IEEE P802.21
Media Independent Handover Services

|  |
| --- |
| Clauses 5 and 6 Restructure Proposal |
| Date: 2013-11-26 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Subir Das | ACS  | 150 Mt. Airy Road  | +1 908 748 2483  | sdas@appcomsci.com |

Abstract

This contribution proposes an outline to restructure clauses 5 and 6 in IEEE P802.21d/D2.0 to resolve comments #58, #59 received in ballot 7a.

**Background:**

Comment #58 in LB#7a states that “This description is not sufficient and it needs improvement. In particular, this section should have an architecture diagram that illustrates the entities and its relationship with the management of networks.”

Comment #59 in LB#7a states that “By 'Security' do we mean 'configuration of keys'? Also are we talking about security of MIH messages here? It seems the security is too general. If it is related to the configuration aspects, we should be more specific.”

Following are the suggested remedies for comments #58 and #59.

**New Structure Proposal**:

1. **General Architecture**
	1. **Introduction**
		1. **Group communication**

There are scenarios where a set of nodes move like a group between network point of attachments and in such cases multicast-based group communication is required to send the handover commands. Examples of these scenarios are networks of sensors/actuators that move between production and management networks or nodes that move together due to some physical reason, such as all nodes traveling together in a transportation medium. In other scenarios, a set of nodes in a mesh network may need to be moved as a group from one gateway node to another while performing failover, failback, configuration and other management operations.

Figure 12: MIH Group Communication Functional Entities

This standard allows network nodes to send commands to a group of MNs, PoSes and vice versa via multicast transport (or channel) in a secure way. The standard defines primitives and corresponding messages for managing the multicast group membership ( e.g., join, leave and update group membership) and provide mechanisms for managing multicast group keys. Figure 12 shows the logical view of functional entities that are involved in MIH group communication. While the group manager is responsible for generating the keys and managing the group, command center is responsible for issuing the group manipulation and group commands. Group manager and Command center communicate with MNs via a multicast channel/transport that is made available by the underlying network.

**6. MIHF services**

**6.2.7 MIH group configuration, and manipulation**

The MIH group configuration, and manipulation provide mechanisms for PoS to manage groups of MNs, that are accessible through multicast transport or channel in a secure way. The primitives used to manage the membership to the groups and their security properties are called group manipulation commands which include the required functionality to manage the group membership (e.g., join, leave, and update operations) and install appropriate credentials to MNs belonging to a group. Details on which MIHF commands can be used for multicast communication can be found on Clause 8.3.1. Group manager and command center may be collocated in a PoS in which the dotted line between group manager and command center will be an internal interface. Both command center and group manager can be implemented as MIH users within a PoS.