Question 1/20 – Interoperability and interworking of IoT and SC&C applications and services

(Continuation of Question 1/20)

1 Motivation

The population living in urban areas of the world has grown rapidly and 68% of the world's population is expected to live in urban areas by 2050. This rapid urbanization brings risks of social instability, failure of critical infrastructure, water crises and the spread of infectious disease.

Cities and communities (including villages and towns) need to increase the efficiency in which they operate and use their resources to response to the challenges posed by this rapid urbanization.

The efficiency improvements can be achieved by interconnecting individual systems within cities and communities such as water, electricity, waste management and transportation and sharing the data from various silos within cities.

Due to many citizens moving to other cities frequently, the interoperability between cities is also important.

2 Questions

This Question addresses use cases, requirements, architectures and data sets and format to support interworking and provide interoperability between IoT and SC&C applications and services not only within but also between cities and communities.

Study items include, but are not limited to:

– What are the use cases for interworking between IoT and SC&C applications and services?

– What are the requirements and architectures to support interworking and provide interoperability of IoT and SC&C applications and services?

– How to provide data interoperability and semantic interoperability?

3 Tasks

Tasks include, but are not limited to:

– Developing Recommendations, Supplements, Reports, Guidelines, etc. as appropriate on:

  - use cases for interworking of IoT and SC&C applications and services in different verticals;
  - interworking and interoperability requirements and architectures;
  - middleware and platforms for interworking and interoperability;
  - data sets and formats to enable data interoperability and semantic interoperability among various verticals; and
  - implementation, deployment, operation and maintenance with respect to the above tasks.

– Providing the necessary collaboration for joint activities in this field within ITU and between ITU-T and other relevant SDOs, consortia and forums.

An up-to-date status of work under this Question is contained in the SG20 work programme (https://www.itu.int/ITU-T/workprog/wp_search.aspx?sp=17&q=1/20).

4 Relationships

WSIS Action Lines:

– C2, C3, C5, C6, C7, C8, C10

Sustainable Development Goals:

– 11

Recommendations:

– Y.4000-series including Y.4100/Y.2066, Y.4111/Y.2076, Y.4113, Y.4114, Y.4200, Y.4201, Y.4401/Y.2068, Y.4461, Y.4552/Y.2078

Questions:

– All ITU-T SG20 Questions

Study groups:

– ITU-T (e. g. considering their lead study group role), ITU-D and ITU-R Study Groups, as appropriate

– This Question will coordinate with ITU-T SG13 on big data relevant aspects.

Other bodies:

– 3GPP

– ETSI

– IEC/SyC smart cities

– IETF

– ISO/IEC JTC 1/SC 41, ISO/IEC JTC 1/WG 11

– ISO/TC 268

– Joint IEC-ISO-ITU Smart Cities Task Force

– oneM2M

– W3C