



Management Consulting Cyber Security

September 28, 2022

Agenda

17:15 – 17:30 Hi & welcome

17:30 - 17:50 How to be a successful consultant in Cyber Security, our paths from students to Cyber Security Consultants

17:50 – 18:05 Q&A

18:05 – 18:30 Deep dive into Identity and Access Management

18:30 – 18:40 Q&A

19:00-late Food & Drinks @ Foobar

Who are we?



Carl Flodin - Associate

- Bachelor of Information Systems from Uppsala University
- Master of Information Security from Stockholm University
- Studied Computer Science at the University of Texas at Austin
- First year as Cyber Security Consultant at KPMG



Lukas Grönquist - Manager

- + 5 years within Cyber Security Consultancy
- Bachelor of Computer and System Sciences at Stockholm University
- Certified ISO 27001 Lead Implementer by PECB
- Board member for the Swedish Chapter of Cloud Security Alliance (CSA)



Sebastian Lennartsson - Associate

- Background within Software, PC hardware and Server Security @ Microsoft & HP
- BSc Business and Economics from Lund University
- First year as Cyber Security Consultant at KPMG



Cecilia Olin - Senior Associate

- Background within Information Security, Human Resources and Business Development
- Bachelor of Personnel, Work & Organization and Master of Information Security from Stockholm University
- Certified ISO 27001 Implementer by PECB
- Board member in SIG Security

01

KPMG

This is why we are here:

- Inspire
- Confidence.
- Empower Change.

This is our Purpose.

This is what we believe in

- **Integrity** | we do what is right
- **Excellence** | we never stop learning and improving
- **Courage** | we think and act boldly
- **Together** | we respect each other and draw strength from our differences
- **For Better** | we do what matters

These are our Values.

This is what we want to be

The Clear Choice:

- Our people are extraordinary
- Our clients see a difference in us
- The public trusts us

This is our Vision

This is how we want the world to see us

With passion and purpose, we work shoulder-to- shoulder with you, integrating innovative approaches and deep expertise to deliver real results.

Our Employer value proposition

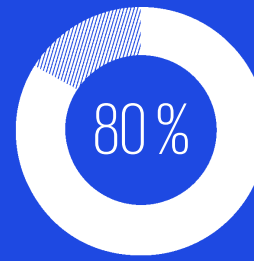
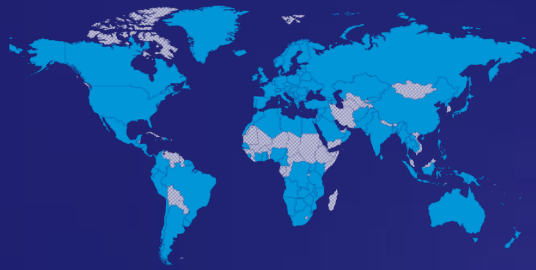
Together we're changing the world

- Develop through challenging assignments
- Work with engaging colleagues
- Make a difference to companies and communities



This is KPMG

219 000 colleagues in 147 countries



of the largest
companies in
Sweden are
KPMG clients

National and international companies,
Small and mid-sized owner-led companies,
Public sector, Non-profit organizations

Proven successful

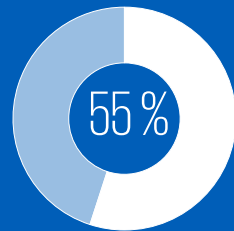
- National Tax Firm of the Year
- Top rated among Nordic consulting companies
- World leader in AI

Management

107 partners. Helena Arvidsson Älgne,
Chairman of the Board & Patrik
Anderbro Chief Executive Officer

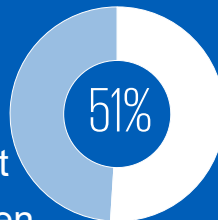
Digital agenda

- Lighthouse
- Nordic Customer and Insights Center
- Sponsors AI-research



women vs 45% men in
the management board

49% men vs
women works at
KPMG in Sweden



Inclusion & diversity

Internal team, leadership
program, introduction e-learning,
partner goals, ambassadors
engaged through the whole
organization



- Womens Corporate directors
- Female digital engineer program
- Young entrepreneurs
- Jobbsprånget
- Climate investment in india

Career Journey



Associate

- Exciting, varied engagements
- Learning the job
- Training courses



Senior Associate

- More responsibilities in engagements
- More training, experience and development
- Coaching and feedback



Manager

- Leading engagements
- More client responsibilities, building relationships and discussing business opportunities
- Project Management
- Developing expertise in your area
- Developing leadership skills, client relationships and a thorough understanding of the business



Senior Manager

- You have client responsibility
- You are developing new client relationships and gain new business
- You are a leader, a role model with high expectations on leadership, coaching and to lead by example in all situations



Director

- You have responsibility for multiple major clients
- You have client teams and responsibility for budget
- You are a leader and a role model, and may be responsible for a market or sector



Partner

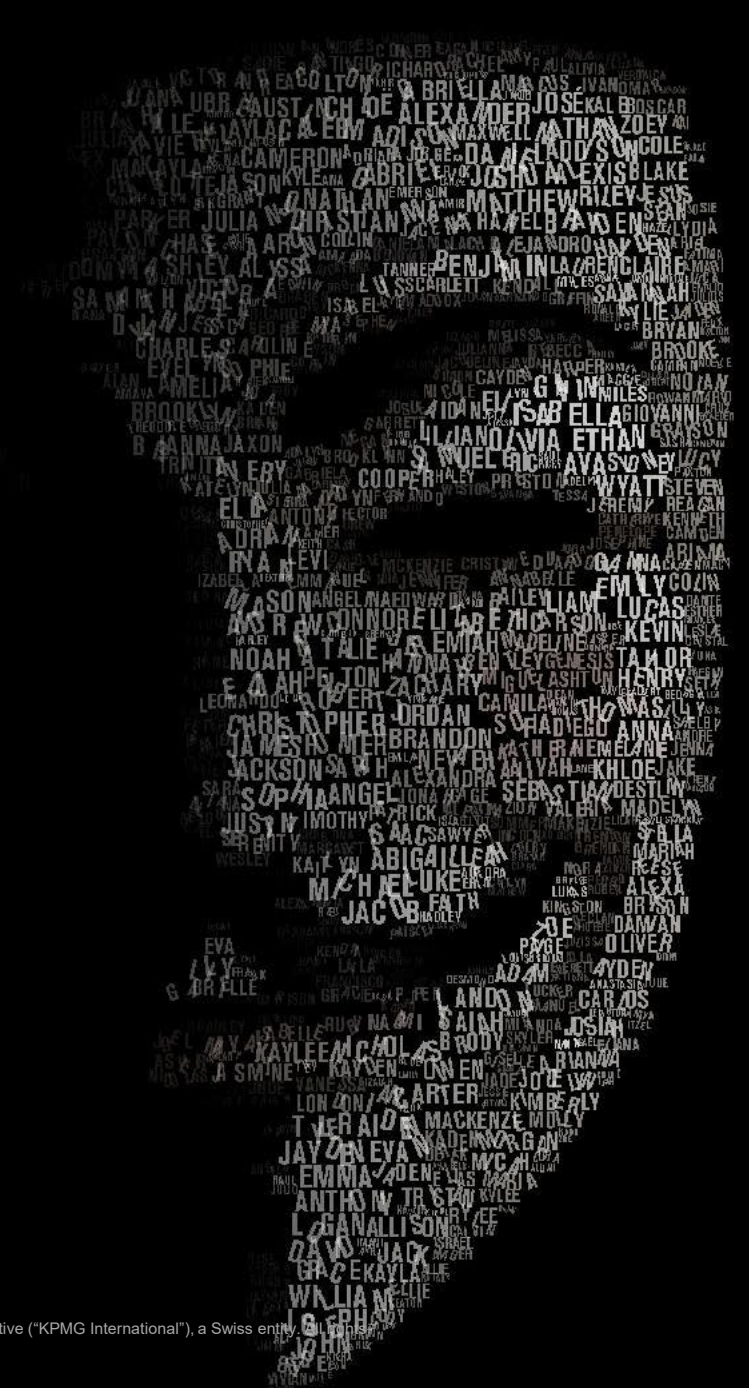
- You are a shareholder in KPMG and a leader and role model with responsibilities for KPMG in all situations – in the office, among co-workers, at the clients, and in social situations - both at work and outside of work.



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Cyber Security

What your friends think you will do



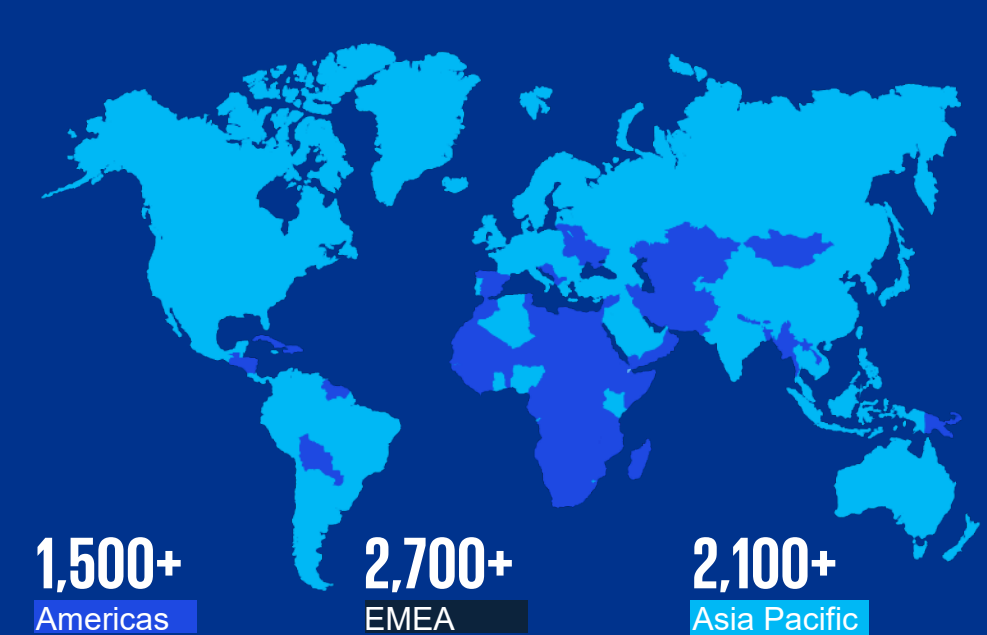
What you actually will do



02

What does a Cyber Security Consultant do?

Our cyber security global delivery capability



Our global footprint:

Over **6,300** global cyber security professionals are supported by **over 45,000** risk-based consultants with a variety of backgrounds — including digital transformation, IT, regulatory and forensics.

Key markets and hubs include:

Americas:	US, Canada, Mexico, Brazil, Argentina
EMEA:	Sweden, Norway, Denmark UK, Germany, Netherlands, France, Spain, Italy, Switzerland, Finland, Austria, Ireland, Nigeria, South Africa, Kenya, MESA
ASPAC:	China, India, Australia, Singapore, Japan, Malaysia, New Zealand

Global cyber delivery centers: India, Belfast, Sofia, Malta and *Mexico*
(under development)

We aim to deliver more efficiently for our clients through the use of skilled resources, powered assets, different delivery models and a range of tools and accelerator. Our teams across the globe operate as a global cyber practice so that our client receive a consistency of service.

Key investments and focus areas



Working as a Cyber Security Consultant

What we talk about

What we don't talk about



What we do – from strategies to technical implementations



Strategy & Governance

- Information security strategy / Governance
- Third party security risk management
- Security GRC
- Cyber maturity / Compliance assessments
- Cyber Assurance / IT Attestation
- Business resilience
- Security Awareness



Transformation

- Identity & access management
- Target operating model development
- Security architecture & analytics
- Information management & Privacy protection
- Security program delivery
- Enterprise architecture



Cyber Defense

- Technical assessments
- Security testing
- Application security
- DevSecOps
- Security operations & monitoring
- Threat Intelligence / Analysis
- Next-generation soc
- Cyber Managed Services



Cyber Response

- Compromise assessment and simulations
- Incident response
- Digital investigations and remediation
- Red teaming
- Social engineering

Industrial control systems and OT security

Internet of things security

Cloud security audit & advisory

Planning and Executing a Project



Key Activities:

- Client kick-off meeting
- Understand the scope of work
- Define the timelines

Key Outcomes and

Deliverables:

- Status update template
- Stakeholder map
- Project and engagement plan

Key Activities:

- Engage the business leaders, develop the understanding of risk, understand what sort of security capability is desired

Key Outcomes and

Deliverables:

- High level view of key assets, risks and threats to crown jewels,
- Validation of current state controls through review and inspection of evidence

Key Activities:

- Assess current capability to understand current risk exposure
- Perform gap analysis (people, process and technology)

Key Outcomes and

Deliverables:

- Threat Landscape
- Inherent and net risk exposure
- Risk Register with risks classified and prioritized

Key Activities:

- Propose options to manage risk to within tolerance, and offer roadmap from current to desired states.

Key Outcomes and

Deliverables:

- Target State with roadmap that outlines activities over the 2 – 3 year timeline
- Strategy Improvements
- Executable project charters for improvement areas
- Board Presentation

Key Activities:

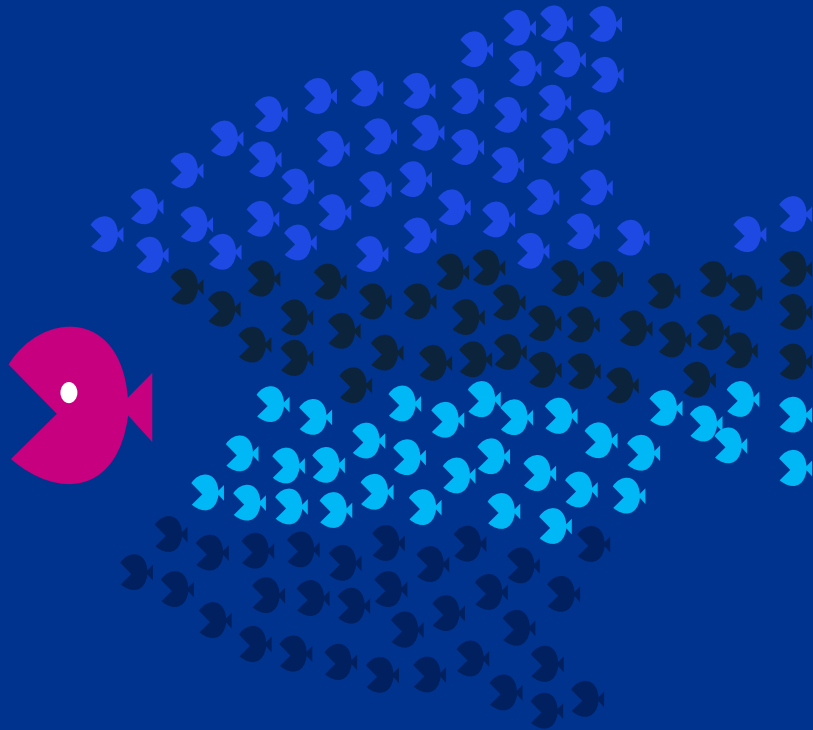
- Draft the report
- Deliver the report to the client

Key Outcomes and

Deliverables:

- Board meetings and presentations

Diverse clients requires diverse backgrounds and skillsets



International retailer - GDPR Implementation

13 consultants.

Backgrounds such as economy, system sciences, law, political science, HR-specialists.

Client - IAM Transformation Program

25+ consultants from several countries.

Backgrounds such as architects, developers, change management, compliance, risk management, IAM SME's, project leaders, communicators, IT Operations etc.

One of Sweden's Major Banks - Change management & SoD

4 consultants.

Review and development of segregation of duties within the change management process.

International telecom provider - ISMS

3 consultants.

Revamp of the global ISMS by implementing a information security baseline for the full organization.

Computer and Videogame developer - GITC Assessment & Continuity planning

3 consultants.

A assessment based on a framework of 17 general IT controls, applied to more than 90 systems. Continuity planning to ensure backup procedures if, or when disruption hit critical processes

Benefits of consulting within Cyber

- Get to know organizations and industries in different sizes
- Experience different approaches and ways of working with cyber security – and identify success factors
- High variety in assignments will result in a broad knowledge
- Networking, both at the client and internally within the firm
- Several SME's (Subject Matter Expert) within different fields at the firm. From Change Management to AI

Feel like KPMG Cyber is something for you?

- We are currently looking for Junior Cyber/Information Security Consultants –scan QR code below or see LinkedIn ad
- <https://www.linkedin.com/jobs/view/junior-information-cyber-security-consultant-at-kpmg-sweden-3283749105/?originalSubdomain=se>
- Interested in internships/master's thesis? Email cecilia.olin@kpmg.se

When you applied
for the job



When you hear back
from the recruiter

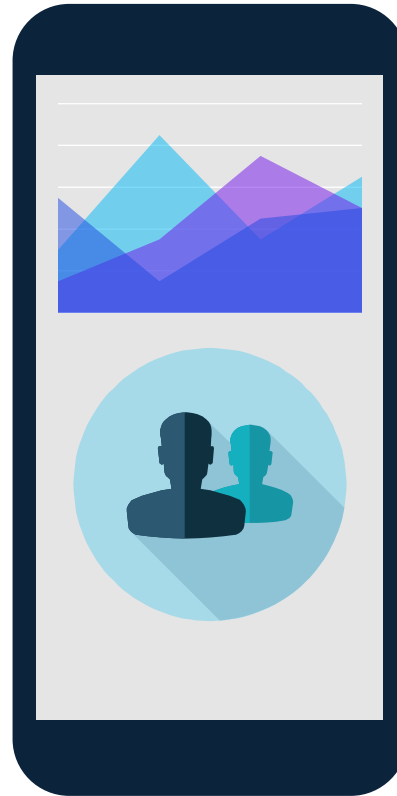


03

Identity and Access Management

- A deep dive into Identity and Access Management

What is an Identity?



Identity

The digital representation of a **user**, comprising uniquely identifying attributes such as first name, last name, employee ID and email address, in addition to information that may describe their business function and relationship with an organization.

In most cases, a user should only have a single identity within each organizational domain, although there may be exceptions to this rule when a user requires the ability to access systems using different “personas” (e.g., an employee of a company who may also be a customer). Identities and personas are linked to accounts that enable users to access individual information systems and applications.

User

A person who owns an **Identity** and uses it to interact with information systems

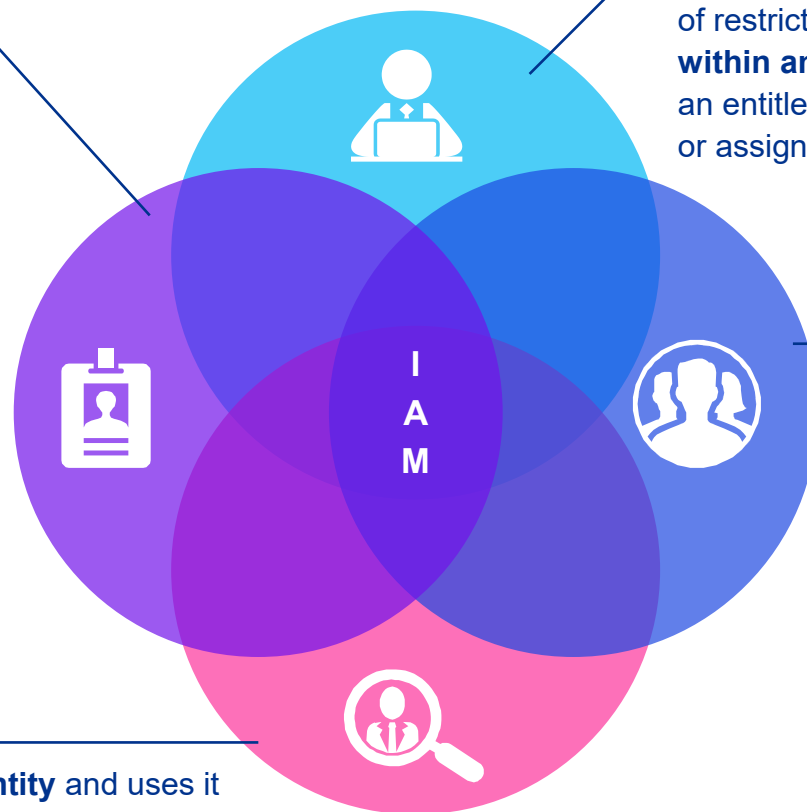
Entitlement

An account-level attribute that is used for the purpose of restricting the **user’s capabilities or privileges within an information system**. Common examples of an entitlement include membership of a directory group or assignment of an application-level role

Account

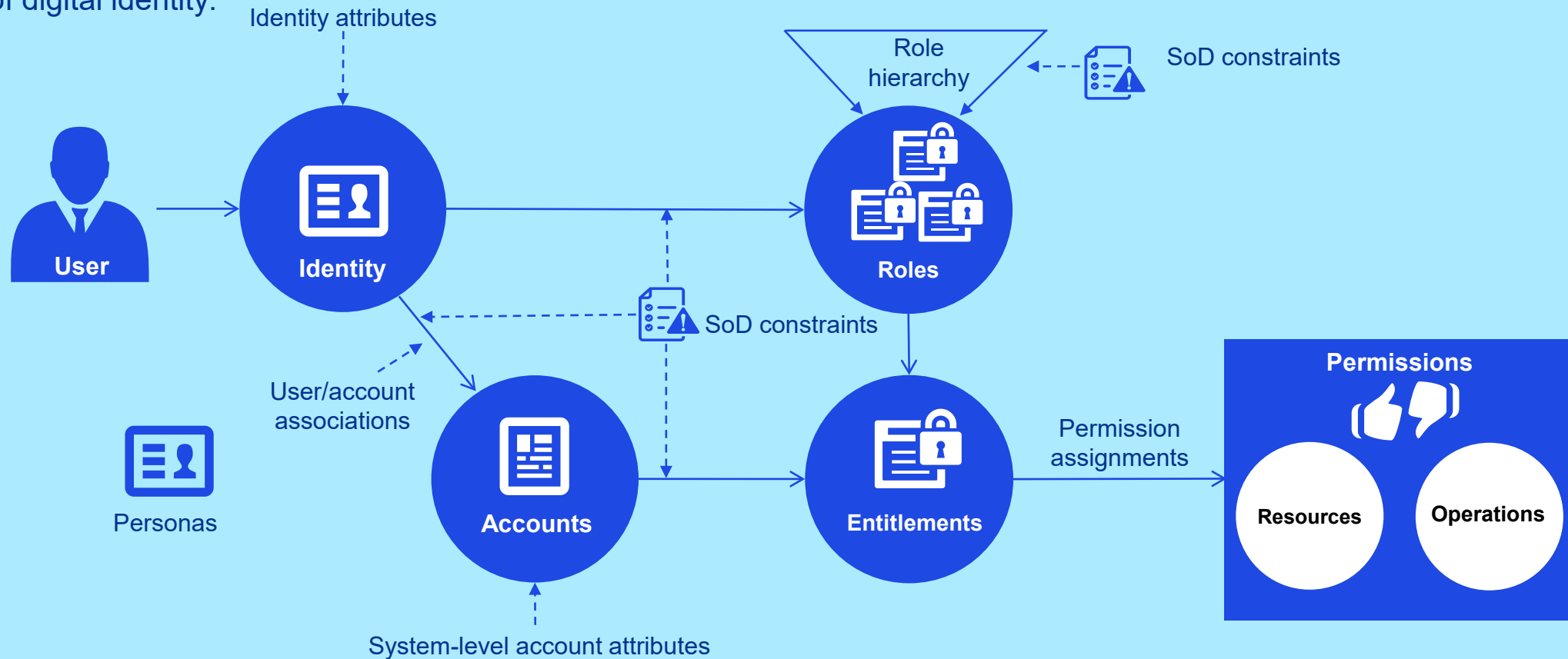
A system-specific representation of an **identity**. Captures a user’s authority to interact with a specific information systems or application.

An account may contain attributes that are specific to the system or application. An attribute that describes the user’s permitted capabilities or privileges is known as an entitlement.

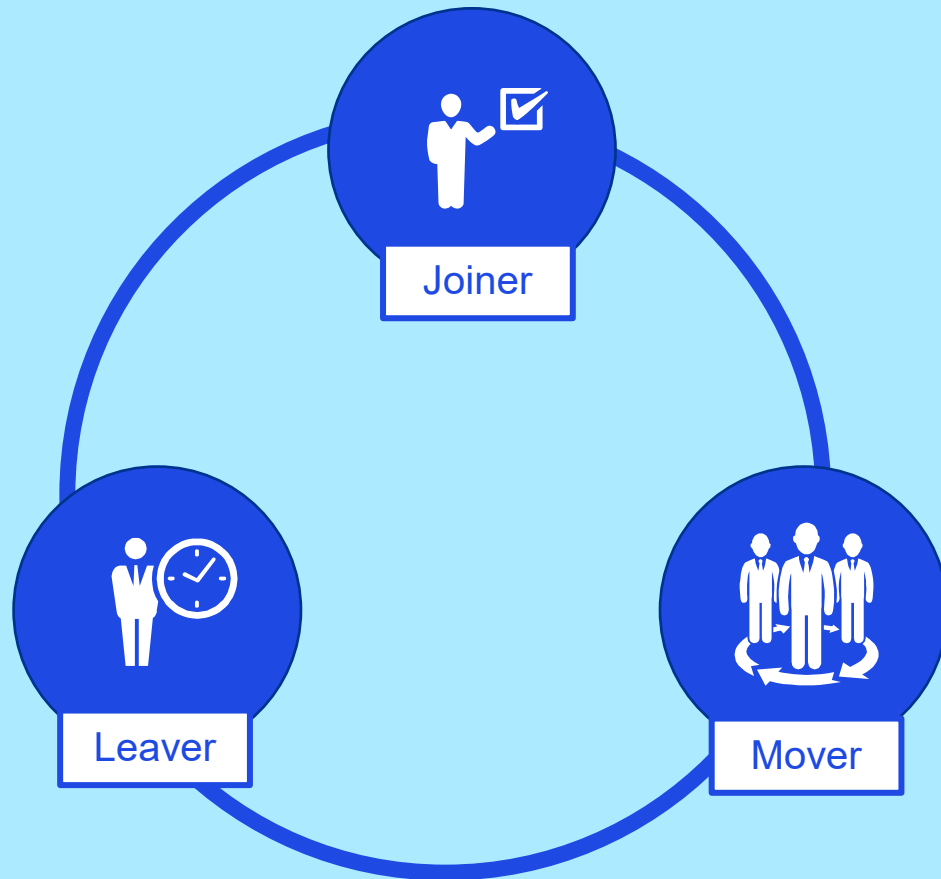


Concepts – What is an Identity?

The following diagram illustrates the major entities and associations that constitute a model for describing the concept of digital identity:



Identity Management - User Lifecycle Management



Joiner

The process of creating a digital identity when onboarding a person such as a new employee

Mover

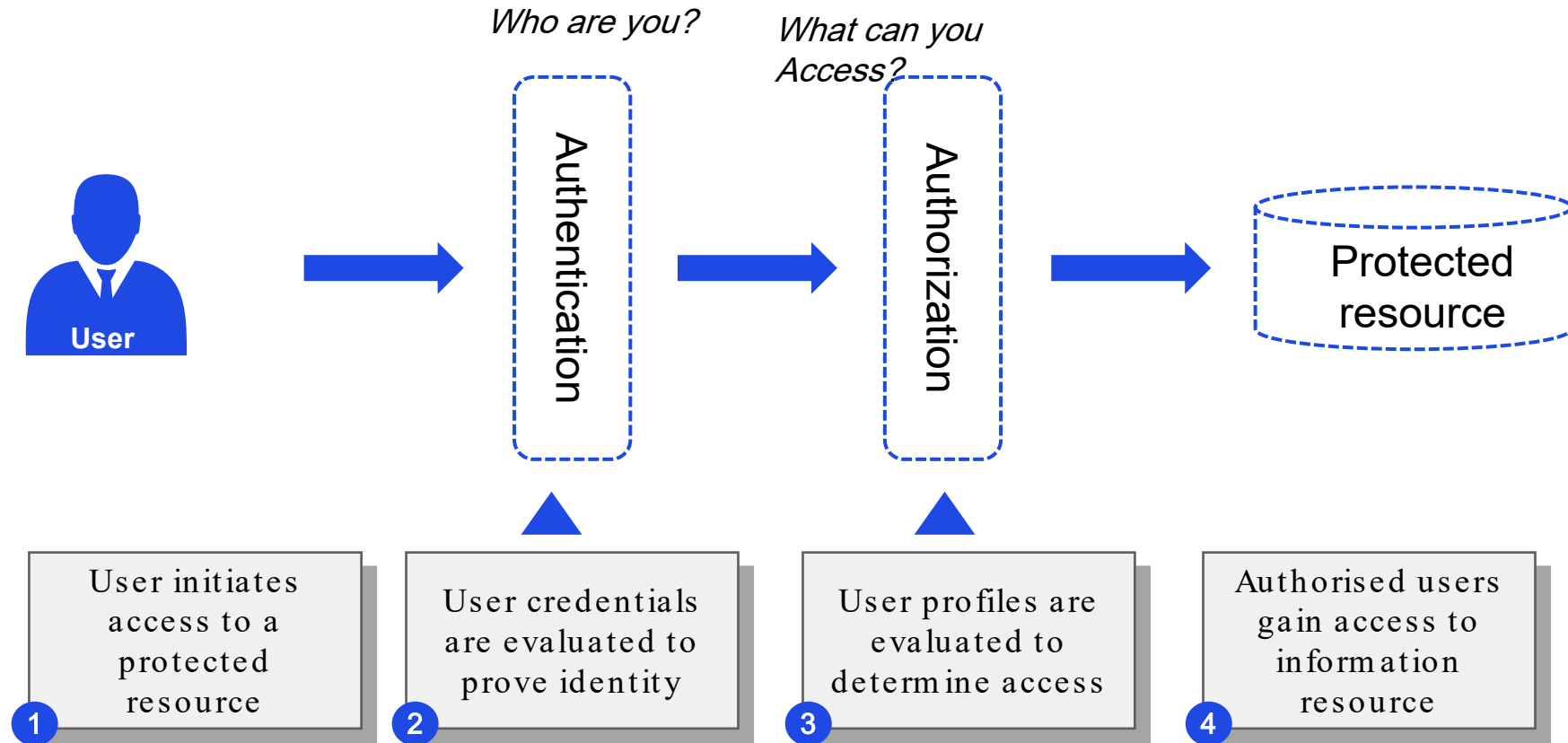
The process of changing an digital identity for example when the employee changes role, department or country

Leaver

The process of retiring an digital identity for example when the employee leaves the company

User Access Management

An Access Management solution provides Authentication and authorization services for controlling user access to protected information resources.



Key Access Management Concepts

Authentication - Proof of who you are

Examples:

- Photo ID Card
- Biometric Data (fingerprint, facial recognition)
- Username/Password
- PIN

Real World Example:

- Want to collect a package at a postal service center, providing proof via driver's license proves that you are the person the package is made out to.

Authorization - What you can (or cannot) do

Examples:

- Learners Permit allows the owner to drive during certain hours
- First class airfare ticket allows passenger access to VIP lounge at the airport
- Hospital Guest Badge allows the visitor to see their own family member and visit the cafeteria but it prevents access to other patient and/or clinical rooms

Real World Example:

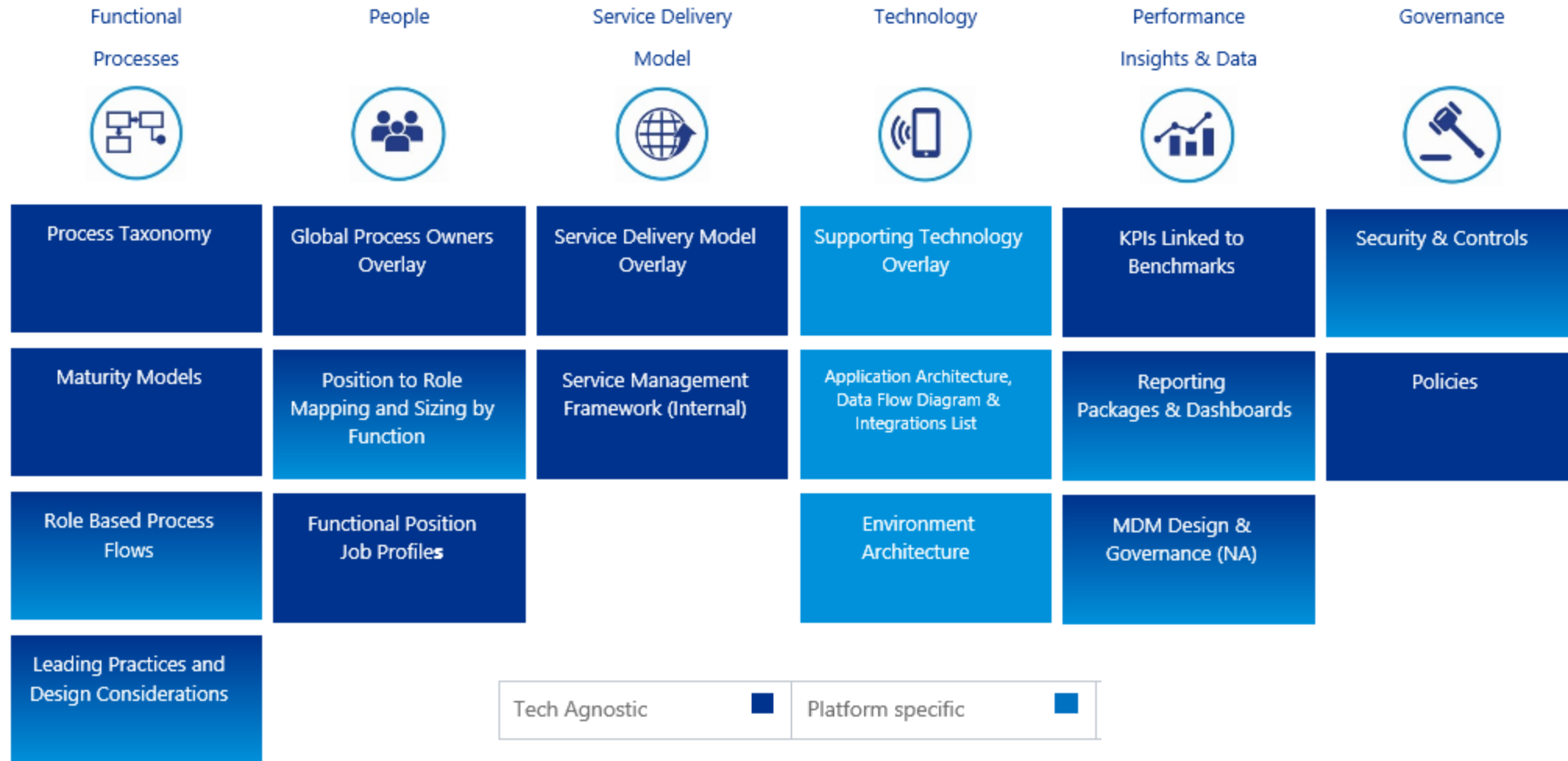
- A valid Driver's License/Photo ID (Authentication) doesn't mean you're allowed into the bar to drink alcohol. If you're not of age, it doesn't matter how valid the ID is.

04

KPMG's IAM Framework

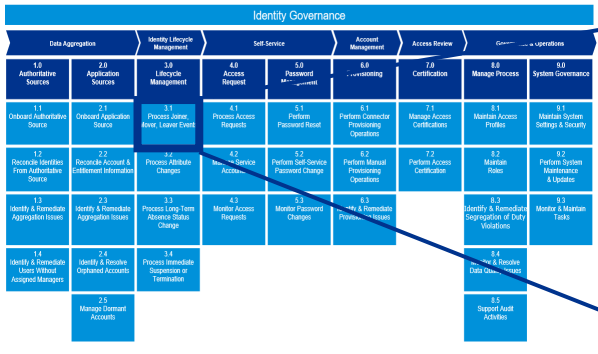
Identity and Access Management

Target Operating Model



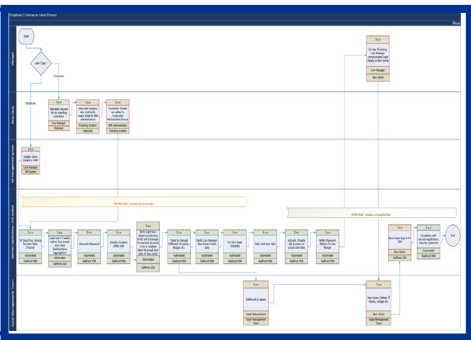
TOM Assets Overview

Process Taxonomy



End-to-end process taxonomy that depicts key processes of the end-to-end business process.

Role Based Process Flows Joiner Process



Detailed role-based process flows that define the key roles, systems, activities, decisions and outputs for a given process

Leading Practices

Level 1 ID	Level 1 Process	Ref #	Summary	Description (Further detail)
1.1	1.1	ISLP-7	Reuse of previous identifier for relogin	The Identity Governance processes should be able to detect relogin where a user leaves and subsequently rejoins the organization. In this scenario, the user should be recognized their previous user identifier. This ensures continuity of audit trails and also reduces the administrative overhead associated with identifying duplicate accounts.
1.2	1.2	ISLP-8	Secure communication of user credentials	Mechanisms are in place that allow authentication credentials to be securely communicated to users.
1.3	1.3	ISLP-9	Defined master process	User access requests and revocations for reasons is managed and resolved in a controlled manner to prevent unauthorized access.
1.4	1.4	ISLP-10	Defined master process	Users should have their access removed (disabled / deleted) in an automated and timely manner.
1.5	1.5	ISLP-11	Emergency master process	Emergency users should have their access removed (disabled / deleted) immediately.
1.6	1.6	ISLP-12	Access request approval	Any access request to have multiple approval level (at least two) before access provisioning. Ideally level one should be Manager, level two should be a commercial or compliance level or suit of functioning level of
1.7	1.7	ISLP-13	Access request approval	Users should have their access removed (disabled / deleted) immediately.
1.8	1.8	ISLP-14	Produce reports detailing Access Requests	Reports on how many access requests have been made and how many have been approved or not approved
1.9	1.9	ISLP-15	User's should be able to reset their forgotten password using a One Time code sent to their registered mobile or email address	User's should be able to reset their forgotten password using a One Time code sent to their registered mobile or email address
1.10	1.10	ISLP-16	Periodic & Regular Access Review	All access & entitlements to critical applications should be reviewed on a periodic basis
1.11	1.11	ISLP-17	Immutability identifiers	User identifiers are commonly used within audit records and may also impact other hard-to-change elements such as a user's home directory. Consequently, changing user identifiers can be complex and incur significant cost. User identifiers should therefore be static and not change during the lifetime of the identity. For this reason, personal information including person's name, employee id/unique numbers and email addresses are not a good choice of user identifier as they are subject to change.

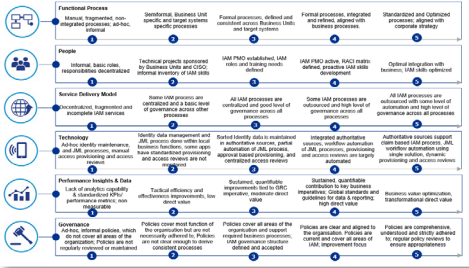
Provide a specific point of view on how something should be designed and have a benefit that can be realized.

KPIs

Process Area	Category	Process	Indicator	Business Purpose	Priority
Identity Lifecycle Management	1.0	1.0 Administrative Sources	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	2.0	2.0 Application Sources	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	3.0	3.0 Lifecycle Management	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	4.0	4.0 Access Request	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	5.0	5.0 Password Management	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	6.0	6.0 Certification	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	7.0	7.0 Manage Process	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	8.0	8.0 System Governance	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	9.0	9.0 Monitor & Maintain	Number of accounts identified by the system	Identify accounts for lifecycle management	High
Identity Lifecycle Management	10.0	10.0 Support Audit Activities	Number of accounts identified by the system	Identify accounts for lifecycle management	High

Robust list of functionally-aligned prioritized metrics on how to measure success

Maturity Model



Five point maturity rating scale for a level 1 (L1) process area describes level of maturity by TOM design layer.

Security & Controls

Ref #	Risk	Control	Control Objective	Control Activity	Impact to	Impact to	Ref #	Control	Control Objective	Control Activity	Impact to	Impact to
ISLP-1	Failure to protect sensitive data	ISLP-1	Single user identity (role) and access	Identify and protect sensitive data	ISLP-1	ISLP-1	ISLP-1	ISLP-1	Single user identity (role) and access	Identify and protect sensitive data	ISLP-1	ISLP-1
ISLP-2	Failure to protect sensitive data	ISLP-2	Single user identity (role) and access	Identify and protect sensitive data	ISLP-2	ISLP-2	ISLP-2	ISLP-2	Single user identity (role) and access	Identify and protect sensitive data	ISLP-2	ISLP-2
ISLP-3	Failure to protect sensitive data	ISLP-3	Single user identity (role) and access	Identify and protect sensitive data	ISLP-3	ISLP-3	ISLP-3	ISLP-3	Single user identity (role) and access	Identify and protect sensitive data	ISLP-3	ISLP-3
ISLP-4	Failure to protect sensitive data	ISLP-4	Single user identity (role) and access	Identify and protect sensitive data	ISLP-4	ISLP-4	ISLP-4	ISLP-4	Single user identity (role) and access	Identify and protect sensitive data	ISLP-4	ISLP-4
ISLP-5	Failure to protect sensitive data	ISLP-5	Single user identity (role) and access	Identify and protect sensitive data	ISLP-5	ISLP-5	ISLP-5	ISLP-5	Single user identity (role) and access	Identify and protect sensitive data	ISLP-5	ISLP-5
ISLP-6	Failure to protect sensitive data	ISLP-6	Single user identity (role) and access	Identify and protect sensitive data	ISLP-6	ISLP-6	ISLP-6	ISLP-6	Single user identity (role) and access	Identify and protect sensitive data	ISLP-6	ISLP-6
ISLP-7	Failure to protect sensitive data	ISLP-7	Single user identity (role) and access	Identify and protect sensitive data	ISLP-7	ISLP-7	ISLP-7	ISLP-7	Single user identity (role) and access	Identify and protect sensitive data	ISLP-7	ISLP-7
ISLP-8	Failure to protect sensitive data	ISLP-8	Single user identity (role) and access	Identify and protect sensitive data	ISLP-8	ISLP-8	ISLP-8	ISLP-8	Single user identity (role) and access	Identify and protect sensitive data	ISLP-8	ISLP-8
ISLP-9	Failure to protect sensitive data	ISLP-9	Single user identity (role) and access	Identify and protect sensitive data	ISLP-9	ISLP-9	ISLP-9	ISLP-9	Single user identity (role) and access	Identify and protect sensitive data	ISLP-9	ISLP-9
ISLP-10	Failure to protect sensitive data	ISLP-10	Single user identity (role) and access	Identify and protect sensitive data	ISLP-10	ISLP-10	ISLP-10	ISLP-10	Single user identity (role) and access	Identify and protect sensitive data	ISLP-10	ISLP-10
ISLP-11	Failure to protect sensitive data	ISLP-11	Single user identity (role) and access	Identify and protect sensitive data	ISLP-11	ISLP-11	ISLP-11	ISLP-11	Single user identity (role) and access	Identify and protect sensitive data	ISLP-11	ISLP-11
ISLP-12	Failure to protect sensitive data	ISLP-12	Single user identity (role) and access	Identify and protect sensitive data	ISLP-12	ISLP-12	ISLP-12	ISLP-12	Single user identity (role) and access	Identify and protect sensitive data	ISLP-12	ISLP-12
ISLP-13	Failure to protect sensitive data	ISLP-13	Single user identity (role) and access	Identify and protect sensitive data	ISLP-13	ISLP-13	ISLP-13	ISLP-13	Single user identity (role) and access	Identify and protect sensitive data	ISLP-13	ISLP-13
ISLP-14	Failure to protect sensitive data	ISLP-14	Single user identity (role) and access	Identify and protect sensitive data	ISLP-14	ISLP-14	ISLP-14	ISLP-14	Single user identity (role) and access	Identify and protect sensitive data	ISLP-14	ISLP-14
ISLP-15	Failure to protect sensitive data	ISLP-15	Single user identity (role) and access	Identify and protect sensitive data	ISLP-15	ISLP-15	ISLP-15	ISLP-15	Single user identity (role) and access	Identify and protect sensitive data	ISLP-15	ISLP-15
ISLP-16	Failure to protect sensitive data	ISLP-16	Single user identity (role) and access	Identify and protect sensitive data	ISLP-16	ISLP-16	ISLP-16	ISLP-16	Single user identity (role) and access	Identify and protect sensitive data	ISLP-16	ISLP-16
ISLP-17	Failure to protect sensitive data	ISLP-17	Single user identity (role) and access	Identify and protect sensitive data	ISLP-17	ISLP-17	ISLP-17	ISLP-17	Single user identity (role) and access	Identify and protect sensitive data	ISLP-17	ISLP-17
ISLP-18	Failure to protect sensitive data	ISLP-18	Single user identity (role) and access	Identify and protect sensitive data	ISLP-18	ISLP-18	ISLP-18	ISLP-18	Single user identity (role) and access	Identify and protect sensitive data	ISLP-18	ISLP-18
ISLP-19	Failure to protect sensitive data	ISLP-19	Single user identity (role) and access	Identify and protect sensitive data	ISLP-19	ISLP-19	ISLP-19	ISLP-19	Single user identity (role) and access	Identify and protect sensitive data	ISLP-19	ISLP-19
ISLP-20	Failure to protect sensitive data	ISLP-20	Single user identity (role) and access	Identify and protect sensitive data	ISLP-20	ISLP-20	ISLP-20	ISLP-20	Single user identity (role) and access	Identify and protect sensitive data	ISLP-20	ISLP-20

Matrix of key controls and risk mitigated by L1/L2 process level that includes GRC and automated intelligence opportunities and are mapped to NIST controls and ISO 27000



Questions?



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carl.flodin@kpmg.se

Oh wait, what's next?

Invite to a KPMG Afterwork

KPMG Cyber Security would love to invite you for a after-cyberwork @ KPMG Stockholm Office.

Date: 2022-10-12

Time: 17:30-19:00

Location: Vasagatan 16, 111 20, Stockholm

Rsvp: sebastian.lennartsson@kpmg.se

We look forward to seeing you there and network even more!