ensure that essential and important entities notify, without undue delay, its CSIRT or, where applicable, its competent authority in accordance with paragraph 4 of any incident that has a significant impact on the provision of their services as referred to in paragraph 3 (significant incident). Where appropriate, entities concerned shall notify, without undue delay, the recipients of their services of significant incidents that are likely to adversely affect the provision of those services. Each Member State shall ensure that those entities report, inter alia, any information enabling the CSIRT or, where applicable, the competent authority to determine any cross-border impact of the incident. The mere act of notification shall not subject the notifying entity to increased liability.	Functional	subset of	Incident Response Operations	IRO-01	Mechanisms exist to implement and govern processes and documentation to facilitate an organization-wide response capability for cybersecurity & data privacy-related incidents.	10	
		Functional	intersects with	Incident Handling	IRO-02	Mechanisms exist to cover the preparation, automated detection or intake of incident reporting, analysis, containment, eradication and recovery.	5	
		Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.2	Where applicable, Member States shall ensure that essential and important entities communicate, without undue delay, to the recipients of their services that are potentially affected by a significant cyber threat any measures or remedies that those recipients are able to take in response to that threat. Where appropriate, the entities shall also inform those recipients of the significant cyber threat itself.	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
		Functional	intersects with	Supply Chain Coordination	IRO-10.4	Mechanisms exist to provide cybersecurity & data privacy incident information to the provider of the product or service and other organizations involved in the supply chain for systems or system components related to the incident.	5	
		Functional	intersects with	Public Relations & Reputation Repair	IRO-16	Mechanisms exist to proactively manage public relations associated with incidents and employ appropriate measures to prevent further reputational damage and develop plans to repair any damage to the organization's reputation.	5	
Article 23.3	An incident shall be considered to be significant if:	Functional	intersects with	Incident Classification & Prioritization	IRO-02.4	Mechanisms exist to identify classes of incidents and actions to take to ensure the continuation of organizational missions and business functions.	5	
Article 23.3(a)	it has caused or is capable of causing severe operational disruption of the services or financial loss for the entity concerned;	Functional	intersects with	Incident Classification & Prioritization	IRO-02.4	Mechanisms exist to identify classes of incidents and actions to take to ensure the continuation of organizational missions and business functions.	5	
Article 23.3(b)	it has affected or is capable of affecting other natural or legal persons by causing considerable material or non-material damage.	Functional	intersects with	Incident Classification & Prioritization	IRO-02.4	Mechanisms exist to identify classes of incidents and actions to take to ensure the continuation of organizational missions and business functions.	5	
Article 23.4	Member States shall ensure that, for the purpose of notification under paragraph 1, the entities concerned submit to the CSIRT or, where applicable, the competent authority: By way of derogation from the first subparagraph, point (b), a trust service provider shall, with regard to significant incidents that have an impact on the provision of its trust services, notify the CSIRT or, where applicable, the competent authority, without undue delay and in any event within 24 hours of becoming aware of the significant incident.	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(a)	without undue delay and in any event within 24 hours of becoming aware of the significant incident, an early warning, which, where applicable, shall indicate whether the significant incident is suspected of being caused by unlawful or malicious acts or could have a cross-border impact;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(b)	without undue delay and in any event within 72 hours of becoming aware of the significant incident, an incident notification, which, where applicable, shall update the information referred to in point (a) and indicate an initial assessment of the significant incident, including its severity and impact, as well as, where available, the indicators of compromise;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(c)	upon the request of a CSIRT or, where applicable, the competent authority, an intermediate report on relevant status updates;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	

FDE #	Focal Document Element (FDE) Description	STRM Rationale	STRM Relationship	SCF Control	SCF #	Secure Controls Framework (SCF) Control Description	Strength of Relationship (optional)	Notes (optional)
Article 23.4(d)	a final report not later than one month after the submission of the incident notification under point (b), including the following:	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(d)(i)	a detailed description of the incident, including its severity and impact;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(d)(ii)	the type of threat or root cause that is likely to have triggered the incident;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
		Functional	equal	Root Cause Analysis (RCA) & Lessons Learned	IRO-13	Mechanisms exist to incorporate lessons learned from analyzing and resolving cybersecurity & data privacy incidents to reduce the likelihood or impact of future incidents.	10	
Article 23.4(d)(iii)	applied and ongoing mitigation measures;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(d)(iv)	where applicable, the cross-border impact of the incident;	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.4(e)	in the event of an ongoing incident at the time of the submission of the final report referred to in point (d), Member States shall ensure that entities concerned provide a progress report at that time and a final report within one month of their handling of the incident.	Functional	intersects with	Incident Stakeholder Reporting	IRO-10	Mechanisms exist to timely-report incidents to applicable: ▪ Internal stakeholders; ▪ Affected clients & third-parties; and ▪ Regulatory authorities.	5	
Article 23.5	The CSIRT or the competent authority shall provide, without undue delay and where possible within 24 hours of receiving the early warning referred to in paragraph 4, point (a), a response to the notifying entity, including initial feedback on the significant incident and, upon request of the entity, guidance or operational advice on the implementation of possible mitigation measures. Where the CSIRT is not the initial recipient of the notification referred to in paragraph 1, the guidance shall be provided by the competent authority in cooperation with the CSIRT. The CSIRT shall provide additional technical support if the entity concerned so requests. Where the significant incident is suspected to be of criminal nature, the CSIRT or the competent authority shall also provide guidance on reporting the significant incident to law enforcement authorities.	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF
Article 23.6	Where appropriate, and in particular where the significant incident concerns two or more Member States, the CSIRT, the competent authority or the single point of contact shall inform, without undue delay, the other affected Member States and ENISA of the significant incident. Such information shall include the type of information received in accordance with paragraph 4. In so doing, the CSIRT, the competent authority or the single point of contact shall, in accordance with Union or national law, preserve the entity's security and commercial interests as well as the confidentiality of the information provided.	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF
Article 23.7	Where public awareness is necessary to prevent a significant incident or to deal with an ongoing significant incident, or where disclosure of the significant incident is otherwise in the public interest, a Member State's CSIRT or, where applicable, its competent authority, and, where appropriate, the CSIRTs or the competent authorities of other Member States concerned, may, after consulting the entity concerned, inform the public about the significant incident or require the entity to do so.	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF
Article 23.8	At the request of the CSIRT or the competent authority, the single point of contact shall forward notifications received pursuant to paragraph 1 to the single points of contact of other affected Member States.	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF
Article 23.9	The single point of contact shall submit to ENISA every three months a summary report, including anonymised and aggregated data on significant incidents, incidents, cyber threats and near misses notified in accordance with paragraph 1 of this Article and with Article 30. In order to contribute to the provision of comparable information, ENISA may adopt technical guidance on the parameters of the information to be included in the summary report. ENISA shall inform the Cooperation Group and the CSIRTs network about its findings on notifications received every six months.	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF
Article 23.10	The CSIRTs or, where applicable, the competent authorities shall provide to the competent authorities under Directive (EU) 2022/2557 information about significant incidents, incidents, cyber threats and near misses notified in accordance with paragraph 1 of this Article and with Article 30 by entities identified as critical entities under Directive (EU) 2022/2557.	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF
Article 23.11	The Commission may adopt implementing acts further specifying the type of information, the format and the procedure of a notification submitted pursuant to paragraph 1 of this Article and to Article 30 and of a communication submitted pursuant to paragraph 2 of this Article. By 17 October 2024, the Commission shall, with regard to DNS service providers, TLD name registries, cloud computing service providers, data centre service providers, content delivery network providers, managed service providers, managed security service providers, as well as providers of online marketplaces, of online search engines and of social networking services platforms, adopt implementing acts further specifying the cases in which an incident shall be considered to be significant as referred to in paragraph 3. The Commission may adopt such implementing acts with regard to other essential and important entities. The Commission shall exchange advice and cooperate with the Cooperation Group on the draft implementing acts referred to in the first and second subparagraphs of this paragraph in accordance with Article 14(4), point (e). Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 39(2).	Functional	no relationship	N/A	N/A	N/A	N/A	Outside of the scope of the SCF