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| WORKING GROUP 4A | Corrigendum 1 toDocument DT/69-E |
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| Chairman of Ad Hoc Group |
| DRAFT REVISED RESOLUTION 60 THE EVOLUTION OF THE IDENTIFICATION AND NUMBERING SYSTEMS TO MEET THE EMERGING TECHNOLOGICAL TRENDS INCLUDING INTERNET OF THINGS (IOT) |
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| **Chairman:** Mr Phil Rushton (UK) |

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| **Abstract:** | This document contains the text of the draft revised Resolution 60 from the Ad Hoc Group on numbering Resolutions: Res. 20, 29, 40, 60, 61, 69 and new Res. RCC-4  |

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RESOLUTION 60 (REV. HAMMAMET, 2016)

The evolution of the identification and numbering systems to meet the emerging technological trends including Internet of Things (IoT)

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

*a)* Resolution 133 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference, with regard to the continuing progress towards integration of telecommunications and the Internet;

*b)* Resolutions 101 and 102 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

*c)* the evolving role of the World Telecommunication Standardization Assembly, as reflected in Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

*d)* Resolution 197 (Busan, 2014) of the Plenipotentiary Conference, on facilitating the Internet of Things to prepare for a globally connected world,

noting

*a)* That machine to machine (M2M) connections are at present implemented using international telecommunication Numbering, Naming, Addressing and Identification resources, specified in ITU-T Recommendations, [as well as using other identification schemes developed in ITU-T ] [as well as using schemes developed in other Standards Development Organizations (SDOs)];

*b)* the work in Study Group 2 of the ITU Telecommunication Standardization Sector (ITU‑T), on investigating the evolutionary aspect of the numbering system, including the "future of numbering", considering next-generation networks (NGN) and future networks (FN) as the working environment of the numbering system in the future;

*c)* the establishment of ITU-T Study Group 20 on Internet of Things and Smart Cities and Communities;

*d)* that the transition from traditional networks to IP-based networks is taking place at a fast pace, whilst there is a transition to NGN and FN;

*e)* the emerging issues concerning administrative control for international telecommunication service-based numbers;

*f)* the forthcoming issues concerning the convergence of numbering, naming, addressing and identification systems along with the development of NGN and FNs, and associated issues concerning security, signalling, portability and migration;

*g)* the growing demand for numbering and identification resources for Internet of Things (IoT) in general and for communications referred to as machine-to-machine (M2M);

*h)* the need for principles and a roadmap for the evolution of international telecommunication resources, which would be expected to help the timely, predictable deployment of advanced identification technologies,

bearing in mind

*a)* the information about each "object" in the Internet of Things environment could [potentially] have its own [unique, persistent] identifier, which could be [potentially] resolved; [by the identifier of the object]

*b)* the difference between object identifier and object address;

*c)* [the need for a platform which enables interoperability of heterogeneous identity management systems on a global scale],

recognizing further

1. that Recommendation ITU-T X.1255, which is based on the Digital Object Architecture, provides a framework for discovery of identity management information;
2. ongoing work and studies in Study Group 20 of the ITU Telecommunication Standardization Sector (ITU-T) on IoT Identification, and standards on Interoperability for IoT and smart cities;

c) ongoing work and studies in Study Group 2 on Numbering, Naming, Addressing and Identification for IoT (NNAI for IoT);

*d)* recognizing the benefits of a system which provides unique identification, assignment and resolution of digital objects including the use of handles and abstracts references;

resolves to instruct ITU-T Study Group 20

1 to continue its activities on studying IoT Identification , in liaison, [when necessary], with the other relevant study groups ;

2 to develop the necessary Recommendations regarding IoT Identifiers and identification schemes;

3 to study ways and means to overcome the challenges of interoperability between/among heterogeneous identification schemes,through a system which provides unique identification, assignment and resolution of digital objects ;

further instructs ITU-T Study Group 2, within the mandate of ITU‑T

1 to continue studying, in liaison, [when necessary], with the other relevant study groups, the necessary requirements for the structure and maintenance of telecommunication identification/numbering resources in relation to the deployment of IP-based networks and the transition to NGN and FN;

2 to ensure the development of the administrative requirements for identification/numbering resource management systems in NGN and FN;

3 to continue developing guidelines, as well as a framework, for the evolution of the international telecommunication numbering system and its convergence with IP-based systems, in coordination with related study groups and associated regional groups, so that a basis for any new application can be provided,

instructs relevant study groups, and in particular ITU-T Study Group 13

1 to support the work of Study Group 2, to ensure that such applications [identified in *further instructs Study Group* 2 *]*are based on appropriate guidelines, as well as a framework, for the evolution of the international telecommunication numbering/identification system, and to help investigate their impact on the numbering/identification system;

2 to support the work of Study Group 20 in the study and development of guidelines and recommendations in relation to IoT identifications,

instructs the Director of the Telecommunication Standardization Bureau

to take appropriate action to facilitate the foregoing work regarding the evolution of the numbering/identification system or its converged applications,

invites Member States and Sector Members

1 to contribute to these activities, taking into consideration their national concerns and experiences;

2 to participate in and to contribute to regional groups discussing the issue and to promote the participation of developing countries in those discussions.