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SC 25 Resolution No 20/5 approved at the 20th Plenary, Beijing, China, 2009-09-11 to be considered by JTC 1

Resolution SC 25: 20/ 5

SC 25 instructs its secretary to forward its report on Oslo SGSN (SC 25 N 1681, see Annex) to JTC 1 together with the request for a clear definition of Sensor Networks.

SC 25 further requests that the scope for any new working body on Sensor Networks within JTC 1 excludes the work in SC 25 e. g. on intelligent homes.

Annex A

Report on the meeting of the JTC one study group on Sensor Networks (SGSN), Norway 2009-06-29-07/03

1 Introduction

At its 23rd Meeting, 10-15 November 2008 in Nara, Japan ISO/IEC JTC 1 re-established its study group on Sensor networks as outlined in Resolution 44.

Resolution 44 – Re-Establishment of Study Group on Sensor Networks
JTC 1 reconfirms the Study Group on Sensor Networks (SGSN) with the following Terms of Reference:

1. Review the current definitions and visions and requirements for target applications of Sensor Networks within JTC1 and outside JTC1 in connection with different application areas (e.g. home, medical informatics, transport informatics, industrial communications, RFID etc) as well as JTC 1 SCs roles in these application areas
2. Review and identify
3. the unique characteristics of Sensor Networks and the commonalities and differences with other networks
4. the system architectures of Sensor Networks in terms of functionalities
5. the entities that together comprise Sensor Networks and their characteristics
6. existing protocols that can be used for Sensor Networks and the elements of protocols that are unique to Sensor Networks
7. the scope of infrastructure that can be considered to be a Sensor Network
8. the types of data that need to be handled (acquired, processed, transported, stored, rendered etc) by Sensor Networks and any specific QoS attributes required by those categories
9. the interfaces that need to be supported by Sensor Networks
10. the services that need to be supported by Sensor Networks
11. aspects such as security, privacy, identification that may be relevant to specific Sensor Networks
12. Monitor other activities in international standardisation bodies and consortia and fora where specifications related to Sensor Networks are being developed.
13. Produce a report covering 1) and 2) above and information on other relevant
14. standardisation activities
15. In the light of published SC scopes and work programmes and the results of 1) to 3) recommend potential areas of work to JTC1 and appropriate SCs and establishment of appropriate liaison relationships to ensure that all necessary aspects of Sensor Networks within the scope of JTC1 are standardised.
16. Recommend how the work on Sensor Networks can be efficiently coordinated in JTC1.
17. The SGSN may hold workshops to gather requirements or publicise the results
18. Meetings of the group may be physical or via electronic means

NOTE numbering paragraphs a) to f) is not used in the original but was added for this report

Expecting that Sensor Networks was something radically new, the secretary of SC 25 did not monitor the activities of this study group before the draft report developed by this study group was received and distributed in SC 25 as N 1636.

Since this report showed an unexpected overlap with ongoing work in SC 25, see SC 25 N 1648: Liaison report from JTC 1/SC 25 to ISO/IEC JTC 1 Study Group on Sensor Networks, (see Annex 2) the secretary of SC 25 joined the 4th Meeting of ISO/IEC JTC 1 Study Group on Sensor Networks, Oslo, Norway, 29 June – 3 July 2009.

2 Observations on the SC 25 secretary

2.1 Allocation of Time

More than 50% of the meeting hours were devoted by the chairman to organisational questions:

How the group could become a permanent institution within JTC 1.

There was common understanding that a permanent entity would need an approved work item, but no such item surfaced during the meeting.

Whether the scopes of SC 6 and SC 25 did overlap.

Whether it was acceptable that future work on intelligent homes was allocated to SC 25.

There was no systematic review of all the JTC 1 questions during that meeting.

As a consequence a number of experts missed sufficient time for technical work despite the extended meeting hours.

2.2 Achievements of the meeting

The study group resolved the comments received on edition 2 of their report from a number of bodies including JTC 1/SC 25. The answer to SC 25 is provided in SC 25 N ??

The editor received the input to develop edition three of the report.

NOTE This report presents the full spectrum of SC 25 activities only as a minority opinion.

A report to JTC 1 was approved that includes a request to convert the study group to a permanent entity. As soon as and only after this request was conditioned with the words: "provided the approval of an appropriate work item" the SC 25 secretary supported this request.

2.3 Additional findings

2.3.1 Sensor networks versus networks with sensors

Despite repetitive asking for the difference between "Sensor Networks" and "networks with sensors", the study group did not develop an answer to question 2a of JTC 1 during the meeting.

To the understanding of the SC 25 secretary experts of the SGSN would look for differences between traditional networks with sensors and Sensor Networks in the following areas:

In traditional networks the sensor is located by an administrative act. In Sensor Networks the sensor provides his location that he detected itself.

In traditional networks the sensor reports the values it senses to an entity that contains the application while in Sensor Networks the application is distributed over the sensors.

Sensors in Sensor Networks contain significantly more intelligence than traditional sensors.

Evaluation: already to date many architectures for intelligent homes distribute the application between sensors and actors. The difference looked for may rather be found in the sensors than in the network.

2.3.2 Possible new work

No new work was identified during the meeting while a number of experts announced proposals for the near future.

After private discussions with a number of experts the secretary of SC 25 would see a chance for proposals in the following areas:

New applications.

An architectural model for intelligent sensors that allocates the different functions to well-defined functional blocks.

An interface between intelligent sensors and its partners in the network.

Some experts were asked for future help in order to find out whether their – undisclosed - application could fit to a subcommittee already existing or would require a new entity.

Evaluation: the envisaged applications need to be known before one can decide whether a new entity is needed.

The development of an architectural model including the interface to distant partners could be a generic topic that may support future development in many committees presently working on networks with sensors. Such a specification could be used by existing subcommittees that develop networks with sensors as the OSI reference model still is helpful to the development of many entities that communicate. Whether this is subject for a new entity or SC 6 would need further investigation.

3 Proposals for SC 25

SC 25 should confirm its:

intention to continue its development of intelligent homes that includes the use of intelligent sensors and of applications distributed between sensors and actors,

readiness to contribute – and after approval of appropriate standards - to consider the use of generic solutions for intelligent sensors.

NOTE the SC 25 secretary offered the present work in SC 25 on terminology and taxonomy (see SC 25 N 1652 and N 1653) as input for such an activity.

Annex B Excerpt from Liaison report from JTC 1/SC 25 to ISO/IEC JTC 1 Study Group on Sensor Networks

Table 1 - Standardization areas to potential SCs within ISO/IEC JTC 1
Bold letters mean that SC has a related or relevant project or activities in the potential standardization areas

Standardization Areas	ISO/IEC JTC 1 SCs
Terminology	**JTC 1**, **SC 25**
Requirements Analysis	**SC 6, SC 17, SC 25, SC 36**
Reference Architecture	SC 6, **SC 25**
Application Profiles	SC 31, SC 36, SC 37
Sensor Interfaces	SC 6, SC 31, SC 37
Data type and Data Interface	SC 6, SC 32
Communication	SC 6, **SC 25**
Mobility Support	SC 6, **SC 25**
Network Management	SC 6, **SC 25**
Collaborative Information Processing	SC 32
Information Service Supporting	**SC 6**, SC 24, **SC 25**, SC 29, SC 31, SC 32
Quality of Service (QoS)	SC 6, **SC 25**
Middleware	SC 6, SC 25, SC 29, SC 32, SC 36
Security & Privacy	**SC 6**, SC 17, **SC 25**, SC 27, SC 29, SC 36, SC 37
Comformance, Interoperability, Performance Testing	**SC 25**

When “SC 25” is shown in red SGSN 070: SGSN Technical Document Version 2 did not record the activity of SC 25 in this standardization area.

Sensor networks are used for many applications and technical differences often are driven by application requirements. Instead of creating a new entity an information exchange between the bodies already engaged in the area of sensor networks should be intensified. As a tool therefore the development of a taxonomy for sensor networks is recommended. The taxonomy for intelligent homes presently developed by SC 25, see SC 25 N 1628, is offered as input.