IEEE P802.21
Media Independent Handover Services

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| Requirements Document for TGd |
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Abstract

This document summarizes the TGd requirements as derived from the PAR and from analyzing the TGd use cases.

# Introduction

This document defines requirements for solutions addressing functionality to be provided by the TGd amendment.

Apart from setting functional requirements, this documents specifies performance requirements and constrains for solutions addressing functionality to be provided by the TGd amendment.

## Scope

The scope for deriving requirements is set by the P802.11d PAR [1], as well as by the TGd use case document [2].

## Definitions, acronyms, and abbreviations

TBD

## References

TBD

# Requirements

## Functional requirements [What the system shall do]

### Multicast Communication

 [Req2.1.1.1] The TGd amendment shall support multicast communication between a PoS, source of a multicast tree, and a group of nodes.

### Addressing

[Req2.1.2.1] The TGd amendment shall provide an addressing mechanism suitable for identifying the group.

### Multicast Transport

[Req2.1.3.1] The TGd amendment shall provide mechanisms for the MIHF to perform all transport related mechanisms.

[Req2.1.3.1] The TGd amendment shall rely on already established L2, L3 or application layer multicast mechanisms to perform the multicast transport.

### Group Management

[Req2.1.4.1] The TGd amendment shall provide functionalities for managing groups of nodes. These functionalities include the creation/destruction of groups, join and leave operations and modifications to the group subscription.

### Authentication of multicast source tree

[Req2.1.5.1] The TGd amendment shall provide mechanisms to authenticate, provide non-repudiation and detect message tampering at the receiving node.

[Req2.1.5.2] The solution optionally might provide group cyphering and key redistribution mechanisms.

## Performance requirements [How well the requirements should perform]

### Transparency to MIH Users

[Req2.2.1.1] The TGd amendment shall provide transport solutions transparent to the MIH User. The fact of using a multicast channel shall be transparent to the MIH User.

### Reduced signaling

[Req2.2.2.1] The TGd amendment shall provide mechanisms for group management incurring on lower overheads comparing with unicast solutions.

### Scalability

[Req2.2.3.1] The mechanisms proposed in the TGd amendment shall scale from low to high capacity (in terms of computational power) devices.

[Req2.2.3.2] The mechanisms proposed in the TGd amendment for the transport of primitives, shall scale with the number of nodes.

## Constraints – [e.g. Technology, design, tools, and/or standards]

### Backward compatibility

[Req2.3.1.1] The TGd amendment shall be compatible or supersede the zero length MIHF\_ID behaviour

[Req2.3.1.2] The TGd amendment shall be compatible or supersede IEEE 802.21b mechanisms of group management.

[Req2.3.1.3] The TGd amendment shall minimize the changes introduced in the standard .21 protocol state machine and should clearly identify the IEEE 802.21 primitives allowed to be used in a multicast way.