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| **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2013-2016 | | | **February 2013** | |
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| **Question(s):** | | 6/17 |  | | |
| **STUDY GROUP 17 – CONTRIBUTION 005** | | | | | |
| **Source:** | | Iran Ministry of Information and Communication Technology (MICT) | | | |
| **Title:** | | Security aspects of ubiquitous telecommunication services | | | |

**Proposal**

**It is recommended that the *Motivation* part of Q.6 covers the following concepts:**

* Recommendation X.6 for Multicast service definition for SLA provisioning.
* “Broadcasting systems and their corresponding security-related aspects such as specific requirements on their access control, billing security, SLA provisioning and digital rights management”.

**It is recommended that the following questions be added to *Question* parts:**

1. How digital forensics issues should be considered in ubiquitous services?
2. Which broadcast encryption schemes are appropriate to be used in security provisioning in ubiquitous services and applications?
3. Which traitor tracing schemes are most effective in security provisioning of ubiquitous systems?
4. How to handle digital content protection in ubiquitous systems?
5. How to identify threats in multimedia systems in ubiquitous environments?

**It is recommended that the following tasks be added to *Tasks* parts:**

1. Study and develop digital forensics issues ubiquitous services.
2. Study and develop suitable broadcast encryption tools to be used in ubiquitous systems and applications.
3. Study and develop security traitor tracing.
4. Study and develop digital content protection in ubiquitous systems.
5. Study and develop security issues in multimedia systems used in ubiquitous environments.

**Rationale**

During recent years, Broadcasting systems and Multicast multimedia has been introduced as hot research topics and can be part of ubiquitous services in next generation networks. Due to importance of the following items in ubiquitous telecommunications systems, special care must be taken to integrating those into contents of question 6 related to the followings:

* *Special attention to Broadcasting Systems and their security aspects.*
* *Broadcast encryption and security aspects related to content protection and copyright in the multimedia services.*
* *Digital forensics issues related to ubiquitous services.*
* *Considering traitor tracing schemes in secrecy provisioning of ubiquitous systems as important security issues in multimedia services.*
* *SLA provisioning in ubiquitous services (it is important to consider the concepts of manipulation and fraud in service provisioning of ubiquitous services).*
* *Access control in ubiquitous services.*
* *security issues related to interaction between heterogeneous networks in ubiquitous environments containing the following topics:*
  + *Billing security: the following aspects should be considered to have a secure billing mechanism*:
    - *All parties must be authenticated.*
    - *Agreements must be valid.*
    - *All charges must be verifiable.*
    - *Connections must be secure and non-reputable.*

*Furthermore,* by the time of preparation of the previous version of ITU-T question 6 documents (Jan. 2008), some ITU recommendations (such as X.1101 for multicast security and X.1191 to X.1197 recommendations for IPTV security approved in years between 2009 and 2012) were not available. So, our proposed Tasks and Questions are related to them and security aspects multicasting and broadcasting systems.

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