

*ISO Workshop on address standards:
Considering the issues related to an international address standard
National Survey and Cadastre, Copenhagen, Denmark, 25 May 2008*

Overview of an address and purpose of the workshop

Antony Cooper

**Built Environment Unit, CSIR, Pretoria,
South Africa, acooper@csir.co.za**

**Convenor, ISO/TC 211 Working
Group 7, *Information Communities***



Outline of the presentation

- Background to the workshop
- Outline of the workshop
- Overview of an address
- Definition of an address
- A preliminary taxonomy of addresses
- Towards an international address standard
- Conclusions

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Background to the workshop

- Variety of addresses used for many purposes
 - Various countries around the world have address standards or are developing them
 - Address standards developed by international organizations for specific domains
 - Eg: postal delivery
 - Regional address standard initiatives
 - Eg: INSPIRE in Europe
- Coetzee *et al* (2008) assessed ten standards
 - Standard's status; standard's purpose
 - Availability of supporting material
 - Support for geo-referencing with coordinates, postal addresses and non-postal addresses
 - Data model
 - Metadata and descriptions of data quality

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Background to the workshop

- Coetzee *et al* (2008) make several recommendations for an international address standard:
 - Should not prescribe an universal addressing system
 - Each country has its own unique socio-cultural addressing system implemented through legislation, etc.
 - Cater for the different character sets and text ordering schemes
 - Should be an abstract standard
 - Framework for describing address systems across the world
 - Provide common terms and definitions of an address, address elements and related concepts (a vocabulary and ontology).
 - Aim to make the address reference data exchangeable
 - Cater for geo-referencing addresses by coordinates.
 - Cater for all kinds of addresses (not only postal)
- Workshop was conceived by Coetzee *et al*
 - Discuss what an address actually is
 - Explore possibility of international address standard

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Outline of the workshop

- Purpose of this workshop is to consider the issues related to the development of an international address standard
 - What is an address?
 - International standard should consider addresses broadly
 - Rather than each domain separately
 - What definitions of an address are being used?
 - What is the scope of current address standards?
 - Why do we need a national, regional, domain or international address standards?
 - Can we benefit from an international address standard?
 - If so, is there enough reason to move ahead with an international address standard now?
 - If yes, what should the scope (more or less) be and how do we proceed?
 - Eg: review document summarizing the issues and the options
 - Stage 0 Review Summary within ISO/TC 211

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Outline of the workshop

- *Addressing the Needs of INSPIRE: The challenges of improving interoperability within the European Union*, Andrew Coote, INSIPRE
- *A general approach to addressing*, Rob Walker, United Kingdom
- *Ubiquitous public access and address standards*, Sang-Ki Hong, Korea
- *Address data exchange in South Africa*, Serena Coetzee, South Africa
- *AS/NZS 4819:2003: Geographic information – Rural and urban addressing and AS/NZS 4590:2006: Interchange of client information*, John Hockaday, Australia
- *A conceptual framework for the description of Place Identifiers*, Reese Plews and Shigekazu Kawano, Japan
- *Developing a Comprehensive Standard for US Address Data*, Carl Anderson, US
- *Universal Postal Union (UPU) – International Postal Addressing Standards*, Joe Lubenow, UPU
- *Addresses as an infrastructure component: Danish experiences*, Morten Lind, Denmark
- *ISO/TC211 perspective on an international address standard*, Olaf Østensen, ISO/TC 211

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Overview of an address

- An address should be considered more broadly than just a set of directions for delivering post
 - Also used for a wide range of public and private service delivery
 - Goods delivery
 - Connecting utilities
 - Billing
 - Emergency dispatch
 - Household surveys
 - Opening bank accounts
 - Buying on credit
 - Securing an identity document
 - Voting
 - Obtaining employment, etc
 - An address can also give people a status

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Definitions of an address

- From 8 standards with definitions of an address
 - A location (site, building, plot of land, point or addressee)
 - A reference (label, description, identification, textual, specification or information)
 - Uniqueness (definite, unambiguous, precise, without searching or without there being any doubt)
 - Common (conventional)
 - Structured
 - Completeness
 - Service delivery (access)
 - An address does not exist only when some form of service delivery takes place, but is needed for potential service delivery
- Combining these could give the following definition
 - *A structured, unique, complete, common reference for actual or potential service delivery to a location*

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

A preliminary taxonomy of addresses

- Probably useful to have a taxonomy of addresses in general
 - Identify for which types of addresses a standard caters, and for it does not
 - Such a taxonomy could classify addresses
 - By their purpose (ie: their domain of use)
 - By the means of referencing used (eg: by coordinates or geographical identifiers)
- For each type of address in the preliminary taxonomy
 - Is the address static and/or dynamic?
 - Is the inferred location absolute or relative to some known point?
 - Is it expressed using coordinates and/or geographical identifiers?
 - The precision of the address
 - Can the address be redirected to another location or address?
 - Are there existing standards for the address type?

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Initial attempt at a taxonomy of addresses

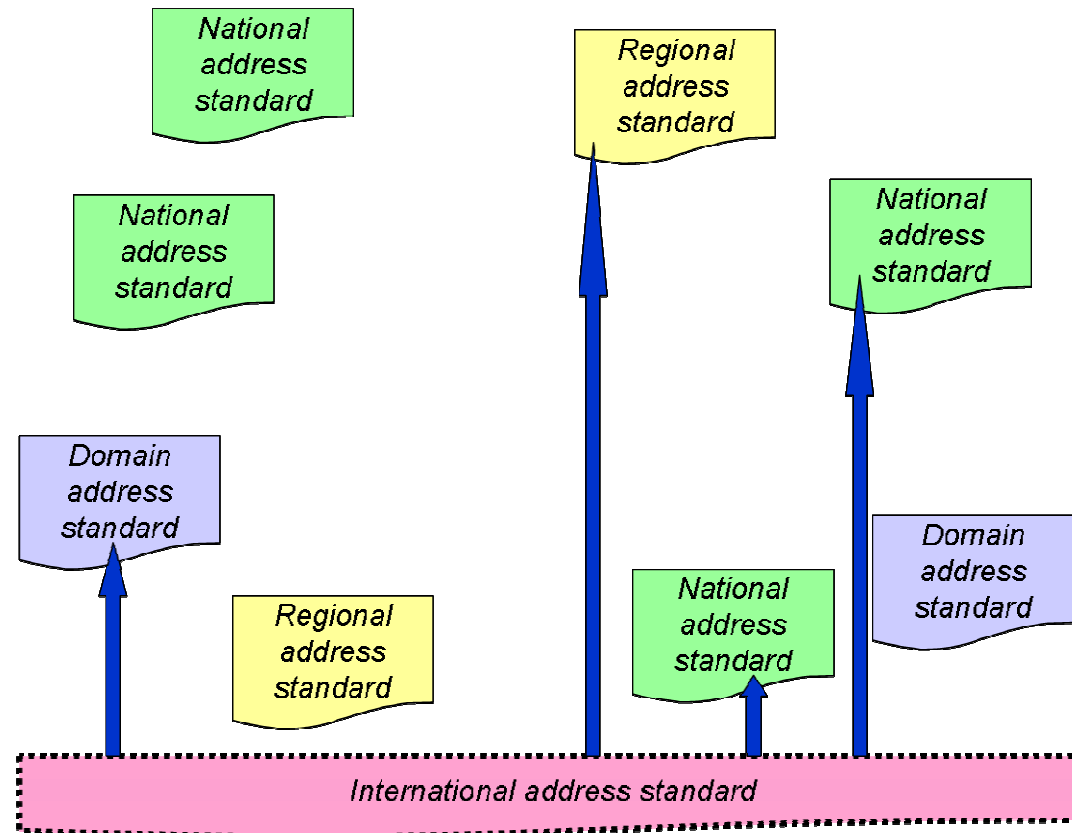
- Postal address
 - Street delivery address
 - PO Box or Private Bag
 - Post Restante
- Delivery address (for goods, etc)
 - Street address
 - Intersection address
 - Landmark address
 - Building address
 - Site address
 - Farm address
 - Informal address
 - Street segment (by cross streets)
- Visiting address (for visiting people, etc)
 - All the delivery addresses
- Linear referencing
- Coordinates
 - Coordinate tuple in a coordinate reference system (CRS)
 - Hierarchical tessellations (grids)
- U-Position
- Place Identifier
- Tracking (for parcels, look-for-me, etc)
 - GPS-enabled mobile phone
 - "Triangulation" of Mobile Measurement Reports
 - Cell IDs (mobile phones)
- Geographical features
 - Link ID or Node ID
- Electronic or virtual address
 - Landline telephone number
 - Landline facsimile number
 - Mobile telephone number
 - Internationalized Resource Identifier (IRI)
 - mailto (email address)
 - http/https
 - ftp
 - news (USENET news)
 - telnet
 - file
 - im (instant messaging)
- Combination addresses

Towards an international address standard

- An international address standard could provide a tool set
 - For describing or building an address standard
 - Common terms and definitions of an address, address elements and related concepts
 - Vocabulary and/or an ontology
 - Framework for describing an address system
 - Will not enable direct exchange of address data
 - Could identify how address systems correlate with one another
 - Could be used to develop an exchange mechanism
 - Purpose of such a 'limited' international address standard
 - Provide the platform for developing more integrative standards
 - Less likely to generate resistance to it
 - Won't attempt to impinge on the unique socio-cultural addressing systems in each country, and supporting legislation and regulations
 - Very useful for those countries needing to develop or revitalise their addressing systems

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

An international address standard as a set of tools for describing other address standards



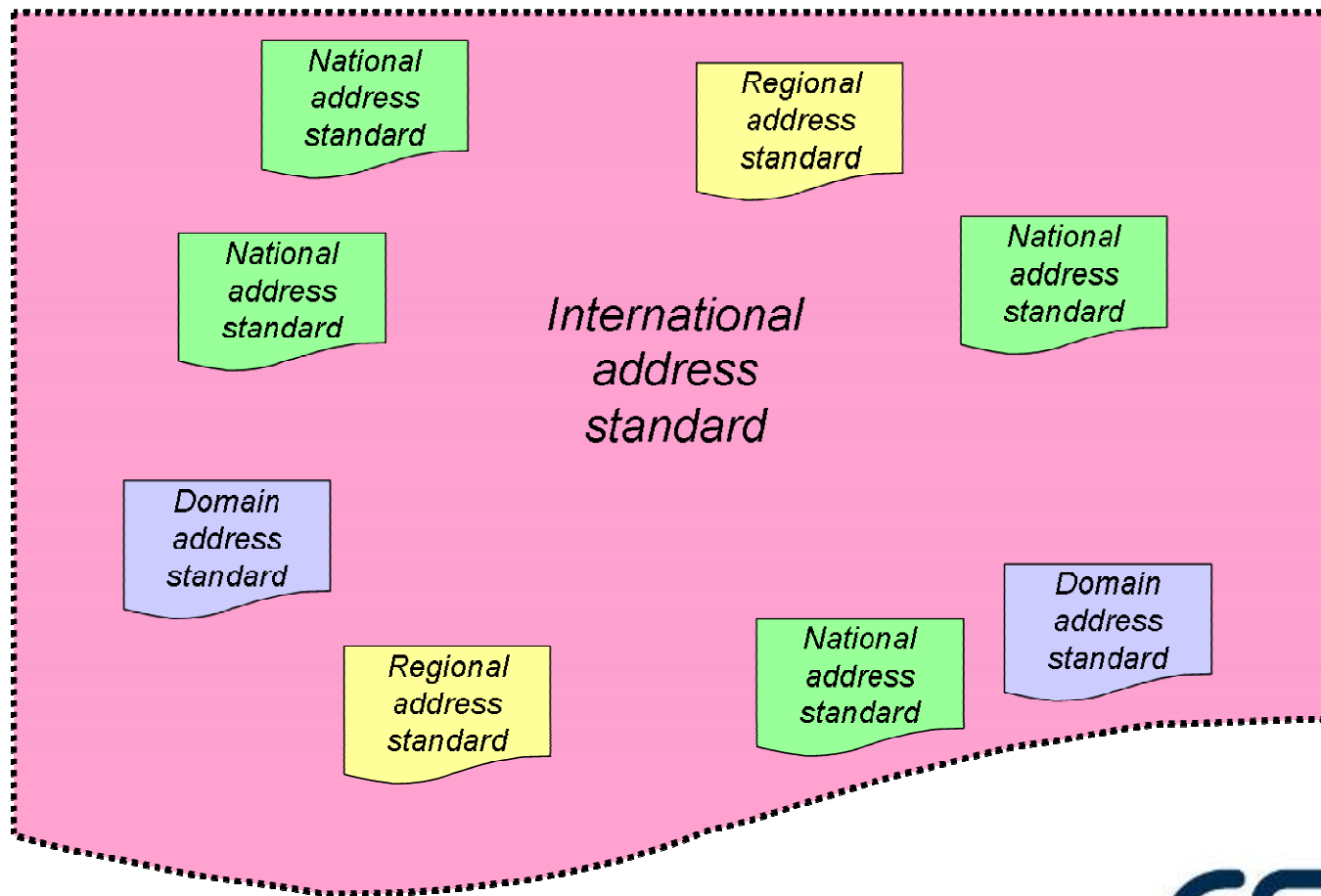
ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Towards an international address standard

- An international address standard could be a superset
 - Incorporating all the different concepts of addresses, address elements and related concepts from existing standards
 - Superficially, this might appear to be the best option
 - As it would 'satisfy' everyone
 - However, in practice it will invariably produce an unwieldy standard that is difficult to use
 - Even to the extent of being a 'write-only' standard
 - Easy to write to
 - Very difficult to read from
 - Has to cater for all the special cases
 - Unfortunately, there are some international standards that have adopted this approach

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

An international address standard as the superset of other address standards



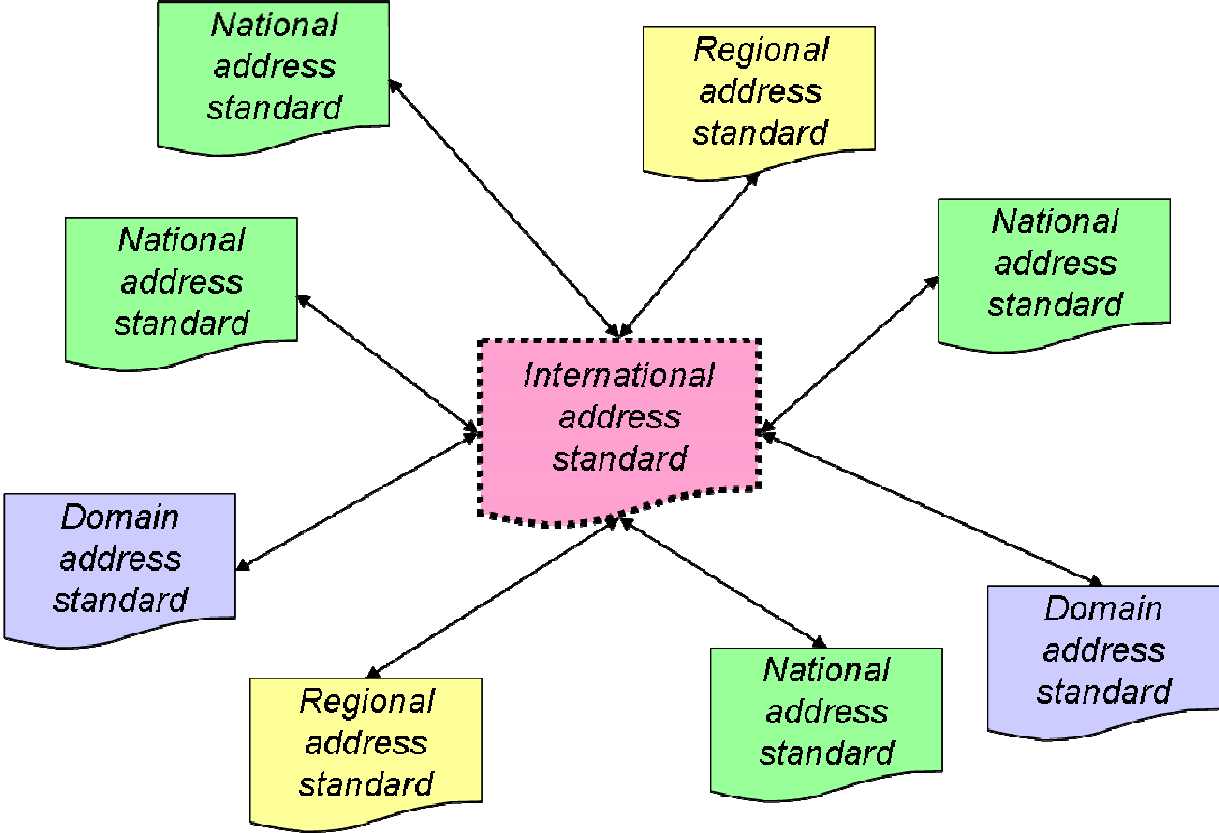
ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Towards an international address standard

- An international address standard could be the universal interface
 - Providing the general model of an address, address elements and related concepts
 - As opposed to being merely a collection of special cases
 - Would require a good understanding first of an address and related concepts
 - So that the general model of an address could be identified and described
 - This is what the international address standard should become
 - Probably not feasible right now
 - Our understanding of addresses not sufficiently mature
 - Tight deadlines normally imposed for the completion of international standards, once initiated

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

An international address standard as the universal interface between other address standards



ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Conclusions

- Presented here
 - An overview of an address
 - An aggregated definition of an address
 - A preliminary taxonomy of addresses
 - Some thoughts on the route to an international address standard
- This workshop was conceived to
 - Discuss what an address actually is
 - Explore the possibility of an international address standard
- Acknowledgements
 - Standards South Africa and the CSIR for the funding that made participation in this workshop possible
 - Financial support of the National Survey and Cadastre of Denmark that made this workshop possible
 - Serena Coetzee, Morten Lind and Jan Hjelmager for putting this workshop together

ISO Workshop on Address Standards, Copenhagen, 25 May 2008

Thank you!

Enjoy the workshop!

Antony Cooper

**Built Environment Unit, CSIR, Pretoria, South Africa,
acooper@csir.co.za**

**Convenor, ISO/TC 211 Working Group 7,
*Information Communities***

