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Meeting: SP100, Wireless Systems for Automation
Chairman: Wayne Manges and Richard Sanders
Recorder: Lois Ferson
Members/Guests Present: * Brian Armstrong, Steven Chen, Jeremy Dahl, *Abdelghani Daraiseh (teleconference), Em Delahostria, *Koji Demachi, Louis DeSilvio, William Dolenti, Michael Dow, * Bill Drake, Sicco Dwars, Jim Elderidge, Lois Ferson, * Peter Fuhr, *Robert Gooch, Mark Grazier, *Evan Hand, ** Toshi Hasegawa, Ron Helson, *James Jamison (teleconference), **David Kaufman, Alex Kalasinsky, * Pat Kinney, Rick Kriss, *David Lafferty, Chip Lee, *Greg LaFramboise, Vijay Lakamraju,, Paul Mahoney, *Wayne Manges, * Michael Mets, William J. Miller, Jay Nemeth-Johannes, *Kelly Orth, Larry Pereira, *Tom Phinney, **Marc Regan, *Richard Sanders, **Ted Schnaare, Paul Sereiko, * Dan Sexton, Robert Shear, * Herman Storey, Wayne Stargardt, *Werner Thoren, *Romeo Velarde, Steven Walker, Jay Werb, Ludwig Winkel, Linda Wolffe, Shuji Yamamoto, *Gene Yon, (* voting; ** alternate)
Guests for Users Summit: Nicholas Bartscher, Michael Bardruff, Ira Blumenthal, Kim Craven, Dennis Brandl, Jeremy Dahl, Dave Dobbins, Jim Elderidge, Mike Fleming, Ellen Fussell, Mike Godsey, Michael Harris, Martin Hanssmann, John Heinrich, Tom Hokemeyer, Michael Humpal, Shawn Humphries, Elsa Madrigal, Mike Melton, Bill Nickerson, Sokwoo Rhee, Stephen Santangelo, Bill Settle, Nicholas Sheble, Stan Shilling
Members Absent: Allart Bastiaans, R. Bhojani, Sean Boyle, Richard Caro, Marcello Dultra, Aris Espejo, Jens Hult, Hesh Kagan, Eugene Lambert, Norman McCloud, Mark McNerney, Gregory Murphy, Nick Sands, Ake Severinson
Date/Time: Tuesday, April 11, 2006 12 noon to 5 pm
Wednesday, April 12, 2006 8:00 am to 5:00 pm
Thursday, April 13, 2006 8:00 am to noon
Location: ISA, Research Triangle Park, NC
Distribution: Members, Staff

- NOTE: Due to the number and length of the presentations and documents tabled at this meeting they are not included with the minutes but instead are available online (www.isa.org/community/sp100). Anyone having difficulty accessing or downloading any April meeting paper is asked to contact Linda Wolffe (lwolffe@isa.org) or Lois Ferson (lferson@isa.org)

Item # Description

- 1 Call to Order
Chair Manges called the meeting to order at 12 noon and welcomed the committee members as well as the guests from the morning Users Summit.
2 Welcome
Ferson welcomed the attendees to ISA and provided an overview of meeting plans and logistics. Those present were invited to attend a social event at ISA on Tuesday evening.
3 Introductions/Review Procedural Guidelines
Those present introduced themselves. Lee provided a brief overview of ISA procedural guidelines.

4 Review & Approval of the Agenda

The Committee approved the agenda for each day's session on a daily basis with minor modifications (Tuesday-Sicco moved and Yon seconded; Wednesday-Phinney moved and Storey seconded; Thursday-Mets moved and Phinney seconded) Motions approved daily.

5 Review Results of the ISA Survey on User Needs & Expectations

Ferson provided a brief overview of the ISA Survey on User Needs and encouraged all members to review the comprehensive survey which was made available at the meeting and online. She offered to secure additional information on any aspect of the survey if individual committee members would contact her following the meeting. Ferson also noted that INTECH planned to do an article based on the survey results for the June issue. A suggestion was made that a similar survey be conducted among European and Asian users. NOTE: ISA is currently pursuing this suggestion, and if completed, will make the results obtained available to the full committee.

6 Working Group Status Reports

Physics of Radio – Peter Fuhr for Ake Severinson

Fuhr reported on behalf of Severinson and noted that the draft Technical Report had been approved by the committee. The Working Group is currently reviewing and working to resolve a number of editorial comments received with the ballot. It is anticipated this document can be published in the 2nd quarter of 2006.

Industrial Wireless Requirements -- Tom Phinney

Phiney presented a comprehensive overview of the Requirements Working Group effort with a chronology of events and listing of participants. He noted that the working group's original efforts were essentially complete and presented a proposal that the Requirements Working Group be "morphed" into a new effort to cover the Technical RFP Evaluation Criteria

Integration -- Dan Sexton

Sexton reviewed the Integration Working Group activities, schedule, and current work products. Sexton noted that as a result of the team's efforts, several new efforts including marketing, use cases, SP100.11 and SP100.14 would be proposed for approval by SP100 later in the meeting. In response to a question from DeSilvio regarding purpose of a marketing effort, Sexton noted it would be a voice for committee both internally and externally.

Interoperability and Co-existence -- Peter Fuhr

Fuhr reported the existing working group is moving forward with plans to split into a co-existence working group that would focus on wireless systems working together in the same environment and a separate effort focused on multi-vendor plug and play within the interoperability working group. Yon noted that co-existence would be easier to achieve than interoperability and suggested the group define the issues associated with interoperability. Fuhr noted there was a lot of ground to cover and a lot of material to define in splitting these efforts; adding the purpose of today's presentation is to set the stage for decisions to be made later in the meeting and as the work unfolds.

Networking – Kelly Orth

Orth reported that the group had been established at the January meeting and would be developing a tutorial document (SP100.50.3a) with a target date for the first draft by mid-summer 2006. Their intent was to draw material from ongoing efforts as well as published texts such as Gutierrez's. In response to questions such as would time synchronization issues be covered Orth noted they would within limits. Orth added the intent of the Networking WG is to work very closely with the User Guide WG to develop tutorial material.

User's Guide – Michael Mets

Mets briefly reviewed material that had previously been distributed following the January 2006 meeting and noted that one of the key issues still facing the User's Working Group was how to obtain volunteer resources required to

move the work forward. Mets noted that the WG has an outline in place and would be developing a schedule to put content against the outline later in this meeting. He asked for additional support and participation for this effort.

7 Liaison Reports

Bluetooth – Steven Chen

Chen provided a brief update noting that an Industrial Special Interest Group has been established to address industrial automation requirements. Manges noted that Bluetooth is more widely used than Wi-Fi in Europe. Within 1451 they have a draft underway to use Bluetooth for sensor networks. Work is also underway to address security issues.

IEC & ISA SP99 – Hand and Phinney

Hand reported for SP99 noting the committee had just released Part 1 of the standard for ballot. Part 2 which covers how you establish a security program within an industrial environment will go out for ballot on April 14, 2006. Hand noted it is extremely important to have close liaison with SP100 and to avoid conflicts. Phinney covered the IEC relationship, noting that IEC TC65 has 2 cyber security working groups currently established – at the TC65 level the work in progress is focused on network system security, at the SC65C level the work will focus on profiles. Phinney noted that IEC TC57 covering SCADA systems has a TC57/WG15 effort underway that is covering data and communication security; this effort is led by SP100 member, Frances Cleveland. Phinney noted there are Working Group meetings as well as a security seminar planned for May in NICE France on cyber security that is being organized by ISA France.

IEEE – Kinney and Nemeth-Johannes

Kinney reviewed the 802.11 work effort, noting in particular, it was not just Wi-Fi. IEEE 802.11n (next generation Wi-Fi) is currently out for letter ballot and the draft includes new data rates. He noted that co-existence is a major issue with this draft standard and it has not yet been documented as required by an 802 mandate. Another draft currently under development is 802.11x covering mesh networking for access points. IEEE 802.15.3a covering ultra-wide band for high speed applications has had its PAR withdrawn and is currently on hold. IEEE 802.15.4a covering ultra-wide band for low speed applications is now undergoing a recirculation ballot. Kinney noted that there are currently three initiatives within 802 addressing the mobile market: IEEE 802.16e addressing WiMax for mobile; IEEE 802.20 WiMax passed letter ballot (basically being used extensively in cellular phone market) and IEEE 802.11p covering short range communications for mobile devices. Another effort underway is IEEE 802.4b – increasing data rate to 250kbts/sec with approval anticipated by June 2006. Kinney noted that because there must be co-existence provision for all 802 wireless standards the effort underway within 802.19 (based on analytical model for coexistence developed by NIST) is especially significant. Kinney also suggested that SP100 needs to form closer working relationships with the government, perhaps partner with similar government initiatives underway within IEEE. Johannes reported on behalf of 1451 stating they currently have two major work efforts underway: IEEE 1451.0 and IEEE 1451.5. IEEE 1451.5 covers wireless sensors and will go to second ballot shortly—concerns with the draft are security mechanisms and simpler access methods. Although it was originally intended to have three wireless systems – 802.11, Bluetooth, and ZigBee because of ongoing issues within IEEE 802.15.1, the current plan is to release the initial version without ZigBee. Johannes also stressed the value of close cooperation with government, particularly NIST, in this effort. Johannes noted that future governments RFP are anticipated to cite the 1451 work.

Wireless Hart and ZigBee – Dave Kaufmann

Kaufmann noted the next Wireless Hart meeting is tentatively scheduled for Milan Italy 10-12 May 2006. Wireless Hart has a very ambitious schedule and targeted for completion in 2006. Among topics being addressed are hybrid CSMA technology, co-existence issues, and use cases. Regarding the ZigBee effort, Kaufmann stated they are interested in contributing to SP100 but are not pushing their existing residential or commercial solutions for industrial usage. He noted that ZigBee may at some point be considered as a possible home or source for interoperability testing.

WINA – Peter Fuhr

Fuhr presented a brief overview of WINA and their recent activities. He noted efforts are also underway to develop a book under the auspices of WINA covering best practices for wireless applications with an anticipated completion date by the end of 2006.

8 Opening of the Wednesday Meeting & Review of Tuesday Session

Lee reviewed the volunteer guidelines again and Manges provided a brief overview of the Tuesday session.

9 Review of Procedural Guidelines and Committee Structure

Manges briefly reviewed the procedural guidelines and tabled a power point presentation providing an overview of a typical committee workflow process. He noted that SP100 would be approving several new working group efforts at this meeting with the goal of having co-chairs for each. The establishment of these work efforts was intended to improve the efficiency and operation of the overall effort. He stated that in the interest of a balanced view at the working group level each effort should have at least one of the chairs representing user or general interest categories.

10 Review Membership Guidelines

Manges briefly reviewed the membership guidelines agreed to by the committee in March 2006. He emphasized several points namely—the importance of maintaining balance among vendors, users and general interest categories; the importance of participation at physical meetings and via conference calls; and the requirement that voting members return ballots on at least 2 of the 3 most recent drafts. He noted that due to the preponderance of vendors seeking voting status, securing a user or general interest member to compensate for adding a vendor member was strongly encouraged.

11 Review and Approve Any Membership Change

Ferson reviewed the proposed membership changes among existing members:

- Werner Thoren, Endress & Hauser, to Voting Member; Craig McIntyre as the alternate.
- Alex Kalasinsky, Oceana Sensor, added as Alternate Member to Jens Hult, Oceana Sensor
- Dr. Abdelghani Daraiseh, Saudi Aramco to Voting Member; Patrick S. Flanders as the alternate.

Phinney moved and Hand seconded that the membership updates be approved. Motion approved.

In addition to the existing membership updates, the committee was asked to approve the following additional members who meet the membership criteria and do not influence the overall committee balance (vendor bringing user customer):

Robert E. Gooch	Sean Boyle (primary);Ken Lucas (alternate)
Flowserve FCD	Irving Oil Ltd
1350 Mountain Springs Parkway	PO Box 1260
PO Box 2200, Springville UT	St John, NB E2L 4H6 CANADA
rgooch@flowserve.com	sean.boyle@irvingoil.com

Phinney moved and Jamison seconded that the proposed membership changes be approved. Motion approved.

12 Review and Approve Minutes of the January 2006 Meeting

Ferson noted that based on comments on the draft January minutes an updated version had been posted to the web site listing Hesh Kagan as an attendee and eliminating a duplicated paragraph. Phinney moved and Hand seconded that the meeting minutes as amended be approved. Motion approved.

13 Full Committee Working Group Meeting

Presentation/Review of Comments on The Automation Engineer's Guide to Wireless Technology Part 1: The Physics of Radio, A Tutorial . On behalf of Severinson, it was reported that the draft technical report had been approved but a number of editorial comments had been submitted with approved ballots. These comments have been transmitted to the Working Group for review and incorporation into the draft as appropriate. It is anticipated

this can be accomplished and the draft submitted for final approval by the ISA S&P Board this summer. Manges stated that a User or General Interest Co-Chair was being sought for this effort. Interested volunteers should contact Manges, Sanders, or Severinson.

Presentation of Technical Requirements Draft Comments and Discussion of Next Steps

Phinney gave a detailed review of the Technical Requirements Working Group activities, handling of the technical requirements draft comments and discussion of possible next steps. He noted that he had covered the history of the documents development during the Tuesday session and that he would be presenting motions later in the meeting to cover future activities of the working group.

Review of SP100 Report to S&P Board -- Manges stated the items to be included in the report to the S&P Board would be reviewed at the conclusion of the meeting.

Discussion of the Process for Handling an RFP -- Sexton stated the IWG is working on a guide for the process of handling a RFP and would be presenting it to the committee later. The overall task in developing a request for technical solutions will be to 1) determine the technical requirements; 2) determine the requirements for the RFP including how it will be evaluated; and 3) go out with the RFP rather than attempt to write design specs within the committee. It was stated that anyone who wants to will be able to respond to any SP100 RFP. It was noted that SP100 may have two or more application areas moving through this process in parallel with the SP100.11 and SP100.14 efforts.

A discussion followed on the overall structure for the SP100 series and Hand asked whether the committee should establish the structure as a first order of business. Sexton reviewed the proposed structure of the SP100 work products and referred those present to the material presented in January. He reviewed the three types of documents envisioned—prescriptive, descriptive, and informative. Kinney noted that while standards, such as SP100.14, may reference other documents the intent is they will be standalone documents. It was suggested that the marketing group might well address this issue and perhaps develop some introductory material that could appear on the web site or in the beginning of each SP100 document.

During the discussion of several proposed motions related to the Technical Requirements Working Group and future activity it was moved by Phinney and seconded by Jamison *that SP100 approve the User Goals PPT (SP100-i.53.7a) that was developed in the Requirements WG during the 2nd quarter of 2005, and that was reviewed at the 1st SP100 meeting in October 2005, and that has received no other suggested changes in the last six months.* During the discussion it was agreed that this document was only intended for use internally and was not to be released outside the committee. Motion approved

A discussion followed on the word version of the User Goal Draft and the next steps to be taken. Ferson stated the intent had been to hold a default ballot on the document and assuming no objections were received to post it to the SP100 page as a position paper. Based on the discussion that occurred during the meeting it was agreed this document needed to be reviewed for comment. Armstrong agreed to revise the draft already submitted to Ferson based on the discussion. Ferson will then submit this draft to the full committee for comment and then for formal ballot as a Technical Report.

Discussion of IWG Work Products: Evaluation Tool Process, Use Cases and Proposed Web Site -- Sexton reviewed the proposed structure of the SP100 work products and referred those present to the material presented in January and the report tabled at this meeting.

During a discussion of the future role if any for the Requirements Working Group, Phinney moved and Storey seconded *that SP100 morph the Requirements Working Group into a Technology RFP Evaluation Criteria Working Group. NOTE: This is not a charter to apply those evaluation criteria or to evaluate proposals, but only to provide input to SP100 evaluation processes. With this morphing, the new TREC WG would start with 28 members, but all SP100 participants can join (or leave) at will. And 2. To thank all those*

who have participated in developing and reviewing both the User Goals and the more recent draft Technical Requirements document. Motion approved.

The issue of committee members or others speaking on behalf of the committee or ISA was discussed. Ferson stated that the S&P Board and the Department Vice Presidents were expected to take action later this month to formally approve definitions for official liaisons and standards experts. The concern is that individuals who are not authorized should not be speaking on behalf of ISA nor on behalf of the SP100 committee. When addressing outside organizations or government bodies, members are speaking as individuals unless they have received prior approval and authorization for the position being presented. It was agreed that the Integration Working Group would be the clearinghouse for individuals within SP100 who wished to be designated official liaisons or standards experts. Ferson noted that this issue was not unique to SP100 but affected other committees, as well as Districts and Sections standards representatives. NOTE: At the 23 April 2006 meeting of the ISA S&P Board, the Board decided the issue warranted further study. Action on the definitions and procedures to be followed was deferred until after a June conference call of the S&P Board.

14 Ad Hoc Working Group Meetings

Following the conclusion of the full committee session, a number of working groups held ad hoc meetings to address comments received from the earlier discussion in full committee and to further refine their future work efforts and schedule. The groups that met were Integration Working Group, Marketing Study Group, Interoperability Working Group, Use Case Study Group, SP100.11, SP100.14, IWG, and Users Guide.

15 Opening of the Thursday Meeting & Review of Wednesday Session

Ferson reviewed the volunteer guidelines again and Sanders provided a brief overview of the Wednesday session.

16 Discuss Items Arising From Wednesday Sessions

During a review of the Ad Hoc Marketing session, Sereiko also reported on the Use Case Task Group which is operating as a Task Group under the Integration Working Group and Chaired by Shears. This Task Group is working with users on the committee to develop a template to be used much more broadly to solicit user input by other groups, such as SP100.14 and SP100.11 within SP100. The next conference call will be held on 19 April 2006. It was noted that once completed the Use Case effort would be merged or coordinated with the Marketing Group efforts.

Manges briefly reported on the results of a number of ad hoc discussions concerning the Wireless Evaluation Tool Study Group. He noted that as the work moved ahead the group would be focusing on the development of appropriate metrics and criteria as appropriate. Yon suggested the Group look at the effort underway within IEEE 802.19. In response to a question regarding potential liability to ISA, Lee noted ISA has looked into the development of similar tools for security standards and the liability is no greater than that encountered through standards development. Should the development of an evaluation tool move forward it would do so under a separate business organization, perhaps under ISA auspices, and would not be a standards committee project.

17 Approve Working Group Scopes and Chairs

Based on the material presented and discussed earlier the committee approved several working group scopes as listed below.

Sexton briefly reviewed the proposal that an SP100.14 Working Group be established. Moved by Sexton/Gooch, seconded by Phinney/Kinney *that SP100 form the SP100.14 Working Group with the following scope: "This project will define the OSI layer specifications (e.g. PHY, DLL, etc), security specifications, and management (including network and device configuration) specifications for wireless devices serving the class 4 and 5 industrial environment with fixed, wireless devices serving the class 4 and 5 industrial applications operating within a facility. Fixed or moving devices will operate with very limited power consumption. Handheld HMI devices will operate with variable latency and throughput requirements. Since this industrial environment could include high power interference sources the standard will also address the network's robustness. It is the*

intent of this project to work toward a level of coexistence with other wireless devices anticipated in the industrial work space, such as 802.11x, 802.16x, cell phones, et al. It is also the intent of this project to work to a level of interoperability with communication networks anticipated in the industrial work space, such as 802.3, 802.11x, 802.16x, HART, et al.” Motion approved. It was agreed Sexton will be an Acting Chair.

Sereiko presented an overview of the proposed SP100 Marketing Working Group and their goals/objectives. One of the key objectives will be to improve visibility and credibility for SP100 effort within end user community. Moved by Regan, seconded by Phinney *that SP100 form the Marketing Working Group with the following scope: “The role of the marketing work group (MWG) is to provide marketing support and direction to meet the marketing needs of the entire SP100 stakeholder base including ISA, practitioners, systems manufacturers, system integrators, and wireless system vendors and plant equipment and facility maintainers. These needs include both internally and externally focused activities including, a) marketing needs and requirements support for the various SP100 working groups, b) identification of marketable products for ISA related to SP100, and c) external programs and communications that articulate the goals of and promote the vision and direction of SP100.”* Motion approved. Sereiko will be Acting Chair.

Mets reviewed the results of the Ad-Hoc User Group meeting held on Wednesday. Miller suggested a need for a section on recommendations and policies concerning use of wireless in a facility and volunteered to provide a draft for consideration by the Working Group. Moved by Sexton, seconded by Storey *that SP100 approve the User Guide Working Group with the following scope: “The SP100 User’s Guide Working Group will produce an Industrial Wireless Selection and Implementation Guide document that will provide stakeholder with an understanding knowledge of technical issues, decision drivers and other areas regarding industrial wireless devices and networks. The document will be a tutorial that will allow the user to make intelligent decisions when applying the SP100 standard to their application, including legacy systems, and implementing wireless devices and networks in their facilities.”* Motion approved. It was agreed the Orth and Mets will Co-Chair the User Guide Group. It was also agreed Orth and Mets will Co-Chair the Networking Working Group approved in January.

Kinney addressed numerous concerns raised about how SP100.11 and SP100.14 would interact; and agreed that close liaison would be necessary and would be maintained by the Chairs. During the discussion covering the proposed SP100.11 work effort several questions were raised—should there even be an SP100.11 effort, would SP100.11 pull resources away from SP100.14, should SP100.14 and SP100.11 be combined perhaps as one effort under SP100.11? Moved by Phinney seconded by Storey *that SP100 should establish an SP100.11 effort separate from SP100.14.* Motion approved.

Moved by Phinney, seconded by Storey *that SP100 approve an SP100.11 Working Group with the scope, goals and objectives, and preliminary project plan as described in the SP100.11 presentation tabled at the meeting. The scope read as follows: “This project will define the OSI layer specifications (e.g. PHY, DLL, etc), security specifications, and management (including network and device configuration) specifications for*

- *wireless devices serving classes 1 through 5 industrial device applications with consideration for class 0 applications*
- *wireless workers and wireless first responders*
- *wireless automation networks operating within an automation and control environment and focusing on ‘field’ areas.*

Many devices will operate with very limited power consumption. Many HMI devices will operate with variable latency and throughput requirements. Many control (and perhaps safety) messages will have maximum transit times. Since the industrial environment may include high-power interference sources, the standard will also address the network’s robustness. It is the intent of this project to address appropriate levels of coexistence with other wireless devices anticipated in the industrial work space, such as 802.11x, 802.15x, 802.16x, cell phones, RFID, SP100.14, Wireless-HART, etc. It is also the intent of this project to address appropriate levels of interoperability or inter-working with other technologies and protocols in the industrial work space.” Motion approved. Kinney named as Acting Chair.

Kinney presented the results of the Co-Existence ad-hoc meeting. During the ensuing discussion it was noted that close liaison should be maintained with IEEE 802. Several members noted the need to consider worldwide RF bands if the suggestion to seek a dedicated industrial band is pursued. Moved by Phinney, seconded by Sanders *that SP100 approve the Coexistence Working Group with the following scope: "The SP100 Coexistence Work Group will develop and maintain policies defining the responsibilities of SP100 standards developers to address issues of coexistence with existing standards, other wireless devices anticipated in the industrial work space, and other standards under development. It will also, when required, offer assessments to the SP100 Committee regarding the degree to which SP100 standards developers have conformed to those conventions. Furthermore, this WG may develop or adopt coexistence analysis tools. This WG may also develop coexistence documentation of interest to the technical community outside SP100.*

The work products for this work group will be:

- 1) *Coexistence Assurance policies for SP100*
- 2) *Coexistence Assurance document template for standards developers*
- 3) *SP100 Standards Coexistence Assessment forms*
- 4) *Informative document describing the techniques and measures for coexistence."*

Motion approved. Pat Kinney and Rick Kriss (tentative candidate) are Acting Chairs.

Because Fuhr was not present for this discussion, Sexton presented the results of the Ad-Hoc Interoperability Working Group meeting held on Wednesday. Moved by Manges, seconded by Orth *that SP100 approve the Interoperability of Industrial Wireless Networks Working Group with the following scope: "The role of this working group is to develop the definitions and descriptions that set the stage for interoperability of wireless devices and wireless networks in industrial automation systems.*

1. *Work products include documents and tools of an informative nature including user guides, technical reports, interoperability guidelines, best practices, training tools, etc.*
2. *Actions will include identifying and developing a description of communications protocols and/or formats used with integration with end user applications.*
3. *It is envisioned that the core elements within this WG encompass the information by which various levels(types) of wireless devices, gateways, software platforms, and legacy infrastructure can "prove" to End Users that the market-presented devices are "SP100-compliant."*
4. *Develop external interfaces to SP95, SP99, and other organizations.*
5. *This is a cross-cutting arena which requires this WG to support all other SP100 working groups. Coordination of the recommendations will be closely coupled to the IWG. "*

Motion approved. Peter Fuhr is one of Chairs and is currently seeking a Co-Chair.

18 Agree on Path Forward for Ongoing SP100 Work Products

Schedules for the various work efforts underway within each working group were reviewed during each groups presentation in the meeting and are incorporated in the power point presentations tabled during the meeting and available on the SP100 web site. The acting working group leaders reviewed modifications made to their proposed program of work as well as any schedule modifications resulting from the discussions on Tuesday and Wednesday.

19 SP100 Report to the S&P Board

Manges asked that the committee list the key milestones and goals established at this meeting. He stated these items would in turn be submitted as part of the SP100 report to the S&P Board for their meeting later in April. The following items were cited as noteworthy:

- Word Version of User Goals Technical Report – To be distributed for comment 1 May 2006.
- Use Case Template – Target completion date 1 June 2006
- Marketing Plan covering June 2006 through May 2007 – Target date June 2006

- Creation of Down Selection Process for Evaluation of SP100 Proposals – Target date June 2006
- Request for Proposals process defined by Integration Working Group – Target date June 2006.
- Users Guide First draft for comment – 17 October 2006
- SP100.11 Draft document on technical requirements and request for proposals by June 2006; responses by November 2006.
- SP100.14 Draft document on technical requirements and request for proposals by June 2006; responses by November 2006.
- Wireless Evaluation Tool Structure – Target date 1 November 2006

20 Plans for Next Meeting(s)

The committee confirmed that the SP100 face-to-face meetings for the balance of 2006 will be held as follows:

- 6-8 June 2006 at Sensors, Chicago, IL beginning at noon on Tuesday and ending at noon on Thursday
- 17-19 October 2006, ISA 2006, Houston, TX

21 Adjournment

Phinney moved and Mets seconded that the meeting be adjourned. Motion approved.

Open Action Items – SP100 Committee

Item #	Assigned To	Action	Status
05Oct-01	Integration Working Group	Establish structure/schedule for draft RFP process prior to January meeting.	Complete.
05Oct-02	Physics of Radio Working Group	Circulate draft Physics of Radio Report for comment prior to January meeting	Complete.
05Oct-03	Requirements Working Group	Prepare RFP based on user requirements and functional requirements prior to January meeting	Updated functional requirements draft complete.
05Oct-04	Users Working Group	Use existing draft outline as basis for draft to be circulated prior to January meeting.	Superseded see 06Jan-10 below.
05Oct-05	Manges/Sanders	Establish dates/location for two-day January 2006 Meeting.	Complete
06Jan-06	Integration Working Group	Establish draft numbering scheme for SP100 documents and assign numbers to existing SP100 work products.	Complete
06Jan-07	Ferson	Announce meeting arrangements for April meeting	Complete
06Jan-08	Physics of Radio Working Group	Release updated draft Physics of Radio Report incorporating January comments	Complete
06Jan-09	Armstrong	Release Word version of User Goals for comment	In Progress
06Jan-10	Mets/ Users Working Group	Release updated draft outline with assignments as basis for draft to be circulated prior to October meeting.	Complete
06Jan-11	All Working	Submit scope, liaisons, and schedule to full	Complete

	Groups	committee for review and approval at April 2006 meeting.	
06Jan-12	Manges/Sanders	Establish dates for June meeting in conjunction with Sensors EXPO.	Complete
06Apr-13	Ferson	Establish meeting arrangements for Sensor EXPO	
06Apr-14	All Working Groups	Identify candidates for Co-Chair and Chair as needed	
06Apr-15	Ferson	Establish list serves for new work efforts	
06Apr-16	Severinson and Physics of Radio WG	Review editorial comments submitted with approved ballots on draft ISA-TR100.00.01 and incorporate into draft as appropriate.	
06Apr-17	Ferson	Create separate area on SP100 web page for Working Groups	
06Apr-17	Mets	Develop Organization Chart for overall SP100 effort with key deliverables	