

# Session #39 802.16 MMR SG Opening Report

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Venue:

IEEE 802.16 Session #39, Taipei, Taiwan

Base Document:

None

Purpose:

SG Meeting organization

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**Session #39 802.16 MMR SG**  
**Opening Report – 9/13/05**  
**Study Group Meeting on Mobile**  
**Multi-hop Relay in IEEE 802.16**

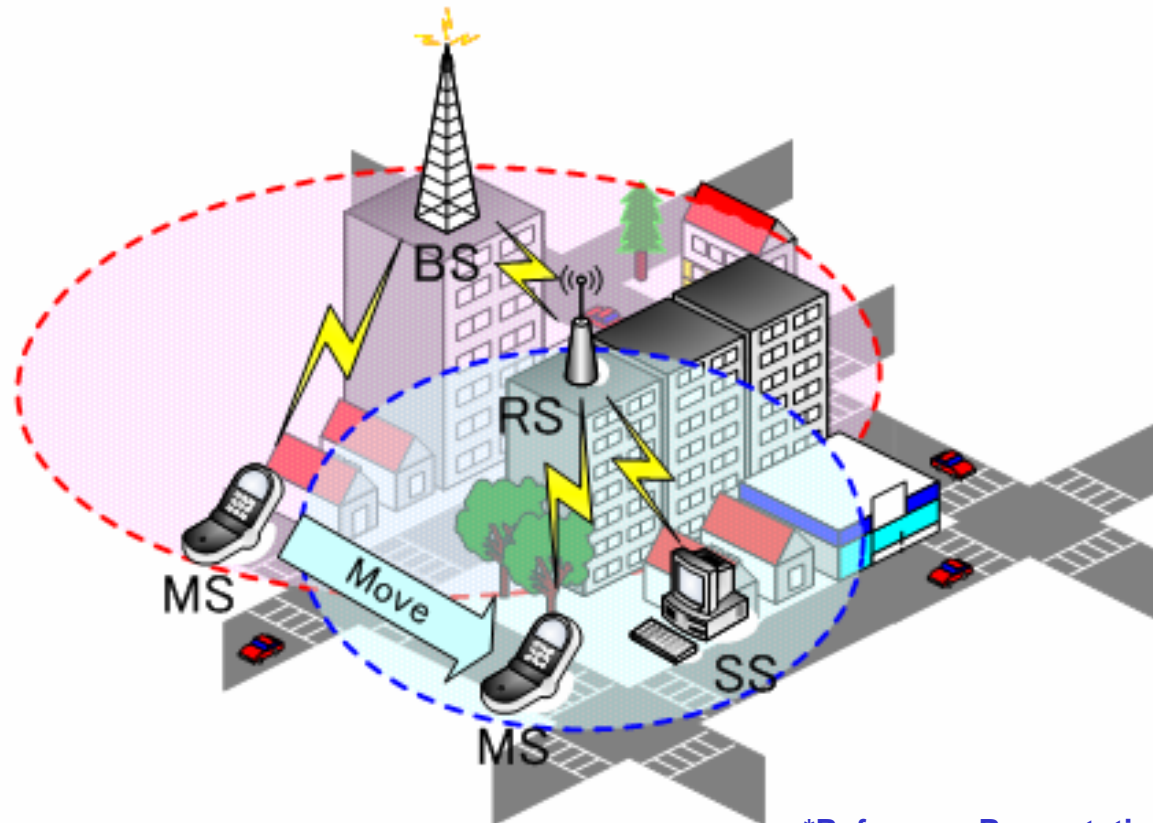
**Chair: Mitsuo Nohara**

**Time: 08:00 – 12:00, Wed., Sept. 14, 2005**

**Place: Auditorum, The Grand Hotel, Taipei**

# Scope of Proposed Relay Project

- Develop Proposed Relay mode for fixed / mobile terminal
  - PHY: Enhance normal frame structure
  - MAC: Add new protocols for the Relay networking



# Objectives of this 1<sup>st</sup> SG Meeting

- **To exchange views on Mobile Multi-hop Relay**
  - **with contributions provided, referring to the call for contributions,**
- **To have open discussions, and**
- **To plan future activity and schedule towards the PAR and 5 Criteria preparation.**

# Agenda

## 1. Session #38 San Francisco Ad-hoc Meeting Summary

## 2. Contribution Presentations

- Contribution Presentations
- Open Discussions
- Each presentation consists of 10-minutes presentation and 5-minutes Discussions.

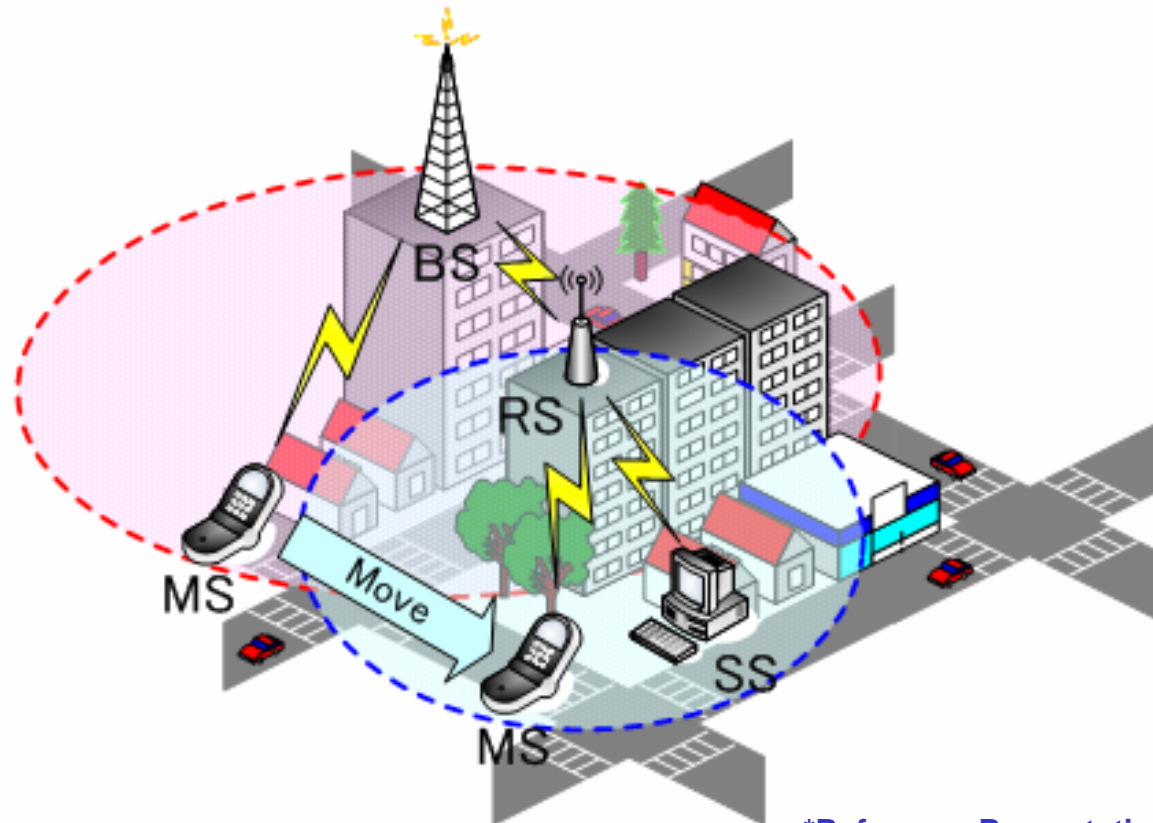
**Note: As the result of discussion, the meeting time will be extended. (Time: TBD)**

## 3. Future Activity and Schedule

# **1. Session #38 San Francisco Ad-hoc Meeting Summary**

# Scope of Proposed Relay Project

- Develop Proposed Relay mode for fixed / mobile terminal
  - PHY: Enhance normal frame structure
  - MAC: Add new protocols for the Relay networking



# Main Features

- **Main features**

- **Tree structure: one of the end of relayed data path should be at BS**
- **Efficiently provide Relay connection to SS/MS (with small number of hops)**
- **Support OFDMA as well as OFDM PHY mode**
- **Backward compatible to PMP mode**
- **PMP & Relay modes : share a same band, or use different but adjacent bands**

- **Considered RS types**

- **Fixed Infra RS, Nomadic Infra/Client RS, Mobile Infra. RS**

❖ **dot16 “forum” website: <http://dot16.org/forum/>**



# New Study Group Proposal

- **We, as listed on the supporter list attached on page 15, support the creation of a new study group on mobile multi-hop relay networking, which is:**
  - referring to C802.16-05/013 as its discussion base,
  - with the notes attached to the reference as shown on page 14,
  - aiming at preparing a new PAR and 5 criteria,
  - to start from next #39 meeting and
  - to be chaired by Mitsuo Nohara.

## Motion

- **To create a new 802.16 WG study group on Mobile Multi-hop Relay.**

**Motion Passed: For: 77, Against: 0, Abstain: 1**

# Notes to Reference

**Reference: C802.16-05/013**

**Notes:**

- **Relay mode may include multiple connectivity,**
- **Spectral Scenario will be studied at new SG,**
- **Interference coexistence and other relating things to be studied working with License-Exempt Task Group,**
- **Need activity watch on 802.1 bridge,**
- **Issues of Interest:**
  - **Hand over,**
  - **Technical Performance, and**
  - **Backward compatibility.**

# New Study Group Supporter List

as of 21 July, 2005

Mitsuo Nohara  
Kenji Saito  
JaeWeon Cho  
JungJe Son  
PanYuh Joo  
HyeonWoo Lee  
Nat Natarajan  
Masahito Asa  
Jose P. Puthenkulam  
Ofer Kelman  
Guo Qiang  
Geunhwi Lim  
Naftali Chayat  
KyungJoo Suh  
Shyamal Ramachandran  
Aik Chindapol  
Maximilian Riegel  
Aeran Youn  
Avinash Joshi  
Robin Zheng

Wu Xuyong  
Chang-Lung Hsiao  
Arther Wang  
Matthew Sherman  
Youngho Kim  
JunHyung Kim  
Mike Hart  
Sunil Vadgama  
Charlie Zhang  
Gang Shen  
Roland Muenzner  
Eckard Bogenfeld  
N.K. Shankaranarayanan  
Yousuf Saifullah  
Chenxi Zhu  
Byoung-Jo “J” Kim  
Kevin Baum  
Roger Peterson  
Meng Zhao  
Paul Piggin

Hujun Yin  
Mark Thomas  
David Mc’Ginniss  
Jorjeta Jetcheva  
Yoko Kurosawa  
Kazuki Tani  
Wen Tong  
Mo-han Fong  
Bahareh Sadeghi\*  
Sumeet Sandhu\*  
\*not listed under .16  
attendance list

## **2. Contributions**

# Call for Contributions

## Areas of activities:

- Assess feasibility of Multi-hop Relay for fixed / mobile terminal including PHY/MAC modifications;
- Study the impact on PHY with enhancement of normal frame structure and backward compatibility with 802.16 TGe PMP mode;
- Study the impact on MAC protocols to be newly added for the relay networking including handover cases;
- Study spectral scenario including frequency reuse and interference among the links between Base station (BS) and Relay station (RS), and ones between RS and Mobile/Subscriber station (MS/SS);
- Study the security between BS and Mobile Subscriber station (MS) via RS;

# Call for Contributions

## Contribution Provisions:

- Ideas for usage and application scenario:  
Network topology and capability of RS,
- Principle requirements on PHY/MAC protocols in IEEE802.16 to provide multi-hop connection,
- Ideas for spectral scenario and security issues, and
- References of the technology such as IEEE802.1 Bridging.

# Contribution Presentations

- Kenji Saito, Mitsuo Nohara and Keizo Sugiyama
  - Jaeweon Cho, Jungje Son, Panyuh Joo and Hyeonwoo Lee
  - Deng Shinquiang and John Lee
  - Panos I. Dallas, Ana M. Gallardo and A. Valkanas
  - Gamini Senarath, Wen Tong, Peiying Zhu, Mo-Han Fong, Hang Zhang, Jianglei Ma, G.Q. Wang and Dave Paranchych
  - Wen Tong, Peiying Zhu, Mo-Han Fong, Gamini Senarath, Hang Zhang, Jianglei Ma, G.Q. Wang and Dave Paranchych
  - Amir Rubin
  - Yu-Ching Hsu
  - Ray-Guang Cheng
  - Fang-Ching Ren, Chang-Lung Hsiao, Yu-Ching Hsu and Wern-Ho Sheen
  - Shou-Sheu Lin and Wern-Ho Sheen
  - I-Kang Fu, Wern-Ho Sheen, Ren-Jr Chen, Chang-Lung Hsiao and Shou-Sheu Lin
  - Masahito Asa, Nat Natarajan, Roger Peterson, Shyamal Ramachandran, David Chen
  - Shyamal Ramachandran
  - Mike Hart
  - **Each presentation consists of 10-minutes presentation and 5-minutes Discussions.**
- Note: The total meeting time will be extended. (Time: TBD)**

# **3. Future Activity and Schedule**



# Tentative Schedule

- Starting new Study Group / Task Group

Year	Month	802.16 session	Actions
2005	July	#38 Plenary	Propose to form SG – Approved
	Sept.	#39 Interim	SG: the 1st meeting
	Nov.	#40 Plenary	SG: the 2nd meeting
2006	Jan.	#41 Interim	SG: the 3rd meeting – Complete a PAR
	Mar.	#42 Plenary	802 EC endorses PAR approval
	May	#43 Interim	TG: the 1st meeting
	July	#44 Plenary	TG: the 2nd meeting
	Sept.	#45 Interim	TG: the 3rd meeting
	Nov.	#46 Plenary	TG: the 4th meeting

# To Do List

- **At This Meeting**
  - **Contributions/Discussions**
- **After This Meeting towards Next #40 Meeting**
  - **Comments and Discussions @ dot16.org**
- **At the Next #40 Meeting**
  - **Contributions and Discussions, (to be cont.)**
  - **PAR Preparation (Scope, Purpose, Reason, Review of other Project, etc.,)**
- **SG Mailing List/Reflector Update @dot16.org**

# MMR-SG

Time: 08:00 – 12:00, Wed., Sept. 14, 2005

Note: One more extra slot to be allocated.

(Time and Place: TBD)

Place: Auditorum

