



tsds
India's Telecom SDO

Telecommunications
Standards Development
Society, India

STUDY GROUP

Services and Solutions

SGSS

Telecommunications Standards Development Society, India (TSDSI), is an autonomous 'not for profit' Standards Development Organization for Telecom products and services in India. Our membership comprises stakeholder organizations from all sections of the Telecom ecosystem in India, Industry, Operators, Value Added Service Providers, Manufacturers, R&D and Test Labs, Academia, PSUs and the Govt. We are recognized by the Department of Telecommunications, Government of India, as India's Telecom SDO.

Technical activities of TSDSI are conducted in two Study Groups, Study Group-Networks and Study Group-Services and Solutions.

The Services and Solutions Study Group is responsible amongst others:

1. Standardization activities for Telecom/ICT related services, applications and solutions based on new underlying technologies and upcoming market requirements for various domains, sectors and use cases.
2. Development of standards for end-to-end service capabilities and architecture, based on the requirements, including, Quality of Service, interoperability matters.
3. Localization components in services and systems e.g. financial transactions in Indian languages.
4. Security and Privacy aspects in the end to end telecom networks and related standards.
5. Unification of commercial cellular services and critical communication services for enhancing effectiveness in case of disaster relief e.g. PPDR.
6. Information Centric Networking (ICN), Drones Communication services (DCS) and so on.

CURRENT STRATEGIC AREAS

Cloud Portability and Interoperability

Portability and Interoperability in cloud computing, enhances the ability for two or more systems to exchange information amongst public cloud services, private cloud services and user organization's systems to enable them to understand each other's interfaces, configuration, forms of authentication and authorization etc. This collaboration and Coordination help customers, by not getting locked with proprietary systems.

TSDSI has been mandated by DOT and TRAI to develop Standards for Cloud Interoperability and Portability in India. Work on this item was initiated in January 2018. The overall initial scope of the work item for developing the standards is to identify techniques targeting Cloud Computing aspects covering data protection/ data security, secure transfer of data between jurisdictions, lawful interception of data, Interoperability/ Interworking of cloud etc.

TSDSI study group members along with organizations like CCICI besides NASSCOM, CDAC and TSDSI members are working on a multi-phased study with a defined approach and workflow arrived at after intense team discussions, meetings, workshops, contributions etc., to develop the desired standards through definition of use cases in the Indian context, review of existing Interoperability/ Portability Standards. work being done globally, gap analysis in the Indian context w.r.t. Standards, mapping and creation of India-specific standards for various use cases. Following the gap analysis, defining test cases & test bed architecture, recommendations shall be submitted to DOT.

The work is being done in multiple phases based on learnings, study and analysis of all items of the work flow by the technical teams for creation of reports and standards progressively. Interim Report defining the workflow, approach, Indian specific use cases have been submitted in DoT. A broader discussion through a workshop on the report and way forward is planned.

Public Protection and Disaster Recovery

During instances of emergencies and disasters, a unified and coordinated approach is critical for our national security and public safety agencies to become effective and to provide a fast and effective response and recovery. Situational awareness is a key to such a success.

SG-SS initiated work on development of suitable standards for PPDR specific to Indian Requirements as well. A Technical Report documenting the existing deployments & equipments used by the PPDR agencies in India and analyzing what needs to be done in order for PPDR agencies to transition to using PS -LTE (LTE for Public Safety) for PPDR activities in India has been published.

Indian Language Support

TSDSI members are working on support for Indian Language on devices (user terminals, mobile network equipment and applications) and standards for 7-bit encoding. 3GPP has adopted 8 bit encoding of 10 Indian Scripts supporting 22 Indian languages.

The group is deliberating on delivery mechanism of SMS from bank for financial transactions, including all possible methods through which the SMS from bank for financial transactions can be delivered to the customer in their preferred language of choice.

Information Centric Networking

In the recent past, Information Centric Networking (ICN) has been proposed as an alternate architecture for data sharing across the Internet. ICN is a paradigm shift from the host centric approach to the content centric approach of data sharing. However, the usage of ICN extends beyond Internet. It can provide performance improvement e.g. in wireless and cellular networks by providing efficient caching at the edge devices and thus improve the QoE to the user.

SG-SS has Study Items for study and development of an Architecture for Information Centric Networking (ICN) further leading to requirements/standards as applicable at later stages.

A technical report covering representative potential use cases, their challenges and requirements has been published.

UAV/ Drone Communications and Services

UAV (Unmanned Aerial Vehicles)/ Drones are gaining prominence in several sectors including agriculture, retail, public safety, etc. for applications like remote monitoring, surveying and automation. Several efforts to study wireless connectivity for reliable UAV communications are underway.

A study to establish standardization of UAVs/ Drones communications and services for applications of different sectors, focusing on the operation of drones using cellular connectivity has been initiated in the group.

M2M/IoT

Internet of Things has become a reality that is changing the world in which we live. "Machines" use network resources to communicate with remote application infrastructure for the purposes of monitoring and control, either the "machine" itself, or the surrounding environment.

TSDSI published a set of Technical Reports on M2M Use Cases in different Application Verticals.

TSDSI is a Partner Type I in the oneM2M project, (oneM2M is a global organization that creates requirements, architecture, API specifications, security solutions and interoperability for Machine-to-Machine and IoT technologies) the global partnership initiative for driving a common service layer for M2M services. TSDSI has transposed done M2M specifications and reports of Release 2 into TSDSI Standards. It is proposed to process transposition of recently released Release 3 specs.

TSDSI is also supporting processes and initiatives of collaboration of oneM2M and various platforms, open Source initiatives and Data Interoperability/ Semantics/ Context for various sectors and smart cities.

Technical meetings of international forums like oneM2M are hosted in rotation by regional SDOs. TSDSI hosted oneM2M TP 42 along with Industry Day in September this year.

Security and Privacy

TSDSI has transposed a set of select 3GPP security Specifications into TSDSI Standards to meet the DoT IT Security Assurance Requirements.

Unified Authentication Framework is identified as a Roadmap item in TSDSI. Initial studies on this topic and on mobile device security, and application security have been triggered in SG-SS.

Topics like Mobile device security, Unified Authentication Framework and Application Security have been planned to trigger technical items within TSDSI by its members.