



International Telecommunication Union

ISO: Overview of TC215/WG2 activity in the telemedicine-related area

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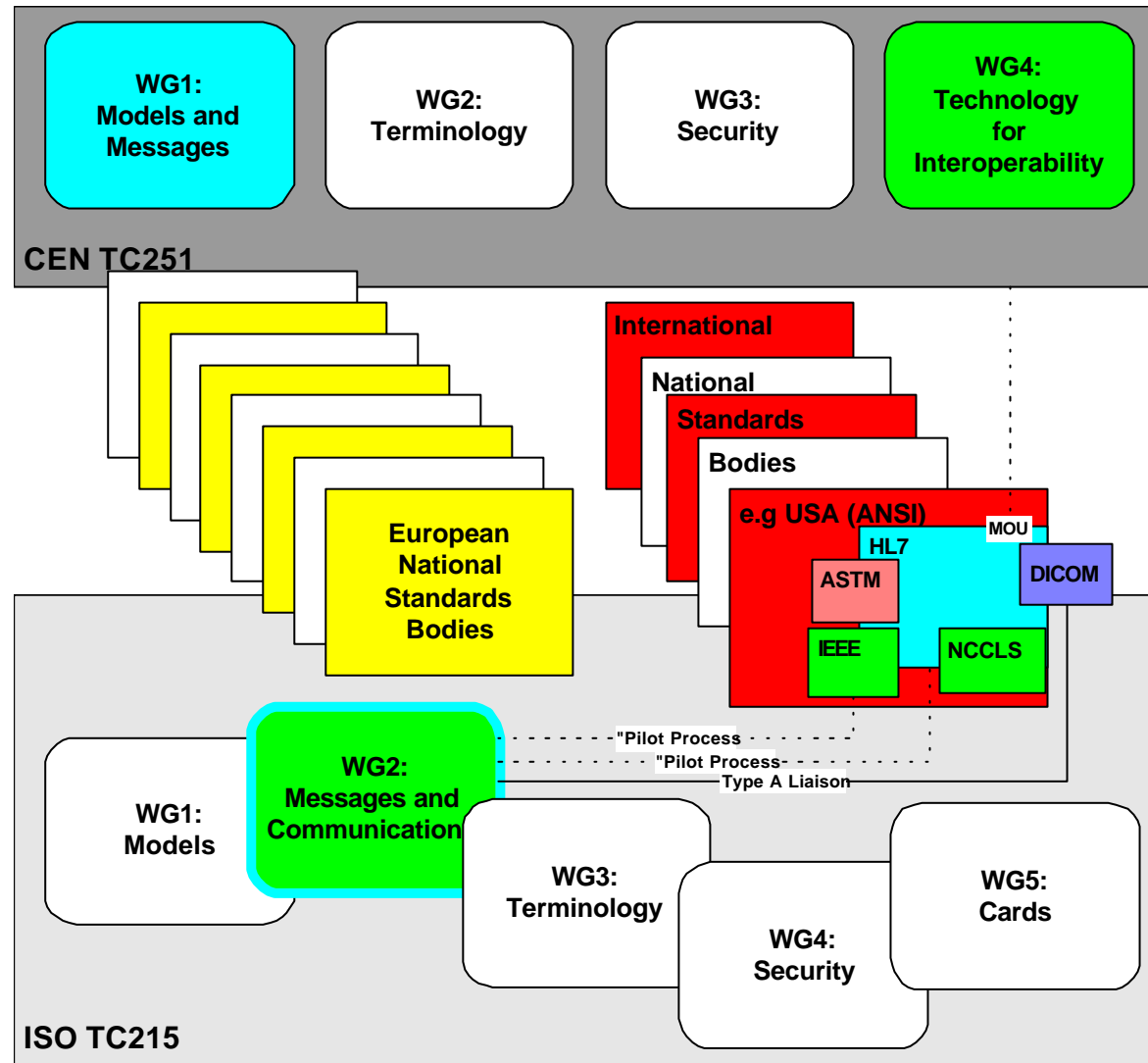
Deputy Chair ISO/TC215/WG2, Vice Chair IEEE1073,
Convenor CEN/TC251/WG4

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project
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ISO TC215 Context



ISO TC215 Scope

- o Health informatics
- generally interpreted as ISO/OSI Level 7
- o Some groups work in Levels 1-6 by reference to other standards.

ISO/OSI Level 7: Application

ISO/OSI Level 6: Presentation

ISO/OSI Level 5: Session

ISO/OSI Level 4: Transport

ISO/OSI Level 3: Network

ISO/OSI Level 2: Datalink

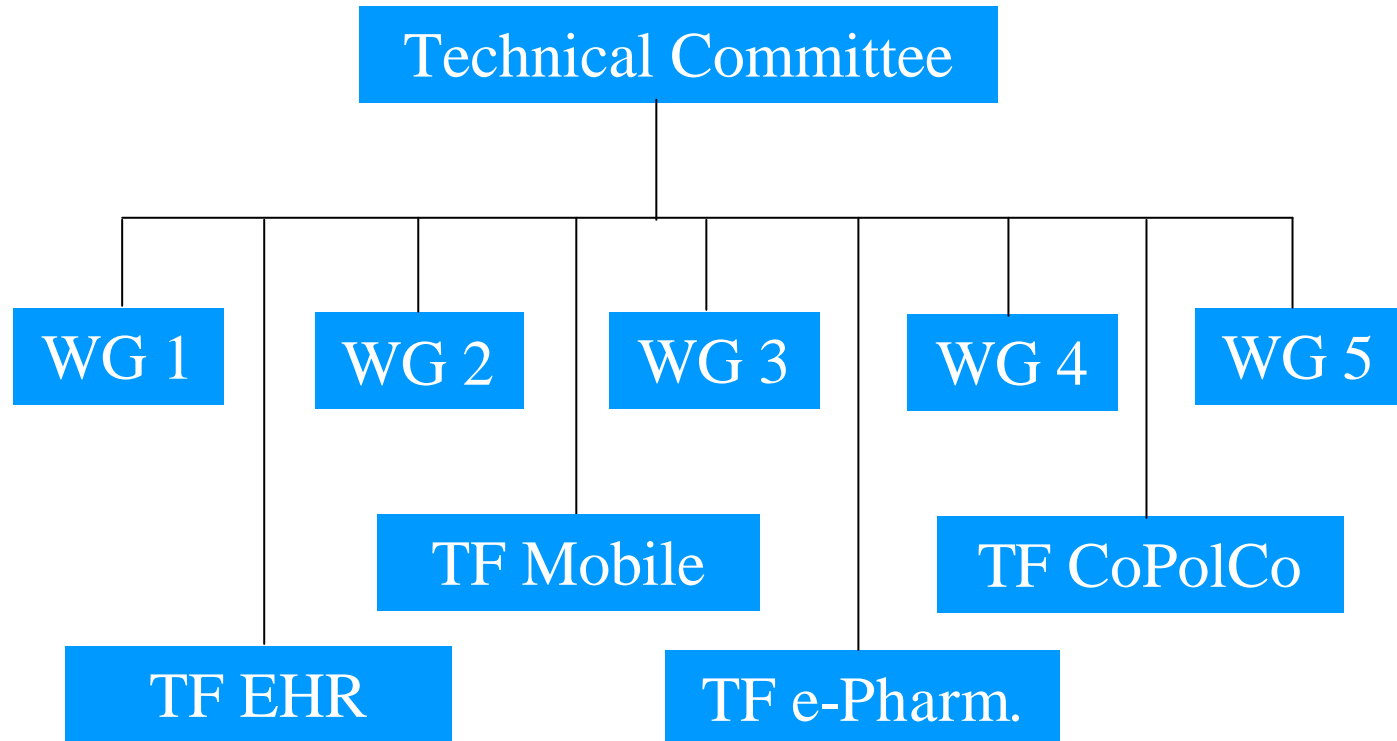
ISO/OSI Level 1: Physical



ISO TC215 Structure

- o WG1 Health records and modelling coordination
- o WG2 Messaging and communications
- o WG3 Health concept representation
- o WG4 Security
- o WG5 Health cards

ISO TC215 Structure



ISO/TC215/WG 2

Messaging & communications

- o Scope:
 - Describing the functional purposes of information interchange and the circumstances in which interchange should occur;
 - Defining a means of implementing information interchange in one or more syntax or communication modalities;
 - Identification of specific domains of activity.



ISO/TC215/WG 2

Messaging & communications

- Specific Domains:
 - Clinical messaging
 - Medical device communication
 - Business and financial messaging

ISO/TC215/WG 2

Messaging & communications

- o Sub-working Groups:
 - 2.1 Device interface
 - 2.2 Architecture
 - 2.3 Methodology
 - 2.4 DICOM persistent object

ISO/TC215/WG2.1, Devices - Products

- ISO 11703-nnnnn Health informatics - Point-of-care medical device communication
 - Series that has, for the most part, an IEEE1073 lead;
 - The foundational standards originate in CEN ENVs
 - 13734 Vital Signs representation *and*
 - 13735 Interoperability of patient connected medical devices;
 - All the work items are covered by the Vienna Agreement between ISO and CEN;
 - All the products are therefore joint labelled as:
"EN/ISO/IEEE 11073-nnnnn, Health informatics - Point-of-care medical device communication - ..."



ISO/TC215/WG2.1, Devices 11073-nnnnn Products

- o -00000 ... - Framework and overview
- o -10101 ... - Nomenclature
- o -10201 ... - Domain information model
- o -10301 ... - Device specialization - Infusion device
- o -10302 ... - Device specialization - Patient monitor
- o -20101 ... - Application profiles - Base standard
- o -20201 ... - Application profiles - Polling mode
- o -20202 ... - Application profiles - Baseline
- o -30200 ... - Transport profile - Cable connected
- o -30300 ... - Transport profile - Infrared wireless
- o + 28 other items in series underway



ISO/TC215/WG2.1, Devices 11073-nnnnn products

Reference the following:

- ITU-T Rec. X.226, ISO OSI - Connection-Mode Protocol Specifications
- ITU-T Rec. X.227, ISO OSI - Connection-Mode Protocol Specifications
- ISO/IEC 8824-1/ITU-T Rec. X.680, OSI ASN.1 - Specification of basic notation
- ISO/IEC 8824-2/ITU-T Rec. X.681, OSI ASN.1 - Information object specification

ISO/TC215/WG2.1, Devices 11073-nnnnn reference

Reference the following:

- o ISO 8825-1/ITU-T Rec. X.690 OSI ASN.1 - Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER), and Distinguished Encoding Rules (DER)
- o ISO/IEC 8802-3, ... - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications.

ISO/TC215/WG2.1, Devices 11073-nnnnn reference

Reference the following:

- ISO/IEC 8877, ... - Interface connector and contact assignments for ISDN Basic Access Interface located at reference points S & T.
- IEC 60417-1, Graphical Symbols for Use on Equipment - Part 1: Overview and Application.
- IEC 603-7, Connectors ..., Part 7: ..., 8-way, ...

ISO/TC215/WG2.1, Devices 11073-nnnnn reference

Reference the following:

- IETF, ... RFC-1305, Network Time Protocol (v3) specification, implementation & analysis, ...
- IETF, ... RFC-2030, Simple network time protocol (SNTP) version 4 for IPv4, IPv6 and OSI, ...
- IETF, ... RFC-793, Transmission Control Protocol - DARPA Internet Program Protocol Specification

ISO/TC215/WG2.1, Devices 11073-nnnnn reference

Reference the following:

- o ANSI/TIA/EIA-232-F, Interface Between Terminal Equipment and Data Circuit-Terminating Equipment ...
- o ANSI/TIA/EIA-561, Simple 8 Position Non-Synchronous Interface ...
- o ANSI/TIA/EIA-562, Electrical Characteristics for an Unbalanced Digital Interface.



ISO/TC215/WG2.1, Devices 11073-nnnnnn reference

Reference the following:

- ANSI/TIA/EIA-568-A, Commercial Building Telecommunications Cabling Standard.
- IEEE Std 100, ... Dictionary of Electrical and Electronics Terms.
- IrDA (Infrared Data Association) [IrLAP], Serial Infrared Link Access Protocol (IrLAP), Version 1.1.

ISO/TC215/WG2.1, Devices 11073-nnnnn reference

Reference the following:

- IrDA [IrLAP-VFIR], Serial Infrared Link Access Protocol Specification for 16 Mb/s Addition, Version 0.20.
- IrDA [IrLMP], Serial Infrared Link Management Protocol, Version 1.1.
- IrDA [IrPHY], Serial Infrared Physical Layer Specification, Version 1.3.
- IrDA [VFIR], Serial Infrared Physical Layer Specification for 16 Mb/s Addition (VFIR).
- IrDA [Tiny TP], ... A Flow-Control Mechanism for use with IrLMP, Version 1.1.



ISO/TC215/WG2.1, Devices - Products

- EN/IS/NCCLS11073-90101 Analytical instruments
- Point-of-care test (=POCT1-A)
- IS 18812 Health informatics - Clinical analyzer
interfaces to laboratory information systems - Use
profiles



ISO/TC215/WG2.2, Architecture - Products

- TR 18307 Health informatics - Key characteristics for interoperability and compatibility in messaging and communications standards
- NWI Health informatics - Inventory of healthcare informatics related standards and works in progress



ISO/TC215/WG2.2, Architecture - Products

- TR 16056-1 Health informatics - Interoperability of telehealth systems and networks -Part 1: Introduction and definitions
- TR 16056-2 Health informatics - Interoperability of telehealth systems and networks - Part 2: Real-time systems
- TR 16058 Health informatics - Interoperability of telelearning systems
- CD Health informatics - Interoperability guidelines for telehealth systems and networks



Telehealth - Part 1: Introduction and definitions

- o Telemedicine

the use of advanced telecommunication technologies to exchange health information and provide health care services across geographic, time, social and cultural barriers

Reid, J. (1996), A Telemedicine Primer: Understanding the Issues. Innovative Medical Communications

- o Telehealth

the use of telecommunication techniques for the purpose of providing telemedicine, medical education, and health education over a distance

GATES (1994), *Global Access Telehealth and Education System. Final Report*. The International Space University. Summer Session, The Universitat Aut?noma de Barcelona, Spain



Telehealth - Part 2: Real-time systems

o References 20 ITU-T Recommendations:

- 224, 230, 233, 234, 243, 281
- G.711, G.722, G.728
- H.221, H.242, H.320
- T.120 - T.127



Interoperability of telelearning systems

- References 26 ITU-T Recommendations:
 - G.711, G.722, G.723.1, G.728, G.729,
 - H.221, H.225.0, H.230, H.231, H.233, H.234, H.242, H.243, H.245, H.261, H.263, H.281, H.320, H.323
 - T.120, T.122, T.123, T.124, T.125, T.126, T.127
- ISO/IEC 8802-3, ... Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications



Interoperability guidelines for telehealth systems & networks

o References 20 ITU-T Recommendations:

- 224, 230, 233, 234, 243, 281
- G.711, G.722, G.728
- H.221, H.242, H.320
- T.120 - T.127



ISO/TC215/WG2.2, Architecture - Products

- TR Health informatics - Trusted end-to-end information flows
- WD Health informatics - Quality indicators for health information made available on the Internet
- WD Health informatics - High level message flows (stakeholder to stakeholder)



ISO/TC215/WG2.3, Methodology - Products

- IS17113 Exchange of information between healthcare information systems - Development of messages
- IS18232 Health informatics - Procedure result data objects - Unique instance identifiers - Format
- NWI Health informatics - De-identification of health records
- NWI Health informatics - Data types for use in health care data interchange
- NWI Health informatics - Stakeholder general purpose information component



ISO/TC215/WG2.4, DICOM Persistent object – Web access

- o 17432 Web access to DICOM persistent objects

This is a rapid joint activity between members of ISO/TC215/WG2 and members of DICOM WG6 to enable DICOM Persistent Objects to be displayed in a web-browser environment.



ISO/TC215/WG2 Conclusions

WG2 has great depth of knowledge of health information communication and management, but would welcome complementary work, especially if it assists nations with developing economies and infrastructure.



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End

ISO: Overview of TC215/WG2 activity in the telemedicine-related area

Thank you.

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