

IEEE 802.21d: Media Independent Handover Services Amendment: Multicast Group Management

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Document Server and PAR

- Document Server:
 - <http://mentor.ieee.org/802.21/documents>
- 802.21d PAR Details
 - http://www.ieee802.org/21/802_21d_PAR.pdf

IEEE 802.21d

- Scope (c.f. Section 5.2 of PAR)

“To add support in Media-Independent Handover (MIH) framework for management of multicast groups.”
- Purpose: (c.f. Section 5.3 of PAR)

“The purpose of this standard is to enable the handover for group of users across the same or multiple access networks. Additionally, this standard will define mechanisms to secure multicast MIH protocol exchanges.”

802.21d Schedule

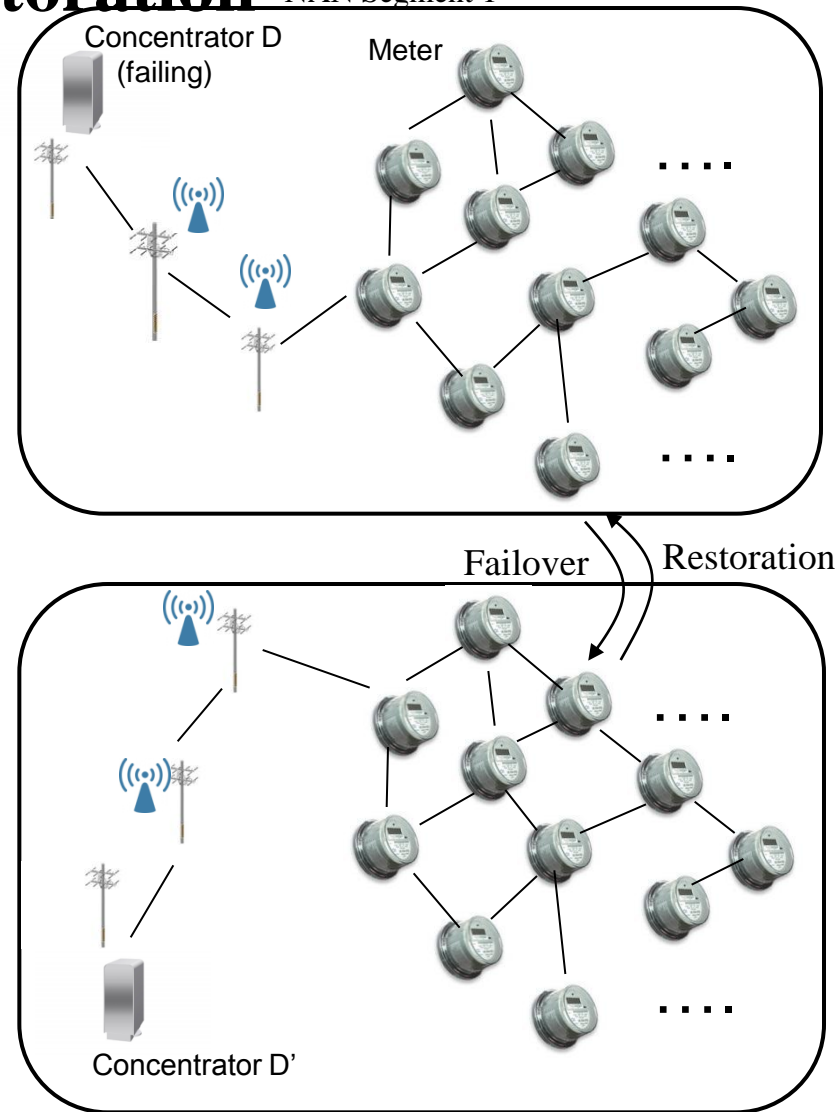
We are here

TGd Schedule	2012				2013						2014					
	5	7	9	11	1	3	5	7	9	11	1	3	5	7	9	11
Use Case, Requirements	x	x	x													
Call for Proposal			x													
Harmonization / Down-selection				x	x	x	x	x								
Letter Ballot								x	x	x	x					
Sponsor Ballot												x	x	x	x	
802.21d draft sent to RevCom																x

- **802.21d CFP has been issued in September, 2012**
- **7 initial proposals have been received in response to the CFP**

Use Case 1 – Failover and Restoration NAN Segment 1

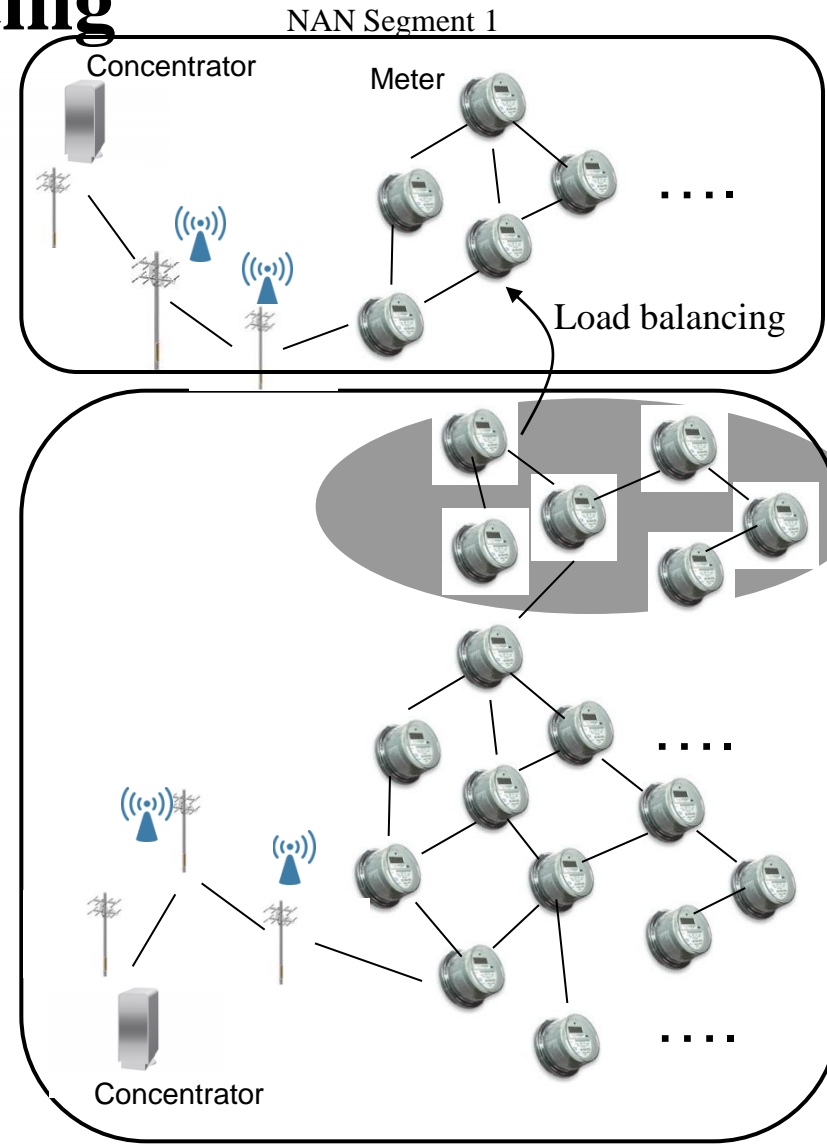
- **Failover/Failback** of an AMI network
 - If a device D is (going to be) no longer on one network, it is needed to perform failover or **migrate/handover** devices connected under D to another network
 - The takeout device D (e.g., concentrator) is typically associated with a NAN (Neighborhood Area Network) segment
 - If that device goes down, other devices will failover to a second NAN segment



Reference: <https://mentor.ieee.org/802.21/dcn/12/21-12-0028-03-0000-mih-group-management.pptx>

Use Case 2 – Load Balancing

- If a NAN segment is overloaded, a group of devices belonging to the NAN segment is moved other NAN segment(s)



IEEE 802.21d Requirements

- Multicast Communication
 - 802.21d shall support multicast communication between a Point of Service (PoS), source of a multicast tree, and a group of nodes.
- Multicast Transport
 - Need for mechanisms for the MIHF (Media Independent Handover Function) to deliver information in a multicast way
 - 802.21d shall rely on already established L2, L3 or application layer multicast mechanisms to perform the multicast transport
- Addressing
 - 802.21d shall provide an addressing mechanism suitable for identifying the group
- Group Management
 - Need for functionalities for managing groups of nodes. These functionalities include the creation/destruction of groups, join and leave operations and modifications to the group subscription.
- Security Requirements
 - Need for mechanisms to perform authentication, confidentiality and integrity protection at the receiving node.
 - Need for key management mechanisms.