Overview of ISO/TC 307
Blockchain and Distributed Ledger Technologies

An Informal Welcome to

Liaisons **FROM 295 to 307** from the Liaison FROM 307 **to** 295

About this Presentation

- I am very pleased you have offered to serve as a liaison from ISO/TC 295 to ISO/TC 307

- This offers ISO/TC 295 visibility to the activities and interim materials from 307 and you the opportunity to participate with many of the rights and privileges of the 307 experts

- *As a Category A liaison, organizations are given access to all relevant documentation and are invited to meetings. They may nominate experts to participate in a WG.*
  - *Note: Participation in specific WGs, SGs, et al requires a separate nomination from the 295 Secretariat.*

- In this way, you can monitor, influence, and bring back to 295 issues and directions that are relevant

Welcome to ISO/TC 295 Liaisons

Standardization in the field of audit data services covers the content specification as well as the collection, pre-processing, management and analysis techniques for the identification, communication, receipt, preparation and use of audit data.

Note:
1. Audit: an official examination of an entity's financial and financial related records in order to check that they are correct. (Source: Longman Dictionary of Contemporary English 4th Edition, modified company has been replaced by entity to cover government auditees and financial related records has been added.)
2. The audit data includes data of different areas including public sector budget, financial report, nonfinancial enterprises, tax and social insurance, for the purpose of government audit, external independent audit, internal audit and other regulators.

"As blockchain/distributed ledger technologies are used both as audit evidence and as a platform for governance over and analysis of operations, reporting and compliance, there will be an increasing overlap of interest between the activities of ISO/TC 295 and 307."

https://www.iso.org/committee/5648297.html

Background on ISO/TC 307

- How it started
- Where it is now
- Activities

How ISO/TC 307 Began (2016-2017)

- ISO Technical Committee
  - Proposal from Australia: **ISO/TS/P 258**, April 2016
    - **Standardisation of** *blockchains and distributed ledger technologies to support interoperability and data interchange among users, applications and systems.*
    - **Very broad in scope**; *maturity and readiness for standards questioned*
  - ISO/TC 307 established September 2016
    - https://www.iso.org/committee/6266604.html
  - Mirror committees began to prepare
  - First meeting in Sydney, April 2017
    - Scope: Decision made to remove terminology "standardization of" as too limiting; some feel goal of *interoperability* was sacrificed

What Were the Plans?

- Answer 1: TBD

- Answer 2: Whatever the participants agree it should do, under the rules defined by ISO

- *Technical committees are established by the ISO/**T**echnical **M**anagement **B**oard (TMB) on a provisional basis. Within 18 months, provisionally established technical committees are required to prepare a **strategic business plan** for review by the ISO/TMB . The committees are formally established by the ISO/TMB at the time of acceptance of the business plan. This does not preclude the initiation of standardization projects during this 18 month period.*

- *Plan was published: https://crypto.sjtu.edu.cn/~wenling/Documents/%E5%8C%BA%E5%9D%97%E9%93%BE%E6%A0%87%E5%87%86%E7%A0%94%E7%A9%B6%E5%8F%82%E8%80%83%E7%B4%A0%E6%9D%90/%E5%8C%BA%E5%9D%97%E9%93%BE%E5%9B%BD%E9%99%85%E7%9B%B8%E5%85%B3%E6%9D%90%E6%96%99/ISO/ISO_TC_307__Blockchain_and_distributed_ledger_technologies_.pdf*

- *Also from LiveLink site*

Who Was Involved?

Participating Members (19)
- France (AFNOR)
- United States (ANSI)
- Austria (ASI)
- United Kingdom (BSI)
- Germany (DIN)
- Denmark (DS)
- Malaysia (DSM)
- Russian Federation (GOST R)
- Croatia (HZN)
- Japan (JISC)
- Korea, Republic of (KATS)
- Netherlands (NEN)
- Ireland (NSAI)
- Australia (SA)
- China (SAC)
- Canada (SCC)
- Finland (SFS)
- Spain (UNE)
- Italy (UNI)

P countries provide experts, actively participate, vote

Observing Members (16)
- Indonesia (BSN)
- Luxembourg (ILNAS)
- Argentina (IRAM)
- Iran, Islamic Republic of (ISIRI)
- Hong Kong (ITCHKSAR)
- Belgium (NBN)
- New Zealand (NZSO)
- South Africa (SABS)
- Israel (SII)
- Sweden (SIS)
- Norway (SN)
- Switzerland (SNV)
- Slovakia (SOSMT)
- Singapore (SPRING SG)
- Thailand (TISI)
- Czech Republic (UNMZ)

As of 3/9/2021

46 PARTICIPATING MEMBERS   14 OBSERVING MEMBERS

Attendees
1ˢᵗ plenary meeting In Sydney

Australia

Canada

China

France

Germany

Japan

Malaysia

Republic of Korea

Russia

SWIFT

United Kingdom

United States

European Commission

Most countries shared points of view, especially of areas on which to move forward.

Original Structure

Most common was the expressed need for agreement on *terminology*

Group	Name
1. New Work Item Proposal (NWIP) Working Group (WG)	*Terminology*
2. ISO/TC 307/Study Group 1	*Reference architecture, taxonomy and ontology*
3. ISO/TC 307/SG 2	*Use cases*
4. ISO/TC 307/SG 3	*Security and privacy*
5. ISO/TC 307/SG 4	*Identity*
6. ISO/TC 307/SG 5	*Smart contracts*
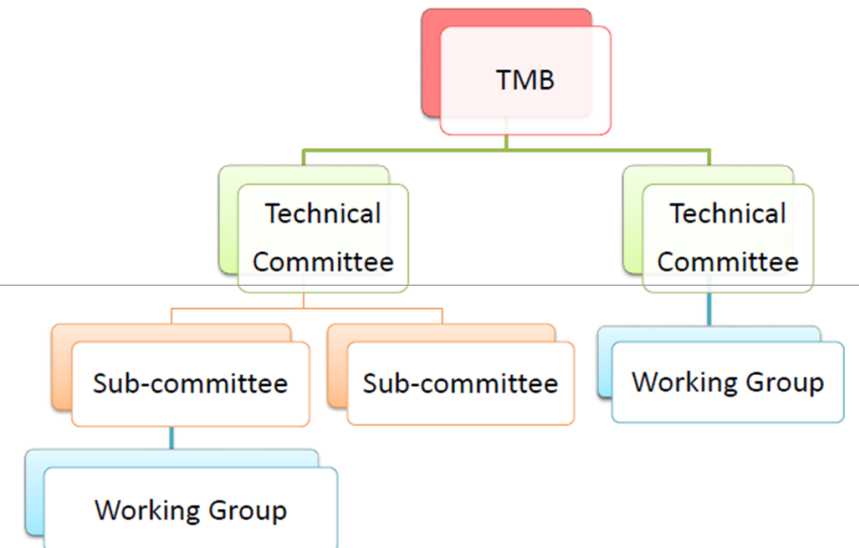
Why Working groups and why Study groups?

Study Groups (SGs)

    •Chartered to investigate the need and feasibility of additional standardization and/or guidance in a technical area

    • Main objective: to understand the current activities in a particular area and make recommendations

    •Not process time limited (e.g., standard 3 year cycle for deliverables)

Working Groups (WGs)

    • Established to expedite development of one or more approved work items, and will exist as long as it has responsibility for approved work items

SG1: Reference architecture, taxonomy and ontology

- This group will study material relevant to the creation of a blockchain and distributed ledger technology reference architecture, taxonomy and ontology, with the objective of creating a recommendation on how to proceed with this work

- *Examine contributions from countries*
- *Report back to Plenary*

SG2: Use cases

- Consider the most common types of use cases
- Consider the potential implications of the existing use cases and applications

- *Examine contributions from countries*
- *Report back to Plenary*

SG3: SECURITY AND PRIVACY

- Review existing standards in this area and explore relationships in this area with other work;
- Assess whether there are requirements for security and privacy in relation to blockchain and distributed ledger technologies that go beyond those in other areas;
- Ensure that their review does not confine itself to any use case, but rather considers what the "superset" of requirements may be

- *Examine contributions from countries*
- *Report back to Plenary*

SG4: Identity

- Take into account existing identity related standards, particularly in ISO/IEC JTC 1/SC 27 WG5; and
- Take into account existing business use cases and functional use cases.
- Identify the types of identities and entity types needed for data and functionality within blockchains;
- Identify the identity management requirements needed outside a blockchain, upon which the operation of the blockchain depends, such as for data integrity and for access control;
- Review existing identity-related standards and identify which existing standards, and standards under development, could be relevant for ISO/TC 307;
- Identify any regulations that could impact the creation, use and management of identities in relation to blockchains; Identify any other relevant material or activities;
- Assess where work with other ISO/TC 307 bodies, particularly the Security and Privacy Study Group, and Liaisons with other bodies would be helpful in pursuing potential projects;
- Assess how to work with ISO/IEC JTC 1/SC27 WG5 and to advise on the feasibility of establishing a Joint Working Group

- *Examine contributions from countries*
- *Report back to Plenary*

SG5: Smart Contracts

- The scope of this study group is to provide an analysis in the form of a report of the current understanding of smart contracts within the remit of ISO/TC 307 from both a technical as well as appropriate legal perspective.

- The study group will consider interoperability with the law, including but not limited to the verification, enforcement, and life cycle of smart contracts.

- *Examine contributions from countries*
- *Report back to Plenary*

LIAISONS

- Many ISO groups
- SWIFT
- EC
- FIG (Surveyors)
- ITU
- And others in process, such as UN/CEFACT

Evolution of Structure

ISO/TC 307/AG 1	SBP Review Advisory Group	Working group
ISO/TC 307/AG 2	Liaison Advisory Group	Working group
ISO/TC 307/AHG 2	**Guidance for Auditing DLT Systems**	**Working group**
ISO/TC 307/CAG 1	Convenors coordination group	Working group
ISO/TC 307/JWG 4	Joint ISO/TC 307 - ISO/IEC JTC 1/SC 27 WG: Blockchain and distributed ledger technologies and IT **Security** techniques	Working group
ISO/TC 307/SG 7	**Interoperability** of blockchain and distributed ledger technology systems	Working group
ISO/TC 307/WG 1	**Foundations**	Working group
ISO/TC 307/WG 2	**Security, privacy and identity**	Working group
ISO/TC 307/WG 3	**Smart contracts** and their applications	Working group
ISO/TC 307/WG 5	**Governance**	Working group
ISO/TC 307/WG 6	**Use cases**	Working group

About the Deliverables – Existing

- Published works
  - 1 Specification: Vocabulary, considered foundational to all other efforts
  - 3 TRs
- Works in process

Published

STANDARD AND/OR PROJECT UNDER THE DIRECT RESPONSIBILITY OF ISO/TC
307 SECRETARIAT (4)

	STAGE	ICS
ISO 22739:2020 Blockchain and distributed ledger technologies — Vocabulary	90.92	•35.030 •01.040.35 •35.240.40 •35.240.99
ISO/TR 23244:2020 Blockchain and distributed ledger technologies — Privacy and personally identifiable information protection considerations	60.60	•35.030 •35.240.40 •35.240.99
ISO/TR 23455:2019 Blockchain and distributed ledger technologies — Overview of and interactions between smart contracts in blockchain and distributed ledger technology systems	60.60	•35.030 •35.240.40 •35.240.99
ISO/TR 23576:2020 Blockchain and distributed ledger technologies — Security management of digital asset custodians	60.60	•35.030 •35.240.40 •35.240.99

Note: a TR is a non-authoritative *Technical Report*

About the Deliverables – In Progress

Current Efforts

STANDARD AND/OR PROJECT UNDER THE DIRECT RESPONSIBILITY OF ISO/TC 307 SECRETARIAT (11)	STAGE	GROUP
ISO/DTR 3242	30.60	WG 6
Blockchain and distributed ledger technologies – Use cases		
ISO/WD TR 6039	20.20	
Blockchain and distributed ledger technologies - Identifiers of subjects and objects for the design of blockchain systems		
ISO/WD TR 6277	20.20	WG 1
Blockchain and distributed ledger technologies – Data flow model for blockchain and DLT use cases		
ISO/AWI 22739	20.00	WG 1
Blockchain and distributed ledger technologies — Vocabulary		
ISO/DTR 23249	30.60	
Blockchain and distributed ledger technologies – Overview of existing DLT systems for identity management		
ISO/DIS 23257	40.60	WG 1
Blockchain and distributed ledger technologies — Reference architecture		
ISO/DTS 23258	30.60	WG 1
Blockchain and distributed ledger technologies — Taxonomy and Ontology		
ISO/WD TS 23259	20.20	WG 3
Blockchain and distributed ledger technologies — Legally binding smart contracts		
ISO/DTS 23635	30.60	WG 5
Blockchain and distributed ledger technologies — Guidelines for governance		
ISO/AWI TR 23642	20.00	
Blockchain and distributed ledger technologies - Overview of smart contract security good practice and issues		
ISO/WD TR 23644	20.60	
Blockchain and distributed ledger technologies - Overview of trust anchors for DLT-based identity management (TADIM)		

Obvious Connections for 295 and 307

- **AHG 02**: Guidance for Auditing DLT Systems
- **WG 6**: Use Cases

- Influencing other groups where standardized semantics for audit data would be valuable, including
  - WG 3 Smart Contracts and their aapplications

Role as Liaison

Learning More

- The November 2020 virtual meeting has a wide variety of materials that summarize both what has happened and what plans are moving forward. With your access to the 307 files and with help from the 295 Secretariat, it would be helpful to read through the *Meeting 7 Resolutions – Virtual 2020,* as well as the Working and Study Group reports made to the November 2020 meeting.

- *Regretfully, I have not been able to find a copy of the AHG 02 ad hoc group report to the November 2020 plenary.*

ISO Tools

- You should receive a login and password for the online platform. This is potentially your best resource for finding previous materials.

Summary and Questions