Second workshop on the use of GIS/OGC standards in meteorology

GI Standardization Overview

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12 Janvier 2009

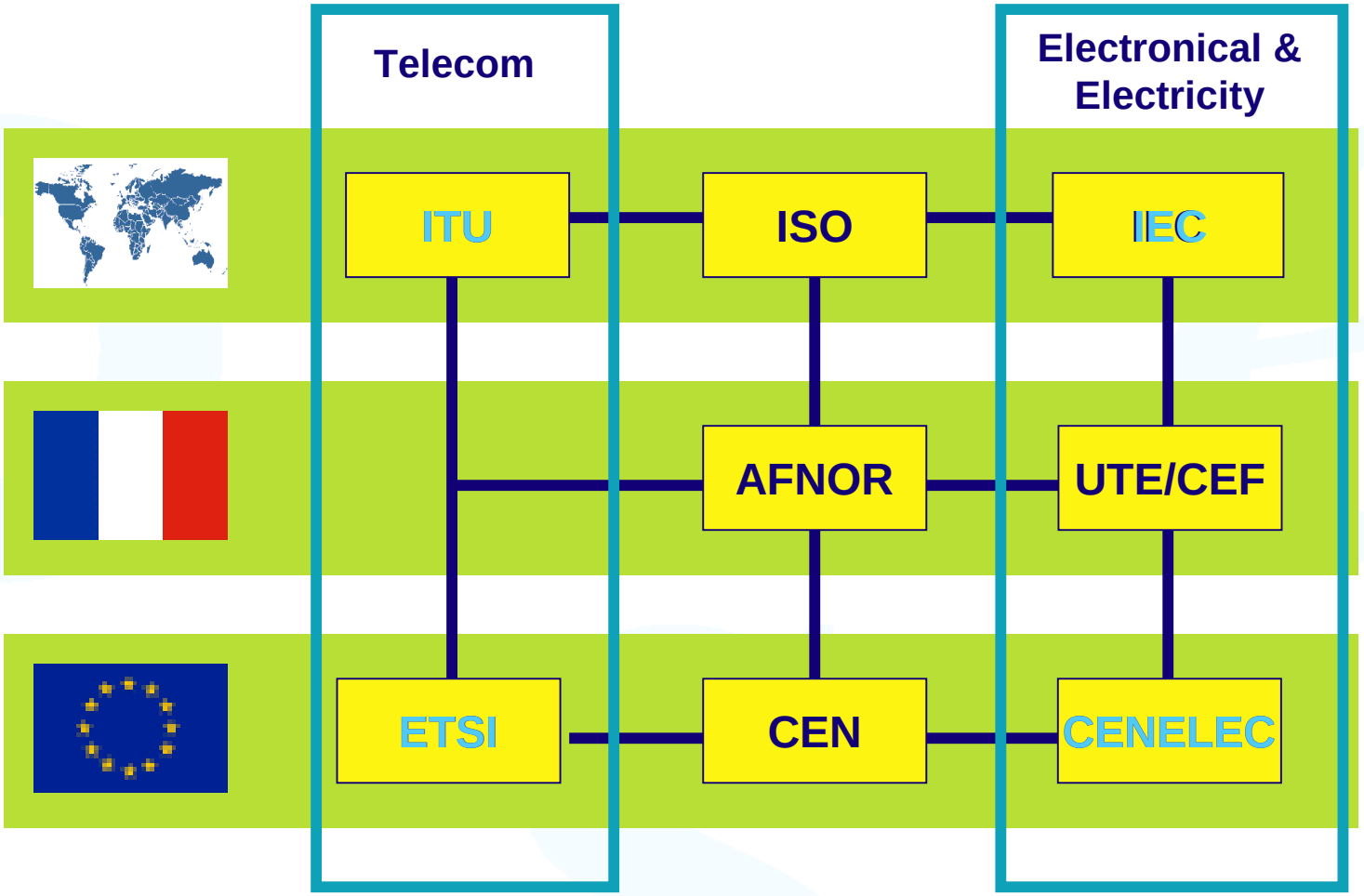
The goal of standardization

- According to decree number 84-74 of 26 january 1984 related to the French Standardization system:
  - « *supply reference documents (…) solutions to problems (…) which arise repeatedly in interactions between partners (…)* »
- A specification activity that aims at reaching a consensus.

Official standardization Organisms

International Electrotechnical Commission

International Telecommunication Union



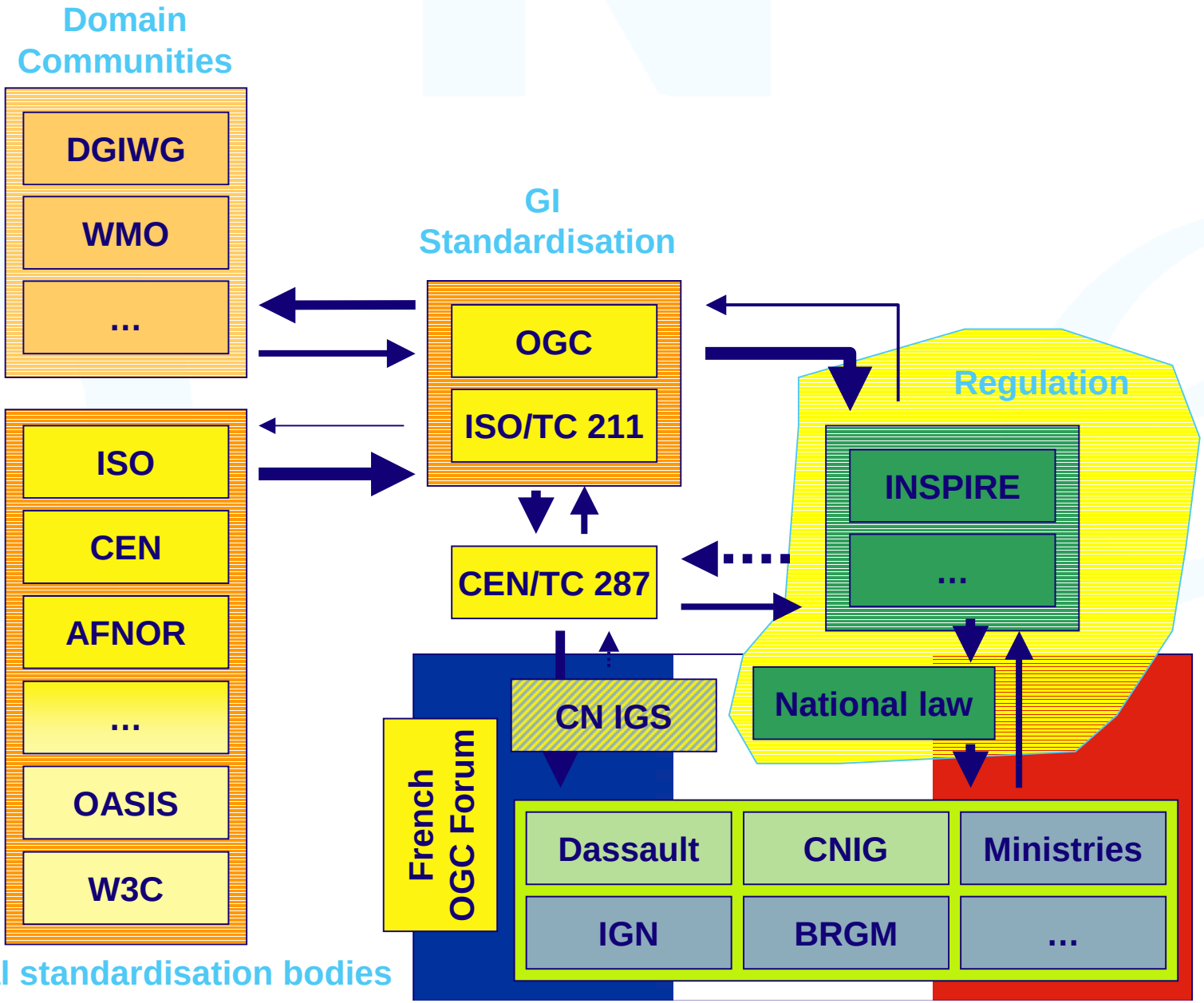
European Committee for Electronical Standardization

European Telecommunications Standards Institute

Standards and regulations

- « De jure » standards
  - Are the result of a consensual specification process
  - Some people distinguish the standards released from official standardisation bodies (ISO, CEN, AFNOR, ..) from those released by other bodies (W3C, OGC, OASIS, …)
- « De facto » standards
  - Specifications which are not the result of a consensual process, but are more or less widely used
- Regulations, Directives et laws
  - « De jure » standards are tools for regulation. Laws may enforce the applicability of standards

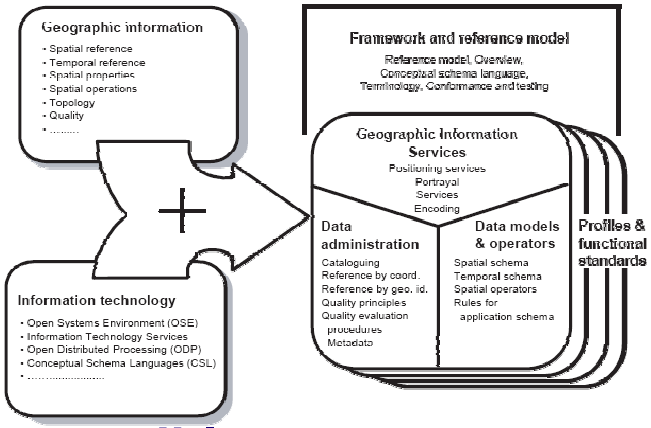
GI Standardization Overview



OGC & ISO/TC 211
The new trend for GI standardization

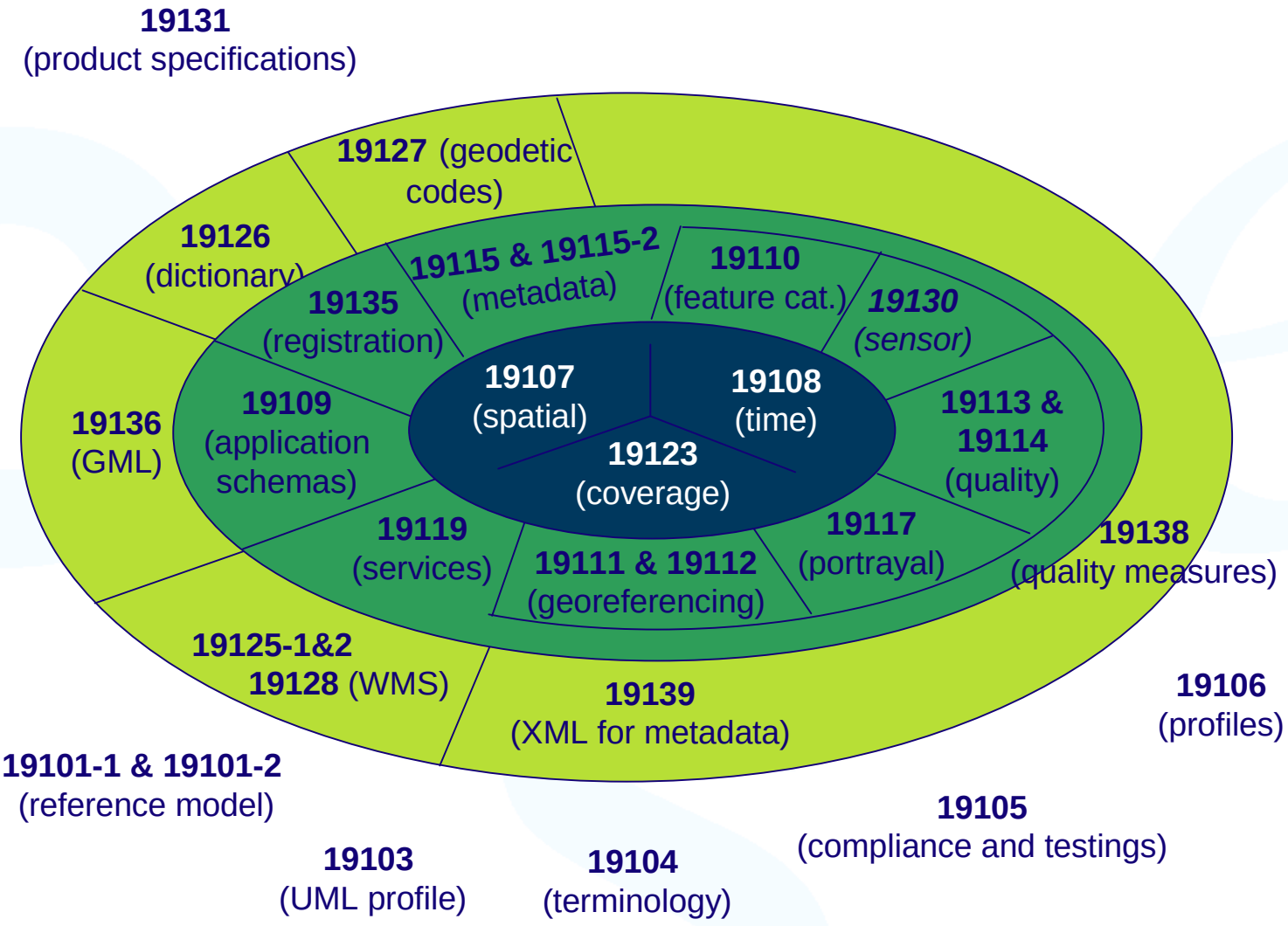
- **GI is standardized out of any context**
  - GI is information with geospatial specificity
  - GI is no more standardized in specific exchange contexts

from ISO 19101, Geographic Information – Reference Model

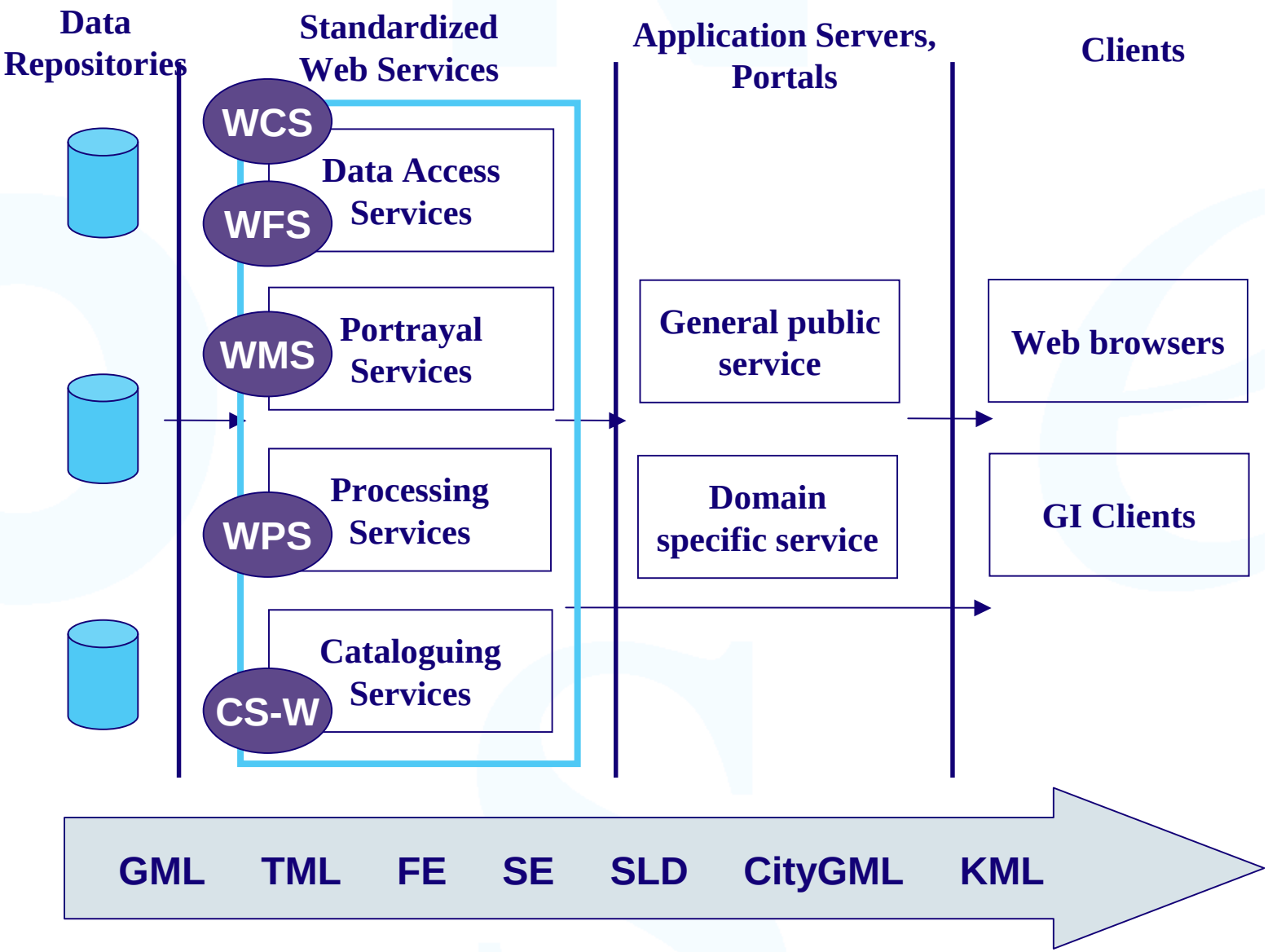


- **GI Standards are based on information technologies**
  - UML, XML
  - HTTP, SOAP,… protocols
- **Standards are modular and extensible**
- **GI standardization is international and domain independent**
  - All the actors can be involved in the standardization process
- **GI can still be transferred, but can now be transmitted**
  - Interconnected network
  - Standardization of geospatial services

ISO/TC 211 standards Overview



OGC Web Services



What are the respective roles of OGC and ISO/TC 211?

- Equivalent or shared foundations and a managed overlap
  - There is a stronger focus on abstract specifications in ISO/TC 211
  - There is a stronger focus on implementation specifications (services, …) in OGC
  - The Joint Advisory Group (JAG) of OGC and ISO/TC 211 ensures the necessary coordination
- The main differences are in terms of business process

OGC around the world

Certification

- Certification refers to the "**confirmation of certain characteristics of an object, person, or organization**"

- Certification is not a technical issue but a matter of responsibility
  - There is a difference between testing an implementation and attesting its conformity
  - Recognition of the community is a prerequisite
    - May require accreditation bodies

- Certification, standardization and regulation
  - Standards aim at expressing clearly the characteristics to be met
  - Certification plays an important role concerning the implementation of standards, especially when there are concerned by regulations
    - This promotes the use of the standards
    - Conformity is a fundamental aspect of regulations

Conclusion

- The adaptation of the new technologies of information and communication has been widely promoted by OGC and ISO/TC 211
- The GI standards structure the geospatial infrastructures emerging through regulations
- Interoperability is not only a technical matter
  - Standardization, Regulation and Certification are three organizational tools to promote interoperability
  - Interoperability is finally the responsibility of GI Communities organized locally, nationally, regionally, internationally, and/or by domain