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# *Standards, metadata and addresses*

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- Standards
  - Standards generating bodies
    - International Organization for Standardization
    - International Electrotechnical Commission
    - Joint Technical Committee 1
    - etc ...
    - Standards South Africa
  - Standards development
- Addresses
  - Some address standards
  - The route to SANS 1883
- Metadata

# *International Organization for Standardization (ISO)*

- ISO = equal
- World's largest developer of standards
  - Network of national standards institutes of 148 countries
- Established in 1946
- Principal activity is developing technical standards
  - ISO standards also have important economic and social repercussions
- Technical Committees (TCs)
  - Screw threads to Fisheries and aquaculture
- Example standard:
  - ISO 19115:2003, *Geographic information – Metadata*

# *International Electrotechnical Commission (IEC)*

- Established in 1906
- International standards for electrotechnologies
  - Including: electronics, magnetics, electromagnetics, electroacoustics, multimedia, telecommunication, energy production and distribution
  - Associated general disciplines
    - Terminology and symbols, electromagnetic compatibility, measurement and performance, dependability, design and development, safety and the environment
- Promotes international cooperation
  - Eg: assessment of conformity to standards
- Example standard:
  - IEC 60617, *Graphical symbols for diagrams*

## *Joint Technical Committee 1*

- ISO/IEC formed Joint Technical Committee 1 (ISO/IEC JTC 1)
  - Standards for information technology
  - Includes specification, design and development of systems and tools dealing with
    - Capture, representation, processing, security, transfer, interchange, presentation, management, organization, storage and retrieval of information
  - Works through Sub Committees (SCs)
- Example standard:
  - ISO/IEC 11179, *Information technology – Metadata registries (MDR)*

## *Other standards generating bodies*

- There are many other standards generating bodies ...
  - International Telecommunications Union (ITU)
  - Universal Postal Union (UPU)
  - International Monetary Fund (IMF)
  - United Nations (UN)
  - African Regional Organization for Standardization (ARSO)
  - Southern African Development Community Cooperation in Standardization (SADCSTAN)
  - World Wide Web Consortium (W3C)
    - HTML, Semantic Web, XML, etc
  - Internet Engineering Task Force (IETF)
    - TCP/IP, FTP, etc

# *Standards South Africa*

- Standards South Africa (StanSA)
  - Administrative support for standards development
  - Community develops the standards
- “Overprint” ISO standards
- Develop South African standards
- Work done within Technical Committees
  - TC 71: *Information technology*
    - SC 71E: *Geographical information*
    - SC 71H: *Intelligent Transport Systems*

## *Characteristics of standards*

- Open standards (ISO, IEC, etc)
  - All participants are on an equal footing
  - Voluntary
  - Market-driven
  - Consensus
  - Worldwide
- Industry standards groups
  - Closed
  - Dominated by the major financial contributors
- De facto standards
  - Proprietary
  - Locked-in technology

# *The standards process*

- Standards, Technical Specifications, etc
  - Developed by a group of experts
    - Anyone may participate
    - But participants must contribute!
    - Intermediate documents are working drafts (WD)
  - Output is a complete standard or specification
    - Subjected to review, voting and editing by stakeholders
  - Review cycle (eg: five years after publication)
    - Retain as is, revise, or retire
- Technical Reports
  - Something too immature or controversial to become a standard!
- Review summaries
  - Outline of the standards needed in an area

## *Some address standards*

- National address standards in other countries
  - AS/NZS 4819:2003, *Geographic information – Rural and urban addressing*
  - NEN 5825:2002, *Addresses – Definitions, character sets, interchange formats and physical presentation*
- CEN/TC 331, *Postal Services*
  - EN 14142-1:2003, *Postal services – address databases – Part 1: Components of postal addresses*
- ISO/TC 154, *Processes, data elements and documents in commerce, industry and administration*
  - ISO 11180:1993, *Postal addressing* (withdrawn)
- Universal Postal Union standards
  - UPU S42, *International Postal Address Components and Templates*
- Informed the development of SANS 1883, *Geographic Information – Address Standard*

## *The route to SANS 1883*

- Attempts at a National Address Dictionary (NAD)
- Workshop on standardization of storing addresses in a database
  - Standards South Africa, Pretoria, 22 July 2004
- NWIP proposal circulated, deadline: 8 October 2004
  - Seven parts proposed initially
    - SANS 1883-1: Terminology, definitions and concepts related to physical and postal addresses.
    - SANS 1883-2: Unique, invariant framework identifiers for static and dynamic addresses (the National Address Directory).
    - SANS 1883-3: Geo-referencing guidelines for framework identifiers.
    - SANS 1883-4: Address structures for urban and formal areas.
    - SANS 1883-5: Address Structures for rural and informal areas.
    - SANS 1883-6: Address data units in databases, data transfer, exchange and interoperability.
    - SANS 1883-7: Address allocation and update guidelines.
- Project team formed in March 2006 with Serena Coetzee as Project Leader
- SANS 1883 is not a NAD!
  - It provides the framework for building a NAD, building address data bases within an organisation, and for exchanging address data

# *Metadata* [1]

- All digital data
  - Attempt to model and describe the world
    - For computer analysis, display, etc
  - Always an abstraction
  - Always partial
  - Always just one of many possible ‘views’
  - Not an exact duplication
    - Some things are approximated
    - Some things are simplified
    - Some things are ignored

## *Metadata* [2]

- *No perfect, complete and correct data!*
- Assumptions and limitations must be fully documented
  - Prevent misuse use of the data
- Metadata
  - Data about data
  - Describes dataset series, dataset, individual records and individual fields
  - Metadata standards
    - Allow producers to describe datasets fully and coherently
    - Facilitate data discovery, retrieval and use

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*Thank you!*

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