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| **RESOLUTION GSC-17/10: (GTSC)Future Networks including enhancements of Next Generation Networks (NGN) (Revised)** |

The 17th Global Standards Collaboration meeting (Jeju, 13 – 16 May 2013)

**Recognizing:**

1. that the standardization of different phases of NGN is reaching its completion and feedback is gradually being received from various implementations of NGN;
2. that there is a need to adapt to the key trends in society and technology influenced by various smart devices, systems and operations such as smart cities requiring use of future network technologies;
3. that future networks are expected to enhance smart capabilities in terms of end user service capabilities, service provisions and network operations by using various awareness features such as context awareness, content awareness, environment awareness and socio-economic awareness etc.;
4. that future networks are expected to make use of technologies such as resource virtualization, data/content centric networking, energy-saving capabilities, autonomic management, policy-based network optimisation capabilities, distributed mobile networking;
5. a future network is a network able to provide services, capabilities, and facilities difficult to provide using existing network technologies;
6. a future network is either a new component network or an enhanced version of an existing one, or a heterogeneous collection of new component networks or of new and existing component networks that is operated as a single network;
7. that the evolution of future networks is driven by innovations in user applications, network and service capabilities;
8. that high-bandwidth video, cloud computing, P2P application, Big data and Over-The-Top (OTT) services will put a huge pressure on network resources; and
9. that users of future networks and interconnected networks will demand adequate Quality of Service (QoS), Quality of Experience (QoE), security and mobility;
10. that there are different stages of network evolution and therefore interconnection to/and between NGN environments and future networks is becoming an important issue;
11. that the industry requires technical integrity and coherence among interrelated specifications taking into account migration of NGN toward future networks;
12. that interoperability continues to be important to NGN and future networks.

**Considering:**

1. that there is increasing demand for converged services with ubiquitous capabilities allowing users to obtain access to their services and profiles using any appropriate devices independent of the means of access (fixed, mobile, etc.);
2. that there is increasing deployment of broadband access capabilities, both fixed and wireless, capable of supporting advanced services envisaged for future networks including NGN;
3. that future networks will be introduced within an evolving policy and regulatory environment;
4. that there is a need to further globalize future networks standardization;
5. that there is a need to develop future networks standards in a timely manner;
6. that guidance is needed on mechanisms to enhance interoperability without compromising innovation and timely standards development and deployment;
7. that rich content and features can be delivered to end users so that they can benefit from them in their daily life;
8. that research and standardisation have to be brought closer to each other so that both parties can benefit from each other; and
9. that the operational and user perspective should be strengthened.
10. technical standards for interconnection between NGN and future networks must become available in a timely and co-ordinated manner to allow global operation of offering emd-to-end multimedia services supporting satisfactory security, mobility, end-to-end QoS and QoE;
11. that NGN and future networks have a significant role as an infrastructure supporting interworking among different networks (mobile and fixed) and multimedia services including convergence serviced, on the basis of a minimum number of globally agreed protocol profiles;

**Resolves:**

1. to develop a globally consistent long term vision of future networks in collaboration with ITU-T based on integrating national and regional perspectives to address user needs in a timely and cost effective basis;
2. to promote globally consistent standards that facilitate interoperability, innovation, market competition and infrastructure development through cooperation and collaboration among global, regional and national SDOs issues that have mutual impacts, including (but not limited to) the following:
   * maximization of the commonality between different approaches for developments of future networks;
   * recognition of potential social, policy, legal, emergency, and/or regulatory implications (for example, privacy, legal interception, location information, service quality, reference interconnection point definition);
   * options for transition, and planning considerations for achieving the future networks vision in an orderly and consistent manner;
   * a coherent and coordinated set of standards with global value to support NGN interconnection with future networks including the interoperability at the service level;
   * enabling of NGN migration towards future networks;
   * control and realization of satisfactory delivery of end-to-end QoS/QoE mechanisms for all types of networks (fixed, wireless, mobile, satellite, IP-based core networks, etc.) ;
   * control interface and mechanisms such as SDN (Software-Defined Networking) to network services, enabling flexible use of required resources, their provisions and operations on demand and real-time;
   * network services including but not limited to converged policy control based on network conditions and traffic identification (e.g. using Deep Packet Inspection);
   * interoperable and cost-effective security mechanisms and protocols to guarantee protection of customer information and network resource;
   * user mobility in all its forms (wide area, local area, nomadic, etc.), including seamless mobility across mobile and fixed networks;
   * utilization of the NGN and future networks for emerging applications and traffic sources including: machine-to-machine, Internet of Things, Smart Grid, intelligent transport systems; and
   * address the need for providing additional services via the future network technologies, including but not limited to Cloud Computing, Service-Oriented Networking, Autonomic management and adaptive control, Information – centric networking, Network virtualisation, and integration of Web technologies, e.g., RTC Web ones.
3. to focus on making future networks smarter, and interoperability up to the application level, to support a broad range of applications that utilize underlying network capabilities.

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