# IEEE P802.15

**Wireless Personal Area Networks**

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| Project | Dependability Interest Group | |
| Title | **Meeting Minutes for November 2017** | |
| Date Submitted | November 8, 2017 | |
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| Re: | Meeting Minutes | |
| Abstract |  | |
| Purpose | Minutes of Dependability Interest Group sessions | |
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**Monday, November 6, 2017, PM2, 16:00-18:00**

* 1. Meeting called to order 16:00

By Chair Ryuji Kohno (YNU / CWC-Nippon)

* 1. Roll Call

Notepad for Attendance circulated.

* 1. Opening Report

Chair presented Opening report Doc #591-2

Chair showed IEEE Patent policy.

Chair issued Call for Potentially Essential Patents

No essential intellectual property in the scope of IG DEP was declared.

Chair presented agenda this week Doc.#592

* 1. Approval of previous meeting minutes

Upon no comments on the previous meeting minutes, doc #410 was approved.

* 1. Review of ID DEP activities

Overview of IG DEP activity: Ryuji presented doc #176r1

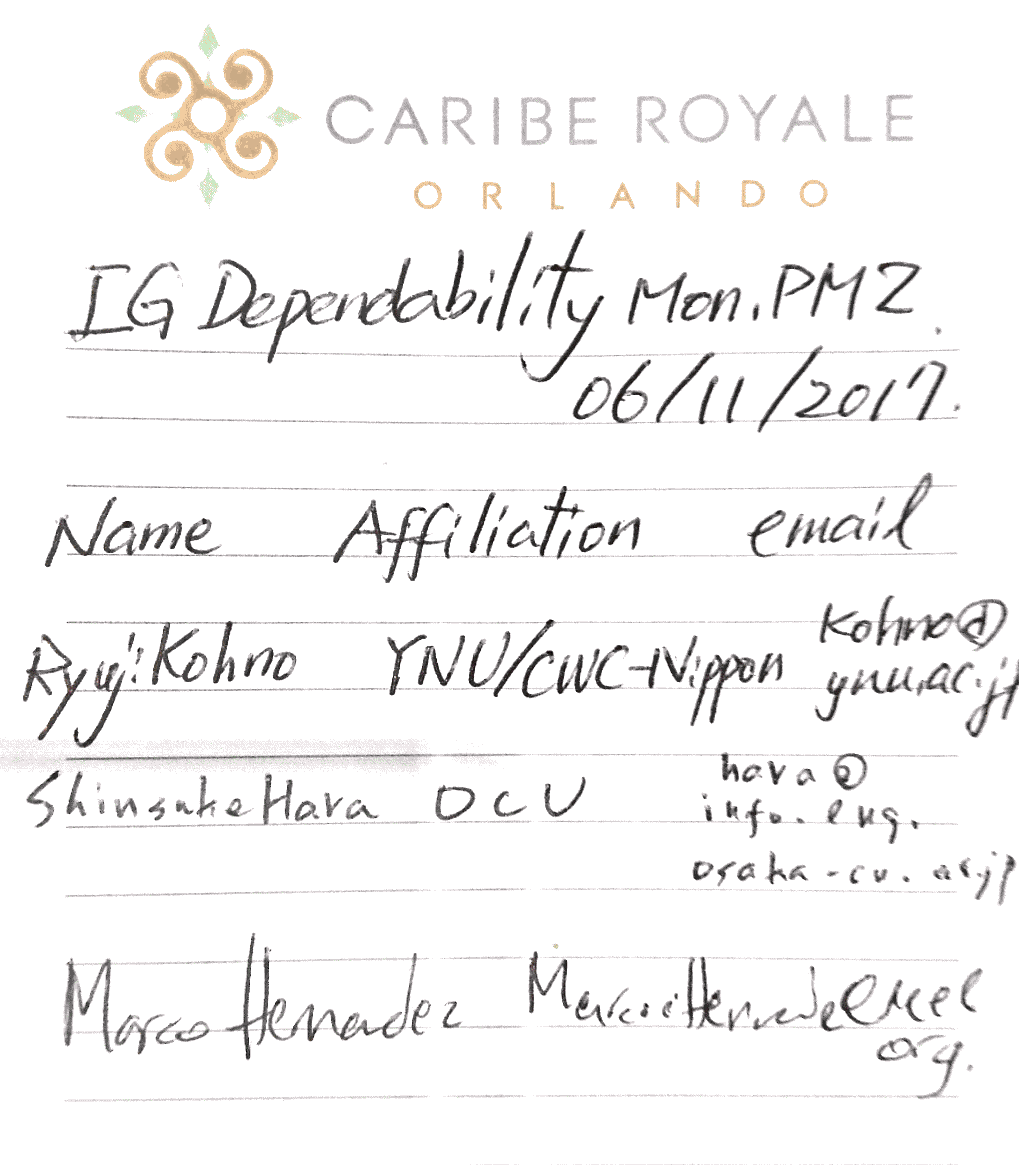
Review of FFPJ in March joint tutorial of IEEE802.1 & 15

Review of two invited speeches from car manufacturer and car component company in Gerlin meeting

1. Demand of Highly Reliable Wireless Network and Future Doc.#398-00
2. Way to Industry 4.0 Doc.#399-01

Discussion on role of existing standards and standard developments (TSN, DetNet, 15.10, 15.12, TG4s) impacts on IG DEP uniqueness criteria.

* 1. Recess at 17.57.



* 1. Attendees

**Tuesday 7 November, 2017, AM1, 08:00-10:00**

* 1. Meeting called to order at 08:02
  2. Roll Call

Notepad was circulated

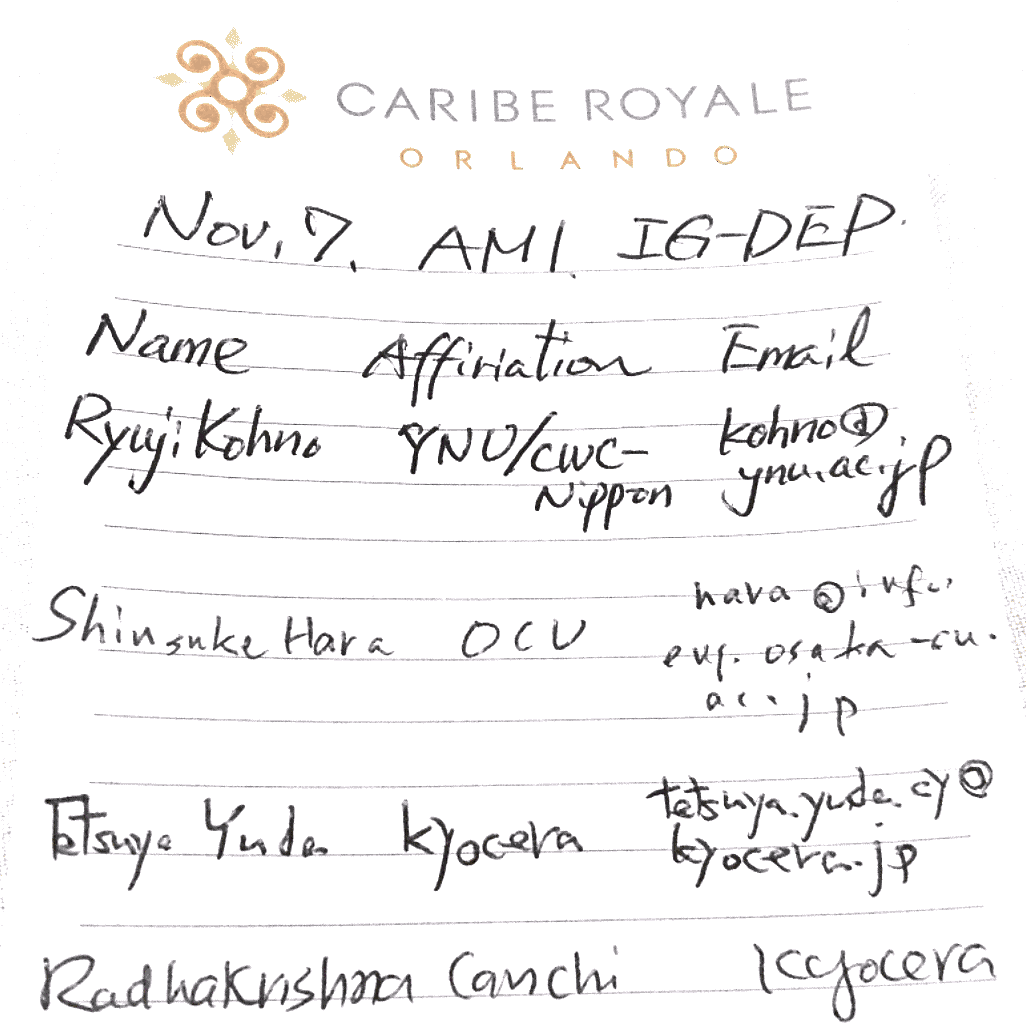
* 1. Presentation

Kohno presented a new use case of remote sensing and controlling UAVs(Unmanned Aerial Vehicles); Drones which is a copy of his plenary keynote speech of IEEE COMSOC conference on personal, indoor, mobile radio communications (PIMRC2017) in Montreal on October 6, 2017 doc.#614-01

* 1. Discussion on unique requirement of feedback controlling loop of sensing and controlling UAVs, such as permissible feedback loop delay,
  2. Discussion on necessity of a new standard for these potential applications different from existing standards

Bob, Ben and Ryuji were mainly discussing on this issues.

* 1. Recess at 10:01



* 1. Attendees

**Tuesday 7 November, 2017, AM1, 10:30-12:30**

* 1. Meeting called to order at 10:33
  2. Roll Call

Notepad was circulated.

* 1. Agenda

Agenda was updated as doc #592r2.

* 1. Continue reviewing all previous discussion

Ryuji presented doc #420.

* A solution could be multiple projects. Contribution to 802.15.12 with timing requirements and parameter exchange between MAC and higher layer helps deterministic networking (cross-layer interaction piece for control loops).
* Inter-network coordination and dynamic parameter reconfiguration could be a recommended practice or standard amendment.
* Cross-layer management messaging needs to be defined and the feedback interval to be determined.
* Management of duplicate messaging needs to relate to multipath delivery requirements.
* Individual device reliability assessment and aggregate reliability assessment needs to be defines.
* Multipath forwarding protocol needs to include redundant coding to cope with lost/corrupted/missing frames.

Four main points to address:

1. Cross-layer information exchange and management PHY&MAC <-> higher layers

* To guarantee service levels
* To know flow characteristics
* To know dynamic media characteristics
* Be energy aware

1. Application of metrics at specific layers and cognition in layers

* To improve stability
* To improve predictability
* To enable feedback loops

1. Forwarding protocol

* To apply path diversity and redundancy adaptively
  + Routing and forwarding time scales are vastly different
  + Application stability is yet another order of magnitude longer time scale, but may change over time.

1. Coordination and management across independent PANs

* Other PAN interference mitigation

Task is to reflect the above to the key three applications in vehicular automation.

(c.f. 802.15.9 PAR)

* 1. Update of Scoped Potential Applications and Technical Requirement

Kohno and Hara were discussing technical requirement for remote sensing and controlling UAVs (Drones) and add a new column in technical requirement tables

Of doc.#557r5

3.6 Telcos to be determined via the reflector. Target 10 days notice before telco.

* 1. Adjourn 12:19
  2. Attendees

