



ISO/IEC JOINT TECHNICAL COMMITTEE 1 ISO/IEC JTC 1

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JTC1JAG-SYSTEMS INTEGRATION FACILITATION CONVENER

ISO/IEC JTC 1

- created in 1987 – now 29 years in the making
- title – Information Technology
- scope – International standardization in the field of Information Technology
- vision statement –
 - JTC 1 is the standards development environment where experts come together to develop worldwide Information and Communication Technology (ICT) standards for business and consumer applications.
 - Additionally, JTC 1 provides the standards approval environment for integrating diverse and complex ICT technologies. These standards rely upon the core infrastructure technologies developed by JTC 1 centers of expertise complemented by specifications developed in other organizations.
- system integration is a key role



JTC 1

- size
 - Almost 4500 worldwide experts representing their countries in the international technical work
 - over 2948 published JTC 1 ICT standards in the fields of multimedia (e.g.: **MPEG**), IC cards ("smart cards"), ICT security, database query and programming languages as well as character sets, to name just a few
- short "market windows" – timing is very important
- global marketplace
- complex technical issues where standards from both inside JTC 1 and from consortia must be made to interoperate

BROAD ENGAGEMENT

- 34 Participating members / 63 Observer members
- over 400 liaison relationships within the SCs
- JTC 1 level Category A liaison with Ecma-International
- unique Partner Standards Developing Organization (PSDO) relationship with IEEE



COLLABORATION WITH ITU-T

- ITU-T has Category A liaison with JTC 1
 - many relationships at the working group level
- Collaborative Interchange
 - each organization meets independently
 - develop technically aligned text
 - publication within each organization
- Collaborative Team
 - participants from both organizations (ISO/IEC/JTC1/SC6/ WG7 on OSI)
 - synchronized approval process (following each organization own process)
 - joint text publications
- Common patent policy

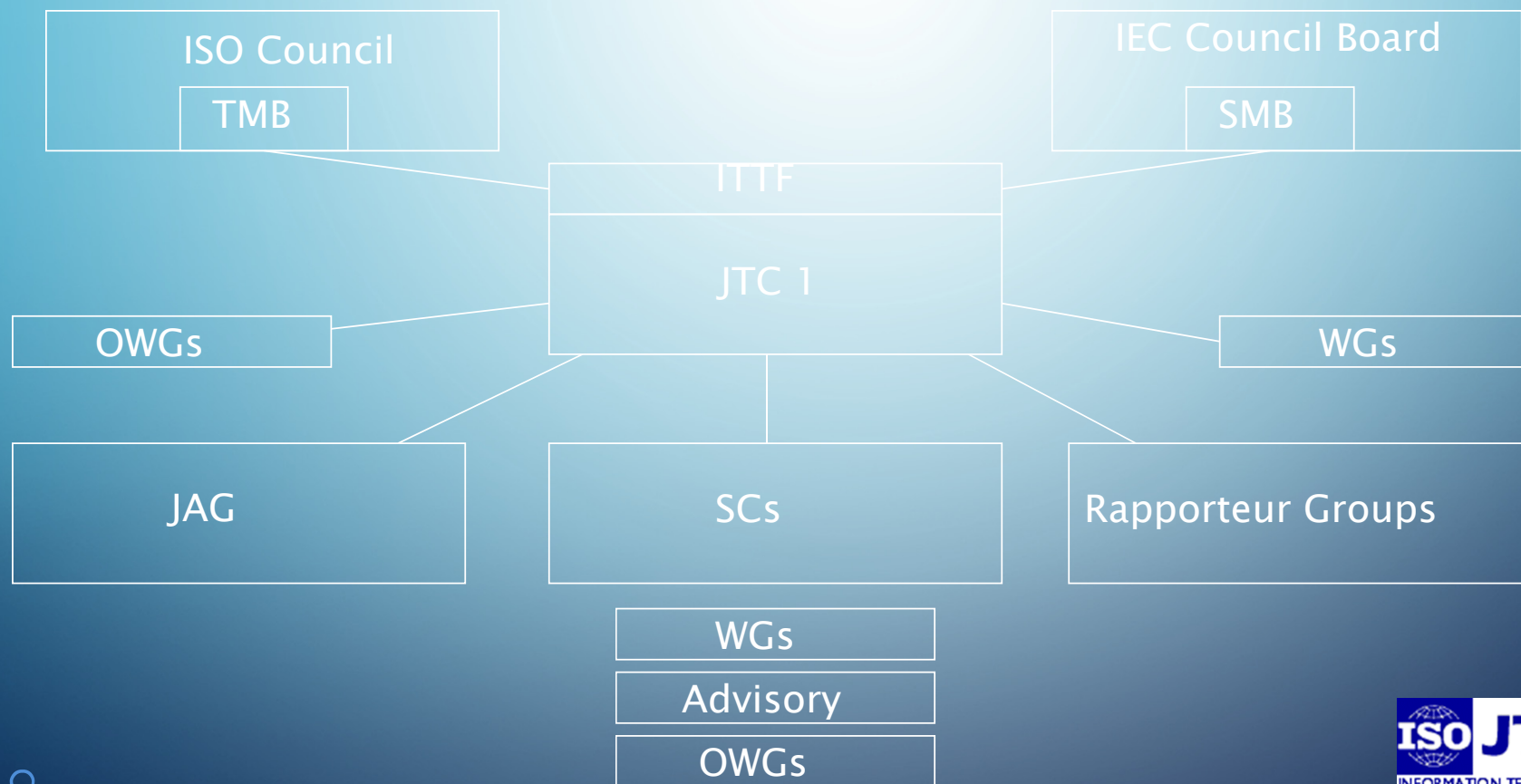


PUBLICLY AVAILABLE SPECIFICATIONS (PAS) TRANSPOSITION PROCESS

- opportunity to partner with consortia
- unique process for National Body approval
- 161 submissions international ISO/IEC standards
 - OASIS Message Queuing Telemetry Transport MQTT
 - W3C Mathematical Markup Language (MathML)
- 11 PAS Submitters
 - DMTF, GS1, OASIS, OMG, Open Geospatial Consortium, SNIA, Spice Users Group, The Open Group, Trusted Computing Group, UPnP, W3C



ORGANIZATIONAL CHART



STRUCTURE OF JTC 1

- 20 Subcommittees
- 4 JTC 1 level Working Groups
 - Sensor Networks
 - Big Data
 - IoT
 - Smart Cities

JTC 1 SUBCOMMITTEES

- SC 2 Coded Character Sets
- SC 6 Telecommunications and information exchange between systems
- SC 7 Software and systems engineering
- SC 17 Cards and personal identification
- SC 22 Programming Languages, their environments and system software interfaces
- SC 23 Digitally recorded media for information interchange and storage
- SC 24 Computer graphics, image processing and environmental data representation
- SC 25 Interconnection of
- SC 28 Office equipment
- SC 29 Coding of audio, picture, multimedia and hypermedia information
- SC 31 Automatic identification and data capture techniques
- SC 32 Data management and interchange
- SC 34 Document description and processing languages
- SC 35 User interfaces
- SC 36 Information technology for learning, education and training
- SC 37 Biometrics
- SC 38 Cloud computing and distributed platforms
- SC 39 Sustainability for and by Information Technology
- SC 40 IT Service Management and IT Governance

VALUE OF JTC 1 PARTICIPATION

- JTC 1 is a unique, international venue for information technology creation
 - Very broad program of work
 - Significant alliances with other standards developing organizations
- Opportunity to
 - Observe/learn how technology is evolving
 - Bring needs and concerns directly to the experts
 - Influence the work program
 - Promote the use of international solutions



INTERNET OF THINGS

- Standardization Gaps
- Network level technologies for IoT
- IoT Use Cases
- Reference Architecture
- Market Requirements
- Impacts of regulatory, market, business and technology requirements

ISO/IEC 30141 – IOT RA

- Scope
 - IoT Conceptual Model
 - Reference Model
 - Reference Architecture from different architectural views
 - System View
 - Functional View
 - Communication View
 - Information View
 - Usage View

ISO/IEC 30141 – IOT RA

Characteristics and Requirements

Conceptual Model (CM)

Reference model/
Reference Architecture



Flow of Reference Architecture Development



ISO/IEC TECHNICAL REPORT SERIES ON IOT USE CASES

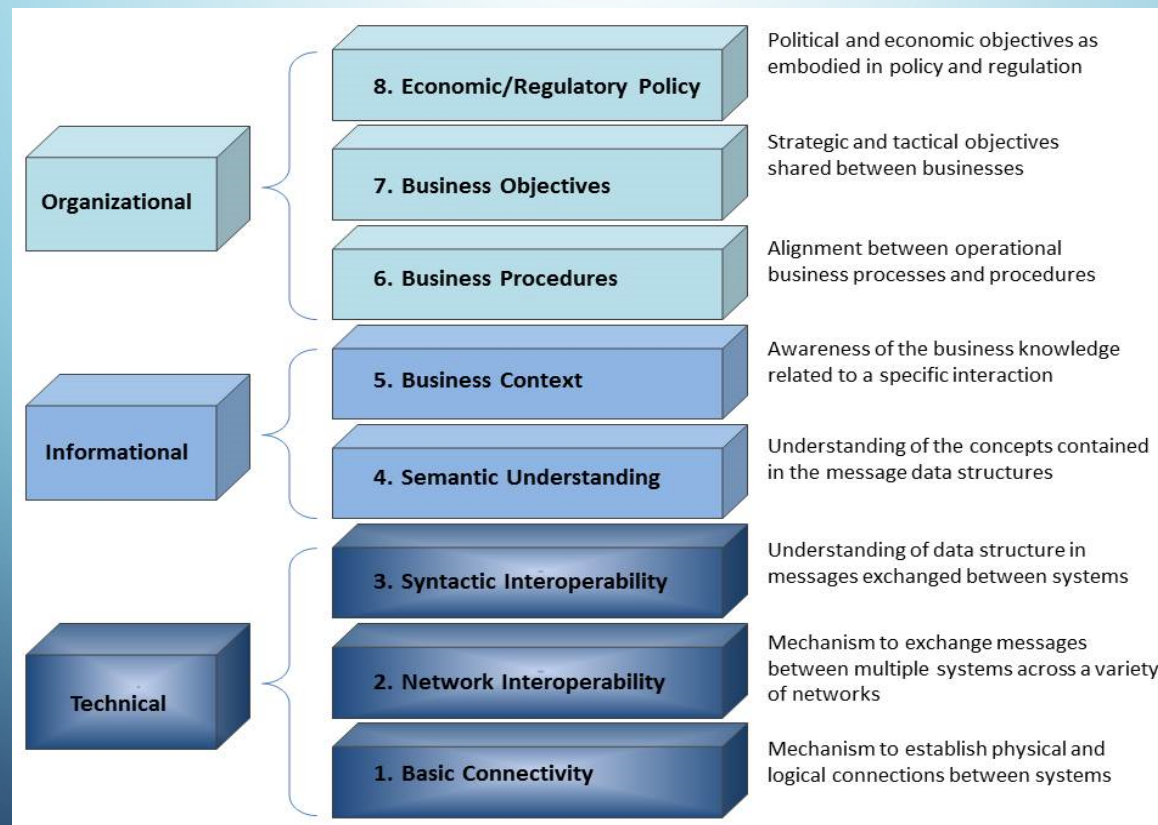
Use case approach is the correct way as it provides real life relevance like interoperability and standards based on users experience. It also helps identifying gaps in which standards could be developed.

5 Use cases

5.1 Availability and Reliability in IoT

Name of Use case	Short Description	Actors	General Remarks
Availability and reliability in IoT	Telcos offer network connectivity, clouds services and host various IoT application platforms. With Telco clouds evolving to virtualised technologies (NFV/SDN) security intelligence can be distributed and implemented rapidly at various points of the IoT network to manage congestion and mitigate certain security incidents in the IoT ecosystem. NFV and SDN lend themselves to centralised intelligent security policy management in IoT.	<ul style="list-style-type: none">• Telco IoT cloud (provider and tenant)• Telecom Networks• Telco Network Security application controller• Gateways• IoT endpoint	

NWIP ON IOT INTEROPERABILITY





For more information

www.jtc1.org



Back up slides

SMART CITIES

- Smart Application and Service Capability
 - City Infrastructure
 - Public Service
 - Society Management
 - Environment
 - Industry System
- User Experience
 - Citizen
 - Enterprise
 - Government