Information & Control Korea TC Chapter

Meeting Summary and Minutes

Friday, June 16, 2017, 13:00 – 17:30
#4205, Trade Tower, SEMI Korea Office, Seoul

TC Chapter Announcements
None.

Next TC Chapter Meeting
October 20, 2017 15:00 – 17:30
SEMI Korea Office, Seoul, Korea

Table 1 Meeting Attendees
Italics indicate virtual participants

<table>
<thead>
<tr>
<th>Company</th>
<th>Last</th>
<th>First</th>
<th>Company</th>
<th>Last</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIM</td>
<td>Jung</td>
<td>Jin-Soo</td>
<td>Linkgenesis</td>
<td>Cha</td>
<td>Kyounghwan</td>
</tr>
<tr>
<td>Amkor Technology</td>
<td>Yun</td>
<td>Deukyoung</td>
<td>Linkgenesis</td>
<td>Kim</td>
<td>Byeonghee</td>
</tr>
<tr>
<td>ASE Korea</td>
<td>Lee</td>
<td>Doowon</td>
<td>Linkgenesis</td>
<td>Pack</td>
<td>Inhyeok</td>
</tr>
<tr>
<td>Doople</td>
<td>Kim</td>
<td>Hyungsu</td>
<td>Miracom Inc.</td>
<td>Lim</td>
<td>Youngshin</td>
</tr>
<tr>
<td>Kornic Automation</td>
<td>Kim</td>
<td>Kyung Tae</td>
<td>SK hynix</td>
<td>Ahn</td>
<td>Chulhong</td>
</tr>
<tr>
<td>Lam Research Korea</td>
<td>Lee</td>
<td>Kevin</td>
<td>Tokyo Electron Korea</td>
<td>Im</td>
<td>Byoungmin</td>
</tr>
</tbody>
</table>

Table 2 Leadership Changes
None.

Table 3 Ballot Results
None.

Table 4 Authorized Activities

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4946</td>
<td>SNARF</td>
<td>GEM300 TF</td>
<td>Revised title and scope to include E87.1 (Specification for SECS-II Protocol for Carrier Management (CMS))</td>
</tr>
<tr>
<td>5833</td>
<td>SNARF</td>
<td>GEM300 TF</td>
<td>Abolished SNARF</td>
</tr>
</tbody>
</table>

NOTE 1: SNARFs and TFOFs are available for review on the SEMI Web site at: [http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF](http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF)
Table 5 Authorized Ballots

<table>
<thead>
<tr>
<th>#</th>
<th>When</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5832B</td>
<td>Cycle 6 or 7-2017</td>
<td>GEM300 TF</td>
<td>New Standard, Specification for Generic Counter Model</td>
</tr>
<tr>
<td>4946C</td>
<td>Cycle 6 or 7-2017</td>
<td>GEM300 TF</td>
<td>Line Item Revision to E87-0312, Specification for Carrier Management (CMS) and E87.1-XXXX, Specification for SECS-II Protocol for Carrier Management (CMS), Adding Carrier Ready to Unload Prediction Feature</td>
</tr>
</tbody>
</table>

Table 6 New Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>20170616-1</td>
<td>Natalie Shim</td>
<td>Reflect the latest 87.1 title with revision date in 4946 SNARF</td>
</tr>
<tr>
<td>20170616-2</td>
<td>Natalie Shim</td>
<td>Send out two weeks review for the SNARF draft (Line Item revision to E142-0211 (Reapproved 1016) Specification for Substrate Mapping) GCS Approval request for the SNARF</td>
</tr>
<tr>
<td>20170616-3</td>
<td>ABFI TF</td>
<td>SNARF and draft submission by next committee meeting</td>
</tr>
</tbody>
</table>

Table 7 Previous Meeting Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>20170209-1</td>
<td>Natalie Shim</td>
<td>Share author’s comments on Doc. 5832 with reject voters, open</td>
<td>Done</td>
</tr>
<tr>
<td>20170209-2</td>
<td>Natalie Shim</td>
<td>Update current status of 6008 and 6009 activities to the committee</td>
<td>Done</td>
</tr>
<tr>
<td>20170209-3</td>
<td>DDA TF</td>
<td>Collaborate Freeze 3 standardization with NA DDA TF by sharing issue list</td>
<td>Done</td>
</tr>
<tr>
<td>20170209-4</td>
<td>ABFI TF</td>
<td>Complete the SNARF and first draft by June</td>
<td>Open</td>
</tr>
<tr>
<td>20170209-5</td>
<td>All</td>
<td>Review and send feedback on Smart Manufacturing PPT to James Amano by February 28</td>
<td>Done</td>
</tr>
</tbody>
</table>

1 Welcome, Reminders, and Introductions

Chulhong Ahn (SK hynix) called the meeting to order at 13:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 01, Meeting Reminders

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion: Approve the previous meeting minutes as it is
By / 2nd: Byoungmin Im (TEL)/ Inhyeok Paek (Linkgenesis)
Discussion: None
Vote: 9-0, Motion Carried

Attachment: 02, Previous Meeting Minutes
3 Liaison Reports

3.1 Information & Control Japan TC Chapter

Natalie Shim (SEMI Korea) reported for the I&C Japan TC Chapter. Of note:

- **Announcement**
  - Hiroshi Kondo (Murata Machinery) stepped down from Technical Architect.
  - Sensor Bus TF and EDA Working Group newly formed.
  - Discharging of Fiducial Mark Interoperability TF is on-going.

- **Document Review Summary**
  - Passed (Cycle 2, 2017)
    - § 6090 (Line Item Revision to SEMI E91-0600 (Reapproved 1109), Specification for Prober Specific Equipment Model (PSEM))
    - § 6091 (Line Item Revision to SEMI E174-1116: Specification for Wafer Job Management (WJM))

- **Upcoming ballots for cycle 5, 2017**

- **Fiducial Mark Interoperability task force**
  - Task force leaders decided to propose disbanding the task force to the related technical committees (Assembly & Packaging, I&C, PIC, Silicon Wafers and Traceability). If they agree this proposal, the TF will be discharged. Currently, Silicon Wafers (March 9), Assembly & Packaging (March 13), PI&C (April 19) and I&C (April 21) were agreed to the proposal and Traceability will decide in its upcoming meeting.
  - Backend alignment issues with introducing fiducial mark wafer is remained. It would be discussed in Assembly & Packaging Japan TC Chapter after its disbandment.

- **GEM 300 task force**
    - The line item 1 and 2 passed A&R in January 2017 and published as E170-0517.
    - LI 3 failed and it will be discontinued.
    - With the comment from potential Standards users, TF considers to simplify E170 subordinate standard by using SECS II message, instead of OSS generic service.
    - The ballot passed A&R in May 2017 and issued Ratification ballot in cycle 5.
  - 6189 (Line Item Revision to SEMI E170-20yy)
SNARF was approved at I&C Japan TC Chapter meeting on Apr 21, 2017.

E170 application Study Working Group was formed as a subgroup under GEM 300TF with leadership of Koji Kitajima (Toshiba Memory) and Masahide Hirochi (IBM Japan).

- 6092 (New Standard, Centralized User Authentication and Role Authorization Management)
  - The scope was discussed with EISS TF. SNARF was approved at I&C Japan TC Chapter meeting on October 21

- Japan I&C Committee Maintenance task force
  - 6033 (Line Item Revision to SEMI E99 and E99.1, Carrier ID Reader/Writer)
    - SNARF and ballot were submitted for Cycle 7.
  - 6090 (Line Item Revision to SEMI E91, PSEM) passed A&R in May 2017.

- Next meeting Schedule
  - Fall: Friday, September 21, 2017 at SEMI Japan office, Tokyo
  - Winter: Friday, December 15, 2017 in conjunction with SEMICON Japan 2017

**Attachment:** 03, Japan Liaison report

### 3.2 Information & Control North America TC Chapter

Natalie Shim reported for I&C NA TC Chapter. Of note:

- Announcement
  - Albert Fuchigami (PEER Group) was appointed as DDA task force leader.
  - SNARF 6066 (Reapproval of SEMI E130.1, Specification for SECS-II Protocol for Prober Specific Equipment Model for 300 mm Environment, PSEM300) revision and SNARF 6068 (Reapproval of SEMI E116.1-0707, Specification for SECS-II Protocol for Equipment Performance Tracking, EPT) revision were approved by GCS on May 23, 2017
  - SEMI E54.16-1106 (Reapproved 1211, Specification for Sensor/Actuator Network Communications for LonWorks) was received inactive status.

- Document Review Summary (Cycle 6 and 7, 2016)
  - **Passed**
    - 6026A (Line Item Revision to SEMI E109-1110, Specification for Reticle and Pod Management (RPMS))
    - 6066A (Line Item Revision to SEMI E130-1104-0710R, Specification for Prober Specific Equipment Model for 300mm Environment (PSEM300) and SEMI E130.1-1104-0710R, Specification for SECS-II Protocol for Prober Specific Equipment Model for 300mm Environment (PSEM300))
    - 5549A (Revision to SEMI E30, Generic Model for Communications and Control of Manufacturing Equipment, GEM) is extended for a year.
    - 6064A (Line Item Revisions to SEMI E121-0305, Guide for Style and Usage of XML for Semiconductor Manufacturing Applications)
    - 6067A (Reapproval for SEMI E54.16-1106, Specification for Sensor/Actuator Network Communications for Lonworks)
- 5732 (Revision to SEMI E87.1-0707, Specification for SECS-II Protocol for Carrier Management (CMS))
  - **Failed**
    - 5872 (Line Item Revisions to E171, Specification for SECS Equipment Data Dictionary (SEDD))
    - 6116 (Reapproval for SEMI E54.17-0812, Specification of Sensor/Actuator Network for A-LINK)

- Upcoming ballots for Cycle 5, 2017
  - 5872C (Line Item Revisions to SEMI E172, Specification for SECS Equipment Data Dictionary (SEDD))
  - 6114 (Line Item Revision to SEMI E5-0813, SEMI Equipment Communications Standard 2 Message Content, SECS-II)
  - 6183 (Reapproval to SEMI E82-0307 (Reapproved 0612), Specification for Interbay/Intrabay AMHS SEM, IBSEM)
  - 6187 (Reapproval to SEMI E88-0307 (Reapproved 0612), Specification for AMHS Storage SEM, Stocker SEM)
  - 6185 (Line Item Revision to SEMI E4-0699 (Reapproved 0612), SEMI Equipment Communications Standard 1 Message Transfer (SECS-I) to correct nonconforming title to: Specification for SEMI Equipment Communications Standard 1 Message Transfer (SECS-I))
  - 6066B (Reapproval of SEMI E130.1-1104 (Reapproved 0710), Specification for SECS-II Protocol for Prober Specific Equipment Model for 300 mm Environment, PSEM300)

- Diagnostic Data Acquisition task force
  - Albert Fuchigami (PEER Group) was appointed as a new co-leader. An additional co-leader might be added next meetings.
  - EDA freeze 3 plan was discussed with Korea DDA task force.
  - Ballot Adjudication
    - PASSED - 6064A (Line Item Revisions to SEMI E121-0305, Guide for Style and Usage of XML for Semiconductor Manufacturing Applications) with Superclean.

- Energy Saving Equipment Communication (ESEC) task force
  - Proposed SNARC for Line Items Revision to SEMI E167. Key points in provisional SNARC Draft:
    - **Situation**: The original standard was up to now not implemented in any fab. Besides that the communication standard between tool and subfab components has been released.
    - **Purpose**: It has to be checked whether the terminology and logic aligns between the two standards. Besides that it has to be reviewed whether there are any obstacles for implementation.
      - Simplify the state diagram so that it aligns with SEMI E175.
      - Make forecast available by Host to production equipment on energy-saving opportunities in the near future (e.g. for the next 2 hours or definable period of time).
      - Availability forecast should be chamber-specific (optional).
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- Clean-up the standard regarding detailed requirements; remove or make optional.
- Distinguish between equipment and chamber states.
  - Plan submit SNARF for approval at Semicon West 2017 meeting
  - Next Step: plan to review SEMI E175 in 2018

- Generic Equipment Model 300 (GEM300) task force
  - Seeking Co-Chair;
  - Ballot Adjudication
    - FAILED - 5872A E172 SEDD Update
    - PASSED
      - 6066A-1, 6066A-2 E130 minor edit, E130.1 reapproval
      - 6068A-1, 6068A-2 E116 minor edit, E116.1 reapproval
      - 6026A E109, Line-item revision
      - 5738 E87.1 Major Revision to remove Provisional status with 2 Editorial Change
      - 5549A GEM E30 title change/conformance organization with 2 Editorial Changes
    - Ballot Plans Cycle 5
      - 5872C E172 SEDD Update
      - 6114 New Simple Large Recipe

- Process Control Systems (PCS) task force
  - Ballots Adjudicated
    - PASSED - 6067A (reapproval)
  - Authorized ballots - Revisions to SEMI E133 and SEMI E133.1 for Cycle 5-17 submission

- Sensor Bus (SB) task force
  - Ballots Adjudicated
    - 6116 (reapproval) - Withdrawn & to be referred to Japan sister task force
    - New SNARF for adding a GENSen SDM mapping into E54.9.

- Next Meetings are scheduled on July 12, 2017 at SEMICON West 2017 Meetings in San Francisco, CA

Attachment: 04, North America Liaison report

3.3 Information & Control Taiwan TC Chapter
Natalie Shim reported for the Information & Control Taiwan TC Chapter. Of note:

- Backend Factory Integration task force
  - Completed the mandatory two-week global I&C TC Member review of New SNARF for “Specification of Backend Die Traceability” on April 27 and get the Doc # 6147.
  - The first version of Doc 6147 will be completed in March 2018

- Next Meeting is scheduled on September, 2017 at SEMI Taiwan Office, Taipei

Attachment: 05, Taiwan Liaison report
3.4 SEMI Staff Report

Natalie Shim gave the SEMI Staff Report. The key items were as follows:

- SEMI Global events
- 2017 Critical Date
- SEMI Standards Publication update
- SEMI Smart Manufacturing Advisory Council update

Attachment: 06, SEMI Staff report

4 Ballot Review

None

5 Subcommittee and Task Force Reports

5.1 GEM300 Task Force

- 4946 (Line Item Revision to E87-0312, Specification for Carrier Management (CMS) and E87.1-XXXX, Specification for SECS-II Protocol for Carrier Management (CMS), Adding Carrier Ready to Unload Prediction Feature)
  - As 5732 (Revision to SEMI E87.1-0707, Specification for SECS-II Protocol for Carrier Management (CMS)) passed TC adjudication in NA, 4946 is able to extend its scope to E87.1. The revised SNARF and the ballot were approved as below.

  Motion: Approve revised SNARF 4946
  By / 2nd: Byoungmin Im(TEL)/ Gunwoo Lee(Lam Research)
  Discussion: None
  Vote: 9-0, Motion Carried

  Motion: Authorize 4946C for cycle 6 or 7, 2017
  By / 2nd: Byoungmin Im(TEL)/ Kyounghwan Cha(Linkgenesis)
  Discussion: None
  Vote: 10-0, Motion Carried

- 5832 (New Standard, Specification for Generic Counter Model (GCM))
  - Inhyeok Paek(Linkgenesis), co-writer of 5832, introduced updated draft. The ballot authorized as below.

  Motion: Authorize 5832B for cycle 6 or 7, 2017
  By / 2nd: Inhyeok Paek(Linkgenesis)/ Gunwoo Lee(Lam Research)
  Discussion: None
  Vote: 8-0, Motion Carried

- 5833 (New Standard, Specification for Maintenance Program)
  - The author decided to discontinue the activity as follow the rejects on previous ballot (Doc.5833). Most rejects were about the concept duplication between the activity and existing standards such as E30 and E40.

  Motion: Abolish SNARF 5833
By / 2nd: Inhyeok Pack (Linkgenesis)/ Byeongmin Im (TEL)
Discussion: None
Vote: 7-0, motion carried

5.2 DDA Task Force
- Hyungsu Kim reported evaluated issue list for Freeze 3 and the meeting result with NA DDA TF on April.

5.3 ABFI Task Force
- The task force drafted SNARF but still need final input from GTC. They plan to get more feedback from GTC including originator and submit SNARF to GCS.

Attachment: 07, Revised SNARF 4946
- 08, SNARF Draft for line item revision to E142

5.4 ABFI Task Force
- Kevin Lee (Lam Research) reported that the TF reviewed the urgent standardization items and decided to revise E142. The SNARF and the first draft will be submitted on next committee meeting.

Action Item 3: SNARF and draft submission by next committee meeting/ ABFI TF

6 Old Business
None

7 New Business
None

8 Next Meeting and Adjournment
The next meeting is scheduled for October 20, 2017 at SEMI Korea Office. See http://www.semi.org/en/events for the current list of meeting schedules.
Having no further business, a motion was made to adjourn. Adjournment was at 17:30.

Respectfully submitted by:
Natalie Shim
Sr. Specialist, Standards
SEMI Korea
Phone: 82.2.531.7808
Email: eshim@semi.org

Minutes approved by:
Table 8 Index of Available Attachments

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<th>Title</th>
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<td>05, Taiwan Liaison report</td>
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<tr>
<td>04</td>
<td>North America Liaison report</td>
<td>08, SNARF Draft for line item revision to E142</td>
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</tbody>
</table>

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact [SEMI Staff Name] at the contact information above.