TENET
Tertiary Education and Research Network of South Africa

Identity

An introduction

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What is an identity?

A set of attributes related to an entity (ISO/IEC 24760-1)

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entity (n): a thing with distinct and independent existence.

We have lots of different types of entities in the identity space…

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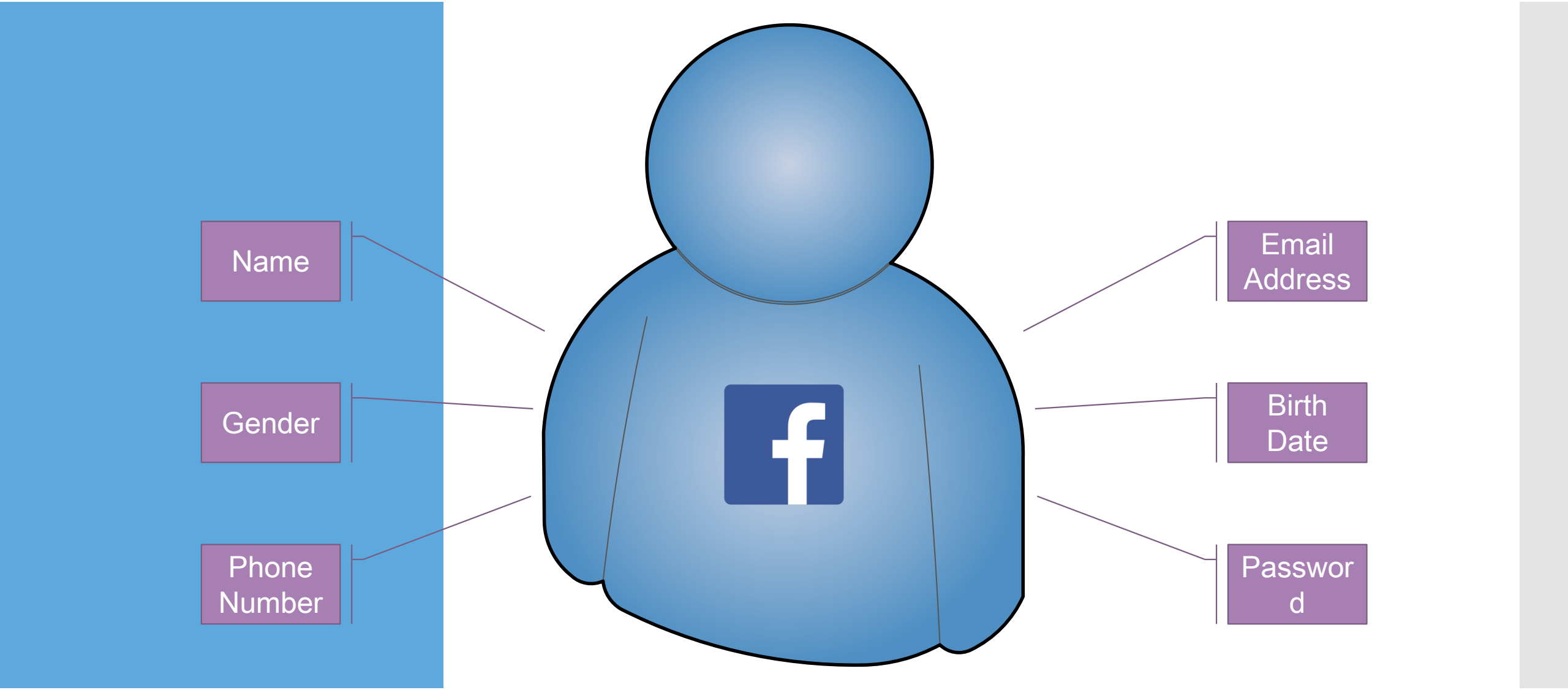

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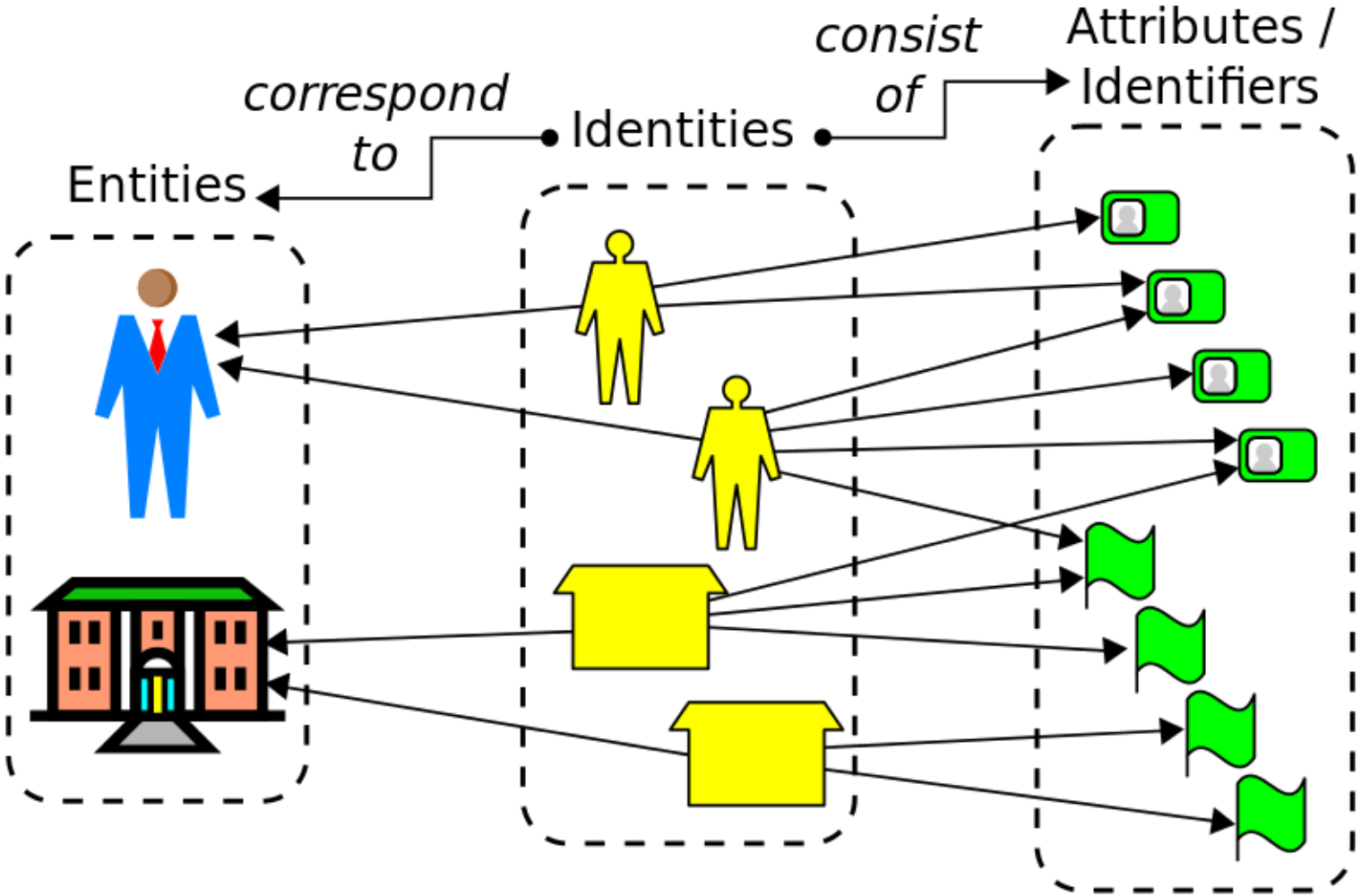

https://en.wikipedia.org/wiki/Identity_management

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What makes up your digital identity?

aka what do you already know about your users?

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Sources of identity - students

- Student number / identifier
- Name
- Address
- Qualifications
- Course registration
- Marks, exam results
- Password
- Email address
- …

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Sources of identity - staff

- Employee number / identifier
- Name, address, phone number
- Contract status
- Password
- Email address
- Faculty, department, division
- Committee membership
- …

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Sources of identity – academic & research

- Current research
- Grants
- Publications, research output?
- …

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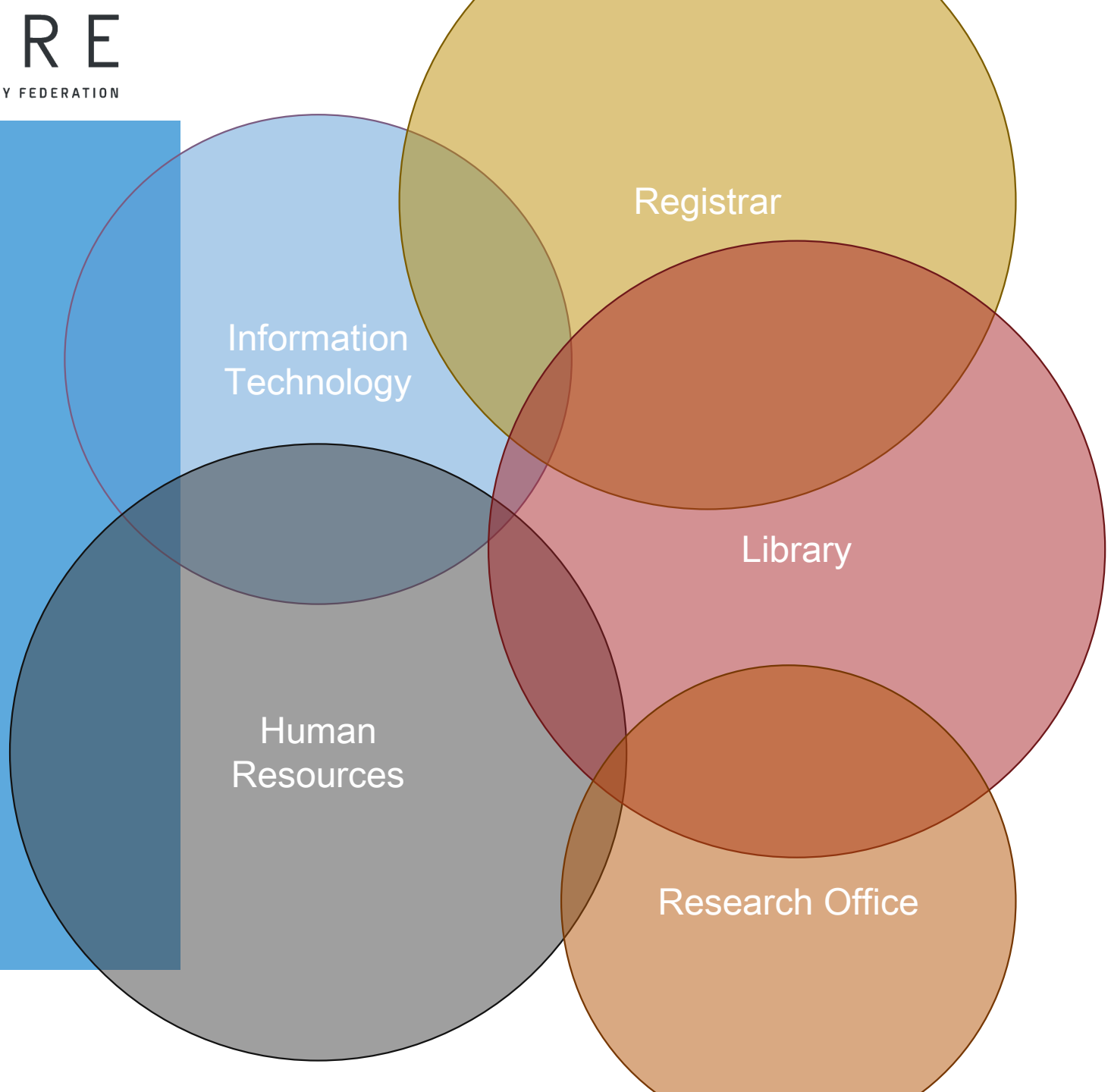

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Systems using identity

Where does identity live in your institution?

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Systems using identity

- Active Directory
- Student records
- Human resources/employee management
- Payroll
- Current research information system (CRIS)
- Grant management system
- Institutional repositories
- Alumni relations
- …

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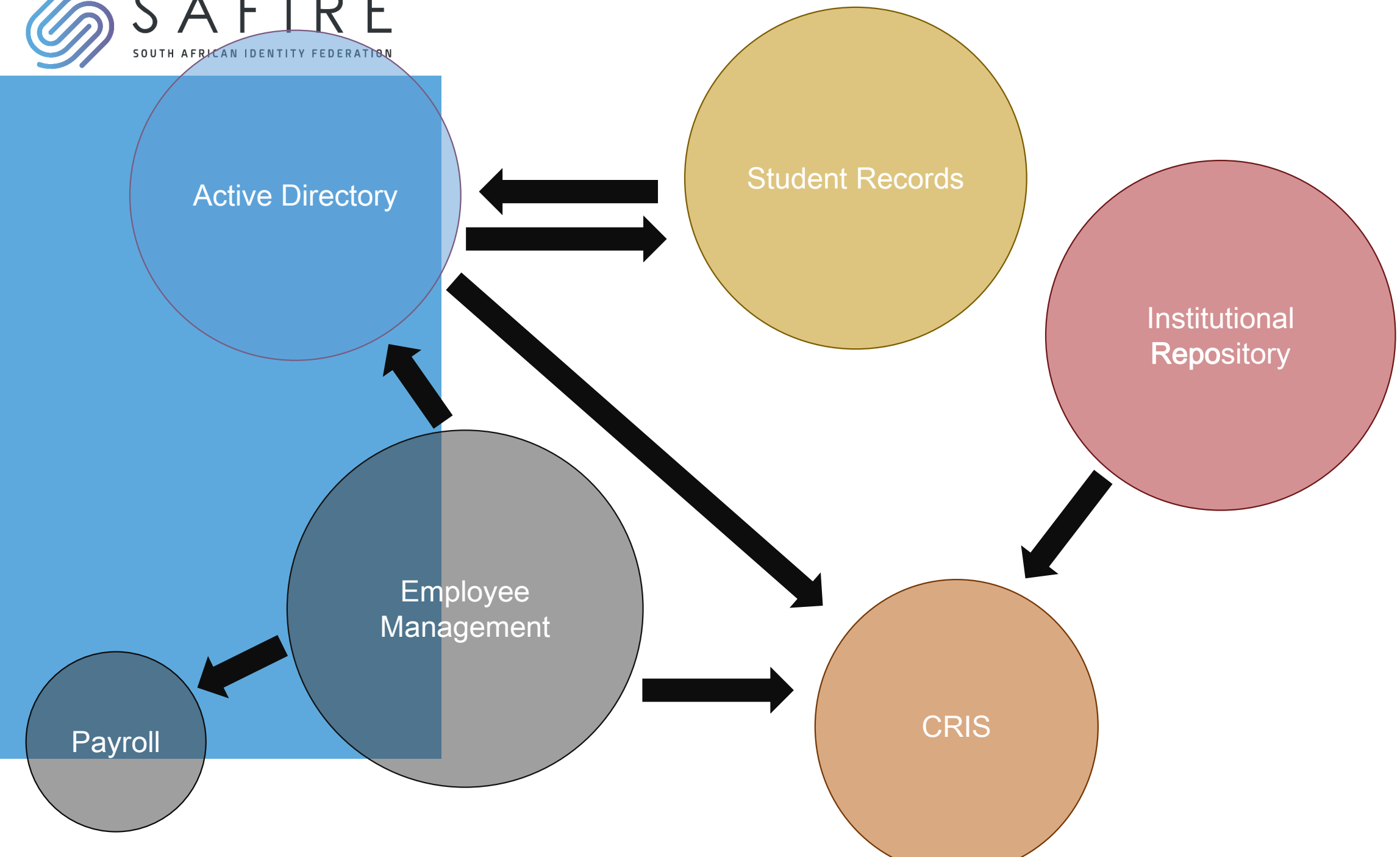

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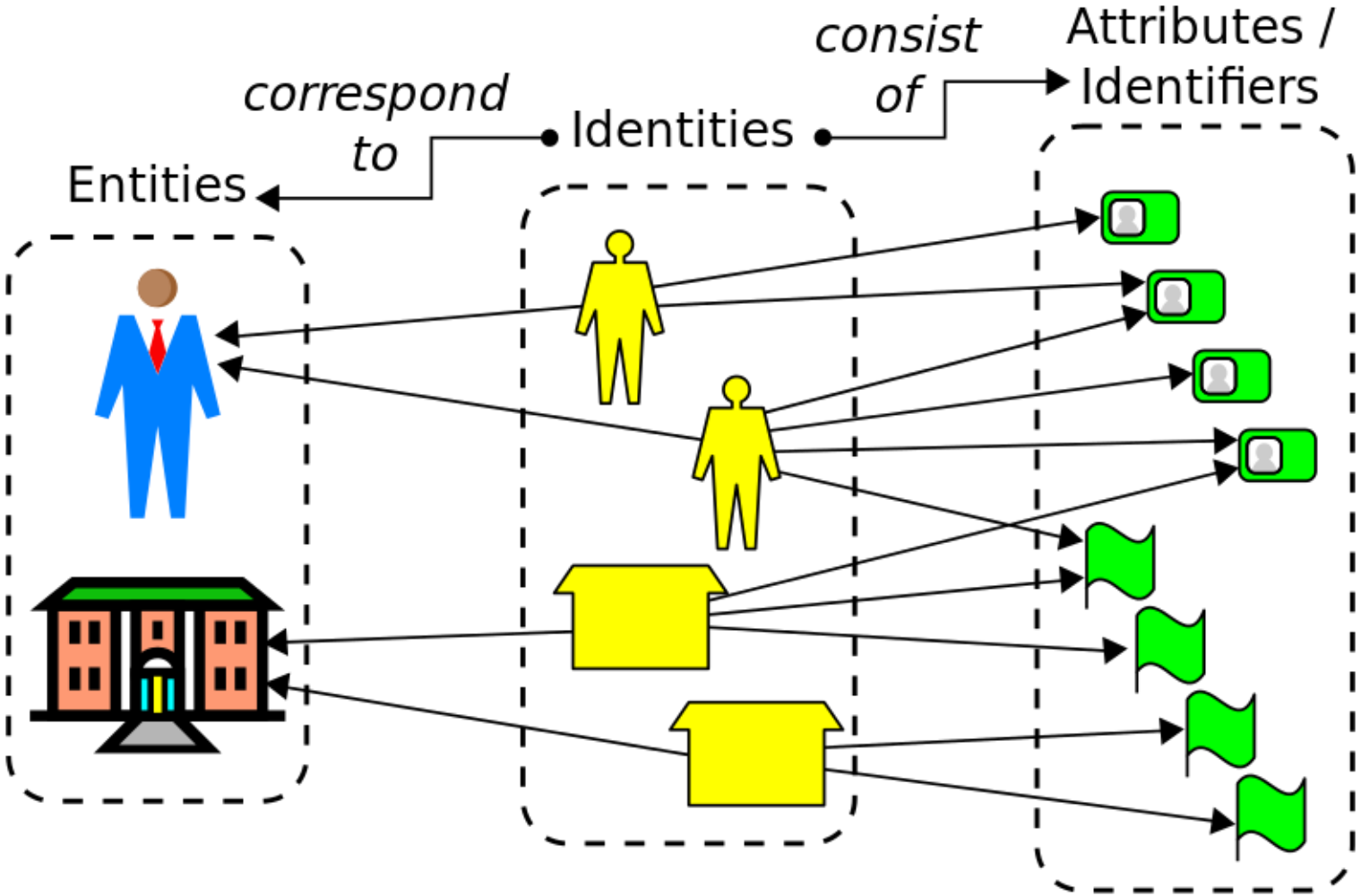

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Person Identifiers

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Person Identifiers

- Username
- National ID
- Passport number
- Student number
- Employee/staff numb
- Email address?
- ORCID iD

What are the privacy implications

Do we agree on formatting?

In what circumstances can they change?

Is there ever duplication?

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What makes a good person identifier?

4NF

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Identifier concepts/terminology

- Persistent vs transient
- Transferable / reassignment
- Unique

- Pseudo-anonymous
- Opaque
- Pseudonym
- Targeted

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Privacy-preserving identifiers

- Should be generated
- Must be opaque and uni-directional
  - e.g. a SHA-256 hash
- Think about making them targeted

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ORCID iD

- Open Researcher and Contributor Ide
- https://orcid.org/0000-0002-1825-0097
- Persistent, opaque
- Institutionally independent
- Like a DOI for people

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Identity Management

"enables the right individuals to access the right resources at the right times and for the right reasons" (Wikipedia)

Evolution of Identity Techniques

Application Centric IdM

- Services activated, but little interaction between them
- Applications have distinct userID/password pairs of their own

Centralizing Campus Directory & Sign-On

- Services are easier to turn on
- Users are using same password
- Campus SSO users sign in once
- Applications cannot see the user's password

Federated SSO

- Faster service turn-up time – config and go
- Minimized attack/risk surface inherent in design
- Services outside your domain more easily enabled

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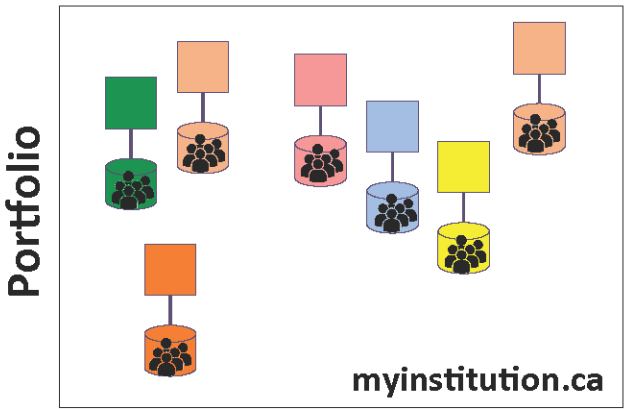

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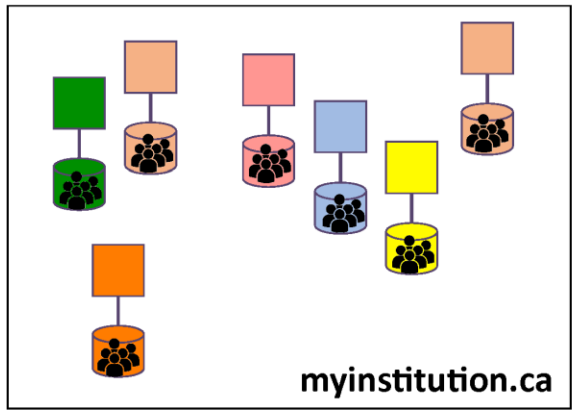
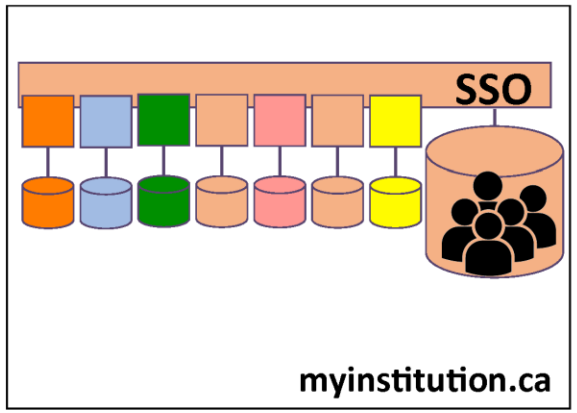
What is needed to get to this stage?





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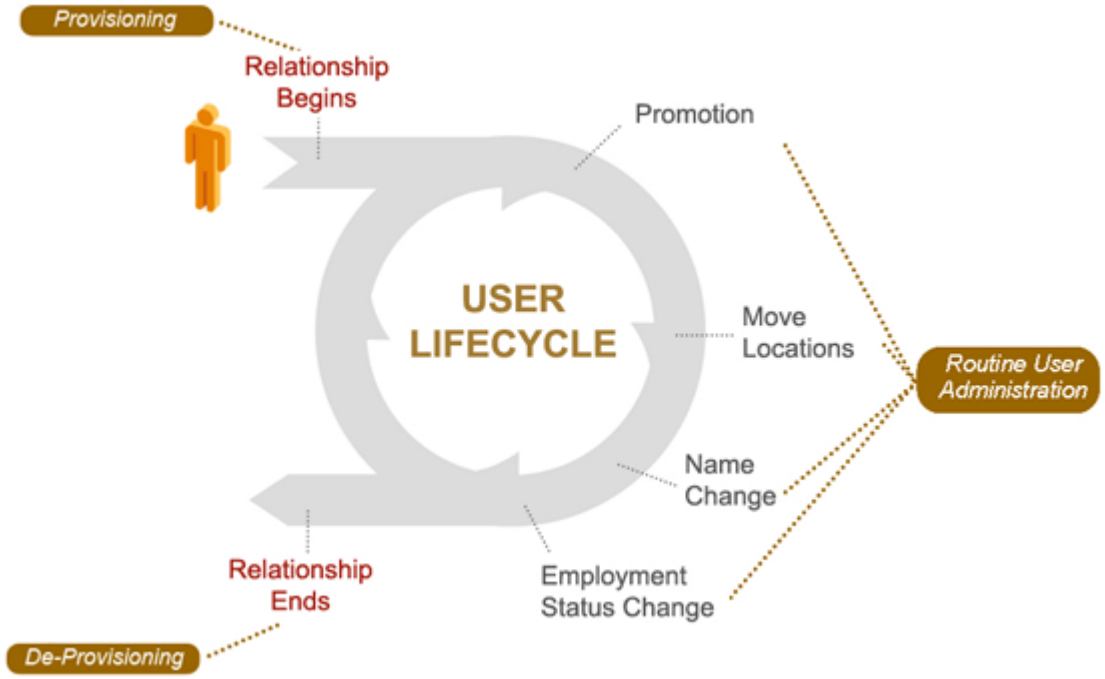
Identity Management Life Cycle



http://www.ithancreek.com/identity_management.asp

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Centralising identity – authoritative sources

- If you haven't already done so, conduct an institution-wide audit of identity to determine who has what attributes
- Determine the authority for each attribute, e.g:
  - Email address -> IT department
  - Student numbers -> Registrar
  - Student name -> Registrar
  - Staff name -> Human resources
- Determine consumers for each attribute
- Determine what constraints exist for each attribute:
  - Name field is 100 chars at authority, but CRIS system only accepts 80 chars

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Centralising identity – interim steps (1)

- You probably already have some processes to share information between departments, but:
  - Make sure these are aligned with the audit results (right authority)
  - Use common language and descriptions (what do we mean by givenName?)
  - Start aligning the constraints (if smallest name field is 80 chars and this cannot be changed, use 80 char names)
  - Introduce update processes to ensure identities remain in sync (all consumers are told when a change happens at the authority)

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Centralising identity – interim steps (2)

- You need institutional buy-in – can be hard to get
- Take small steps, easy wins
  - but do not lose sight of the big picture
- These interim steps do **not** need to depend on technology

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What are the small steps?