TC14: Entertainment Computing
Report to General Assembly and Technical Assembly
Amsterdam, The Netherland, September 27 - 29, 2012

Ryohei Nakatsu, TC14 Chair

Part 1: General Assembly (Amsterdam, The Netherland)

TC14 Entertainment Computing
[http://www.org.id.tue.nl/IFIP-TC14/]

1. TC14 meetings held since last report

1.1 Twelfth meeting

The twelfth TC14 business meeting took place on 1st July 2012 at Bremen in Germany. Below are the list of the participants and the agenda.

TC officers:

Ryohei NAKATSU  (National University of Singapore, SG, Chair)
Matthias RAUTERBERG  (Eindhoven University of Technology, NL, Vice-chair)
Tim MARSH  (James Cook University, AU, Secretary)*

National Representatives:

Australia  AU  Tim MARSH (proxy, Senior Lecturer, James Cook Univ.)*
Brazil  BR  Esteban CLUA (Universidade Federal Fluminense)
Canada  CA  Sidney FELS (Univ. of British Colombia)*
China  CH  Zhigeng PAN (Zhejiang Univ.)
Czech Republic  CZ  David OBDRZALEK (Charles Univ.)*
France  FR  Stephane NATKIN (CNAM/ENJMIN)
Germany  DE  Rainer MALAKA (Univ. of Bremen)
Italy  IT  Paolo CIANCARINI (Univ. of Bologna)
Japan  JP  Naoko TOSA (proxy for Junichi Hoshino)
Korea  KR  Hyun YANG (KAIST)*
Netherlands  NL  Matthias RAUTERBERG (Eindhoven Univ. of Technology)
Singapore  SG  Henry DUH (National Univ. of Singapore)*
Poland  PL  Dominik RYZKO (proxy to Piotr Gawrysiak)
Portugal  PT  Nuno CORREIA (New Univ. of Lisbon)*

Absent Excused:

Spain  SP  Pedro GONZALEZ CALERO (Complutense Univ. of Madrid)
WG chairs:
- WG14.2 Chair: David OBDRZALEK (Charles Univ.)*
- WG14.3 Chair: Matthias RAUTERBERG (Eindhoven Univ. of Technology, The Netherland)
- WG14.6 Chair: Lyn PEMBERTON (University of Brighton, UK)
- WG14.7 Chair: Naoko TOSA (Kyoto University, Japan)

Honorary Members:
- Nahum GERSHON (The Mitre Corporation, US)*

Observers:
- Erik van der SPEK (Eindhoven Univ. of Technology, The Netherland)

*: Attendance by teleconference

Agenda:
- Approval of the minutes of the previous TC14 meeting
- Change of officers and members
- Election of TC14 Chair
- Progress of ICEC2012 - paper reviews, keynote speakers, banquet and events, workshops
- Venue of ICEC2013
- Working groups activities
- Entertainment Computing Journal
- Any other business (AOB)

2. TC14 meetings scheduled until next IFIP General Assembly

The 13th TC14 meeting will be held at the time of ICEC2012 (International Conference on Entertainment Computing) that will be held on September 19 - 22, 2012 in Bremen, Germany. Also the 14th TC14 meeting will be held in the spring of 2013.

3. Changes in membership and officers

3.1 TC14 officers and members

There have been several changes since the last report to the General Assembly 2011.

Retirement:
Don Marinelli representing ACM, US retired from his position at the end of June 2012. Nahum Gershon representing IEEE, US retired from his position at the end of March 2012 as IEEE has stopped to be a full member of IFIP. We are now contacting ACM asking them to nominate a relevant person who takes over Don Marinelli. Based on their long time contribution to IFIP TC14 we have decided to give them the position of honorary member. Adrian Cheok, national representative of Singapore, retired from his position as he moved from National University of Singapore in Singapore to Keio University in Japan at the end of December 2011.
Replacement and new nomination:
As a replacement of Adrian Cheok we asked Singapore Computer Society the nomination of new member and they nominated Dr. Henry DUH, Associate Professor at National University of Singapore as a new member representing Singapore. As a replacement of Don Marinelli we asked ACM to nominate a new member who would take over him and they nominated Dr. Magy SEIF EL-NASR, Associate Professor at Northeastern University, US as a new member representing ACM.

We have been checking the activity of each member and trying to replace non-active members with proactive new members. We have approached IFIP full member societies in Austria, Bulgaria, Finland, Ireland, and Norway asking them to replace the existing non-active members with new members and these societies nominated new TC14 members representing their countries.

Also we have been eagerly trying to invite new members from countries with no TC14 representatives. Especially we have been discussing with IFIP full member societies representing Belgium, Brazil, Greece, and Poland and as a result they nominated new TC14 members representing these countries. Below is the result of our activities for the replacement of members and also the invitation of new members.

AT pending Helmut HLAVACS (Prof., University of Vienna, Austria)
BE David GEERTS (Dr., K.U. Leuven, Belgium)
BR Esteban CLUA (A/Prof., Univesidade Federal Fluminense, Brazil)
BG Zlatogor MINCHEV (A/Prof., Bulgarian Academy of Sciences, Bulgaria)
FI Artur R. LUGMAYR (Prof., Tempere University of Technology, Finland)
GR Nikitas Sgouros (Prof, University of Piraeus, Greece)
IR Mads HAAHR (A/Prof. Trinity College Dublin, Ireland)
MA pending (proposed: Prof. Shafry Mohd RAHIM, Malaysia)
NO Letizia JACCHERI (Prof., Norwegian Univ. of Science & Technology, Norway)
PL Pioty GAWRYSIAK (Prof., Warszawa University of Technology, Poland)
SG Henry DUH (A/Prof., National University of Singapore, Singapore)
SW pending (proposed: Dr. Bob SUMMER, Switzerland)
US Magy SEIF EL-NASR (A/Prof., Northeastern University, US)

Next TC14 Chair:
Present TC14 Chair, Ryohei NAKATSU, Professor at National University of Singapore, has served as TC14 Chair since September 2008. Based on the IFIP bylaws, the maximum duration of the term of each TC chair is 4 years and therefore his term expires at the end of August 2012. Therefore TC14 should elect new TC14 Chair based on IFIP bylaws. We had a election of next TC14 Chair at our TC14 meeting held on 1 June 2012 at Bremen, Germany. As a result of the election, Matthias RAUTERBERG, Professor at Eindhoven University of Technology, The Netherland, was elected as next TC14 Chair. His chairmanship will become effective once this result would be approved at IFIP TA and GA. And at the next TC14 meeting he will nominate new TC14 Vice Chair and Secretary.

3.2 TC members

The TC members as of 31st August 2012 are shown below.

TC officers
Chair Ryohei NAKATSU (Prof., National University of Singapore)
Vice-chair  Matthias RAUTERBERG (Prof., Eindhoven Univ. of Technology)
Secretary  Tim MARSH (Dr., National University of Singapore)

National Representative
1  Austria  Peter PURGATHOFER (Prof., Vienna University of Technology)
2  Belgium  David GEERTS (Dr., K.U. Leuven)
3  Brazil  Esteban CLUA (Assoc Prof., Universidade Federal Fluminense)
4  Bulgaria  Zlatogor MINCHEV (Assoc Prof., Bulgarian Academy of Sciences)
5  Canada  Sidney FELS (Prof., University of British Columbia)
6  China  Zhigeng PAN (Prof., Zhejiang University)
7  Czech  David OBDRZALEK (Dr., Charles University)
8  Finland  Ville-Veikko MATTILA (Dr., Nokia Research Center)
9  France  Stephane NATKIN (Prof., CNAM/ENJMIN)
10 Germany  Rainer MALAKA (Prof., University of Bremen)
11 Greece  Nikitas SGOUROS (Prof., University of Piraeus)
12 Hungary  Barnabas TAKACS (Dr., Hungarian Academy of Sciences)
13 Ireland  Richard REILLY (Prof., University College of Dublin)
14 Italy  Paolo CIANCARINI (Prof., University of Bologna)
15 Japan  Junichi HOSHINO (Assoc Prof., Tsukuba University)
16 Korea  Hyun S. YANG (Prof., KAIST)
17 Netherlands  Matthias RAUTERBERG (Prof., Technical University of Eindhoven)
18 Norway  Letizia JACCHERI (Prof., Norwegian Univ. of Science & Technology)
19 Portugal  Nuno CORREIA (Prof., New University of Lisbon)
20 Singapore  Henry DUH (Assoc Prof., National University of Singapore)
21 Spain  Pedro GONZALEZ CALERO (Prof., Complutense Univ. of Madrid)
22 Thailand  Natanicha CHORPOTHONG (Dr., Assumption University)
23 United Kingdom  Marc CAVAZZA (Prof., University of Teesside)
24 Zambia  Milner MAKUNI (Mr., Afriswitch PVT Limited)

WG Officers
WG14.1 chair:  Marc CAVAZZA (Prof., University of Teesside)
WG14.2 chair:  David OBDRZALEK (Prof., Charles University)
WG14.3 chair:  Matthias RAUTERBERG (Prof., Technical University of Eindhoven)
WG14.4 chair:  Stephane NATKIN (Prof., CNAM)
WG14.5 chair:  Lynne BAILLE (A/Prof., Glasgow Calendonian University)
WG14.6 chair:  Lyn PEMBERTON (Reader, University of Brighton)
WG14.7 chair:  Naoko TOSA (Prof., Kyoto University)

Observers
IEEE Computer Science  Miguel ENCARNACAO (Dr., Imedia Inc.)
DiGRA:  Tony MANNINEN (Prof., University of Oulu)

Honorary Members
JP:  Takehiko KAMAE (Dr., National Institute of Technology)
US  Don MARINELLI (Dr., Prof Emeritus, Carnegie Mellon University)
US  Nahum GERSHON (Dr., MITRE)

4. TC14 conferences held since last report

2012 Report to General Assembly and Technical Assembly (R. Nakatsu)
4.1 Sponsored events

4.1.1 ICEC 2011

The 10th International Conference on Entertainment Computing
Simon Fraser University, Vancouver, Canada
October 05 – 08, 2011

General Chairs: Sidney Fels (University of British Columbia, Vancouver, BC, Canada)
               Magy Seif El-Naser (SFU, Vancouver, BC, Canada)
Conference Advisory Committee:
   Ryohei Nakatsu, National University of Singapore
   Matthias Rauterberg, Technical University of Eindhoven
Technical Paper Chairs:
   Junia Anacleto (Federal University of Sao Carlos, SP, Brasil)
   Nick Graham (Queens University, Kingston, ON, Canada)

4.2 Co-Sponsored events

4.2.1 Culture and Computing 2011

The Second International Conference on Culture and Computing
October 20 – 22, 2011
Kyoto, Japan
Conference Co-Chairs: Kozaburo Hachimura (Ritsumeikan University, Japan)
                     Toru Ishida (Kyoto University, Japan)
                     Naoko Tosa (Kyoto University, Japan)

5. TC14 conferences to be held

5.1 Sponsored events

5.1.1 ICEC2012

The 11th International Conference on Entertainment Computing (ICEC2012)
September 26 - 29, 2012
University of Bremen, Bremen, Germany
General Chair: Rainer Malaka (University of Bremen, Germany)
Conference Advisory Committee:
   Ryohei Nakatsu, National University of Singapore
   Matthias Rauterberg, Technical University of Eindhoven
Paper Chair: Maic Masuch, University of Duisburg-Essen
Workshop Chairs:
   Lynne Baillie, Glasgow Caledonian University
   Rod McCall, Universitat du Luxembourg
Social Media Chair: Lennart Nacke, University of Ontario Institute of Technology
Organization Committee:
5.2 Co-sponsored Events

The following conferences will be held as IFP TC14 co-sponsored events. The details of the conference will be decided soon and appear on their web site.

1. EuroITV2013
2. Edutainment2013
3. ACE2012
4. Culture and Computing 2013

6. Other TC14 activities

6.1 Conference Proceedings

The proceedings of ICEC2011 have been published from Springer as one of the LNCS series. The proceedings of ICEC2012 will be published from Springer as one of the LNCS series.

6.2 Publications

In 2009 TC14 and Elsevier started a new International Journal on ‘Entertainment Computing’. Contracts have been signed and exchanged between IFIP, IFIP TC14 and Elsevier. Also we have composed a group of Editors-in-Chief, Co-Editors-in-Chief and Associate Editors. Already several issues of the journal have been published.

Working Groups

1. WG14.1 Digital Storytelling

Chair: Marc CAVAZZA (Prof., University of Teesside, UK)

(a) Meetings
WG14.1 meeting was held during the Fourth International Conference on Interactive Digital Storytelling (ICIDS 2011) that was held in Vancouver, Canada on November 28 – December 01, 2011. Next WG14.1 meeting will be held in Bremen, Germany on September 26-29, 2012 during ICEC2012.
(b) Members
Stephane Natkin (FR), Stephane Donikian (FR), Ana Paiva (PT), Nuno Correia (PT), Michael Young (US), Ulrike Spierling (D), Nicolas Szilas (CH), Federico Peinado (ES)

(c) Events
Third International Conference on Interactive Digital Storytelling (ICIDS 2011)
Dates: November 28 – December 01, 2011
Venue: Vancouver, Canada
General Chairs: Mei Si, David Thue
Program Chairs: Elisabeth Andre, James Lester
Local Arrangements Chair: Joshua Tanenbaum
Workshops Chair: Voronica Zammitto

2. WG14.2 Entertainment Robot

Chair: David OBDRZALEK (Dr., Charles University, Czech)

(a) Meetings
WG14.2 meeting was held during EUROBOT 2012. Next WG14.2 meeting will be held in Bremen, Germany on September 26 - 29, 2012 during ICEC2012.

(b) Events
EUROBOT 2012

3. WG14.3 Theoretical Basis of Entertainment

Chair: Matthias RAUTERBERG (Prof., Eindhoven University of Technology, Netherlands)

(a) Meetings
WG14.3 meeting was held in Vancouver, Canada on October 05 - 08, 2011 during ICEC2011 in conjunction with TC14 meeting. Next WG14.3 meeting will be held in Bremen, Germany on September 26 - 29, 2012 during ICEC2012.

(b) Members
Matteo Bittanti (ITALY), Johanna Blakley (USA), Brad Bushman (USA), Suely Fragoso (BRAZIL), Jeanne B. Funk (USA), Susan Gold (USA), Haruhiro Katayose (JAPAN), Fátima Lasay (PHILIPPINE), Noriko Nagata (JAPAN), Bary W. Pollack (USA), Matthias Rauterberg (NETHERLANDS), Bill Swartout (USA), Peter Vorderer (USA/GERMANY)
Observers: Jason Della Rocca (CANADA), Jeffrey Goldstein (NETHERLANDS)

(c) Events

4. WG14.4 Games and Entertainment Computing

Chair: Stephane NATKIN (Prof., CNAM, France)
(a) Meetings
WG14.4 meeting was held in Vancouver, Canada on October 05 - 08, 2011 during ICEC2011 in conjunction with TC14 meeting. Next WG14.4 meeting will be held in Bremen, Germany on September 26 - 29, 2012 during ICEC2012.

(b) Members
Jaap Van Den Herik (chair), Hiroyuki Iida (vice-chair), Jos Uiterwijk (secretary), Brad Bushman, Paolo Ciancarini, Pedro Gonzalez-Calero, Wijnand IJsselsteijn, Graham Kendall, Jong Weon Lee, Andre Melzer, Anton Nijholt, Abdennour El Rhalibi, Timothy Roden, Jonathan Schaeffer, Pieter Spronck, Mark Winands, Woontak Woo, Hyun S. Yang

(c) Events

5. WG14.5 Social and Ethical Issues in Entertainment Computing

Chair: Lynne BAILLIE (A/Prof., Glasgow Calendonian University, UK)

(a) Meetings
WG14.4 meeting was held in Vancouver, Canada on October 05 - 08, 2011 during ICEC2011 in conjunction with TC14 meeting. Next WG14.4 meeting will be held in Bremen, Germany on September 26 - 29, 2012 during ICEC2012.

(b) Members
Claire Dormann (CA), Porfirio Barroso Asenjo (ES), Lynne Baillie (GB), Christopher Zielinski (GB), Suzana Stojakovic-Celustka (HR), Ryohei Nakatsu (SG), Brad Bushman (US), Jeanne Funk (US)

(c) Events

6. WG14.6 Interactive TV

Chair: Lyn PEMBERTON (Dr., University of Brighton, UK)

(a) Meetings
WG14.6 meeting was held in Vancouver, Canada on October 05 – 08, 2011 in conjunction with TC14 meeting. Also another WG14.6 meeting was held in Berlin, Germany on July 04 - 06, 2012 during EuroITV2012. Next WG14.6 meeting will be held in Bremen, Germany on September 26 - 29, 2012 during ICEC2012.

(b) Members
Pablo Cesar (secretary, The Netherlands), Konstantinos Chorianopoulos (vice-chair, Germany), Owen Daly-Jones (UK), Mike Darnell (USA), Luis Fernando Gomes Soares (Brazil), David Geerts (Belgium), Shang Hsu (Taiwan), Jens F Jensen (Denmark), Tibor Kunert (Germany), Georgios Lekakos (Greece), Artur Lugmayr (Finland), Judith Masthoff (UK), Marianna Obrist (Austria), Lyn Pemberton (chair, UK), Célia Quico (Portugal), Mark Springett (UK), Zhang Liping (China)

(c) Events
7. WG14.7 Art and Entertainment

Chair: Naoko TOSA (Prof., Kyoto University, Japan)

(a) Meetings
WG14.7 meeting was held in Vancouver, Canada on October 05 – 07, 201 in conjunction with TC14 meeting. Next WG14.7 meeting will be held in Bremen, Germany on September 26 - 29, 2012 during ICEC2012.

(b) Members
Gerfried Stocker (Austria), Christian Warocquier (France), Gert van Tonder (Japan), Michihiko Mihoh (Japan), Soh Yeong Roh (Korea), Roy Ascott (UK), Bryan Loyall (USA), Claudio Pinhanez (USA), Erriki Hutamo (USA), Hisham M Bizri (USA), Jeffrey Huang (USA), Newton Lee (USA), Rod Brooks (USA), Scott Fischer (USA)

(c) Events
The Second International Conference on Culture and Computing
Date: October 20 - 22, 2011
Venue: Kyoto University, Kyoto, Japan
Honorary Chairs: Alan Kay (Viewpoints Research Institute, USA) Mokoto Nagao (National Diet Library, Japan)
Conference Co-Chairs: Kozaburo Hachimura (Ritsumeikan University, Japan) Toru Ishida (Kyoto University, Japan) Naoko Tosa (Kyoto University, Japan)
Part 2: Technical Assembly 2012 (Amsterdam, The Netherland)

TC14 Members (2012)

Officers

Chairman
Singapore Ryohei NAKATSU (Prof., National University of Singapore)

Vice-Chair
The Netherlands Matthias RAUTERBERG (Prof., Eindhoven University of Technology)

Secretary
Australia Tim MARSH (Senior Lecturer, James Cook University)

National Representatives

Australia (to be nominated)
Austria Helmut HLVACS (Prof., University of Vienna) [replaced]
Belgium David GEERTS (Dr., KU Leuven) [new]
Brazil Esteban CLUA (A/Prof. Universidade Federal Fluminense) [new]
Bulgaria Zlatogor MINCHEV (Prof., Bulgarian Academy of Sciences) [replaced]
Canada Sidney FELS (Prof., University of British Columbia)
China Zhigeng PAN (Prof., Zhejiang University)
Czech David OBDRZALEK (Dr., Charles University)
Denmark (to be nominated)
Finland Arthur LUGMAYR (Prof., Tempere University of Technology) [replaced]
France Stephane NATKIN (Prof., CNAM)
Germany Rainer MALAKA (Prof., University of Bremen)
Greece Nikitas SGOUROS (Prof., University of Piraeus) [new]
Hungary Barnabas TAKACS (Dr., Hungarian Academy of Sciences)
Ireland Mads HAAHR (A/Prof., Trinity College Dublin) [replaced]
Italy Paolo CIANCARINI (Prof., University of Bologna)
Japan Junich HOSHINO (A/Prof., Tsukuba University)
Korea Hyun S. YANG (Prof., KAIST)
Malaysia (to be nominated)
Netherlands Matthias RAUTERBERG (Prof., Technical University of Eindhoven)
New Zealand (to be nominated)
Norway Letizia JACCHERI (Prof., Norwegian Univ. of Science & Technology)[replaced]
Poland Piotry GAWRYSIAK (Prof., Warsaw University of Technology) [replaced]
Portugal Nuno CORREIA (Prof., New University of Lisbon)
Singapore Henry DUH (A/Prof., National University of Singapore) [replaced]
Spain Pedro GONZALEZ CALERO (Prof., Complutense University of Madrid)
Switzerland (to be nominated)
Thailand Natanicha CHORPOTHONG (Dr., Internet Association)
United Kingdom Marc CAVAZZA (Prof., University of Teesside)
US-ACM Magy SEIF EL-NASR (A/Prof., Northeastern University) [replaced]
Zimbabwe Miler MAKUNI (Mr., Afriswitch PVT Limited)

WG14.x Chair persons

2012 Report to General Assembly and Technical Assembly (R. Nakatsu)
WG14.1   Marc Cavazza
WG14.2   David Obdzalek
WG14.3   Matthias Rauterberg
WG14.4   Stephane Natkin
WG14.5   Lynne Baillie
WG14.6   Lyn Pemberton
WG14.7   Naoko Tosa

Observers

IEEE Computer Science               Miguel Encarnacao (Dr., Imedia Inc.)
DiGRA:                               Tony Manninen (Prof. University of Oulu)

Honorary Members

Japan:                                 Takehiko Kamae (Dr., National Institute of Technology)
US:                                     Don Marinelli (Prof. Emeritus, Carnegie Mellon University
US:                                     Nahum Gershon
## TC14 Meetings: Attendance

| Nation         | Year | 02 | 03/1 | 03/2 | 04/1 | 04/2 | 05/1 | 05/2 | 06/1 | 06/2 | 07/1 | 07/2 | 08/1 | 08/2 | 09/1 | 09/2 | 10/1 | 10/2 | 11/1 | 11/2 | 12/1 | Total |
|----------------|------|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| Australia      |      |    |      |      | a    | a    | a    | a    | -    | -    | p    | P    | 1    |      |      |      |      |      |      |      |      |       |       |
| Austria        |      |    |      |      |      | -    | -    | -    | a    | a    | a    | a    | a    | a    | a    | a    | -    | -    | -    | -    | -    | 3     |
| Belgium        |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0     |
| Brazil         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1     |
| Bulgaria       |      |    |      |      | a    | a    | a    | a    | a    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 0     |
| Canada         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 7     |
| Czechia        |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 8     |
| Finland        |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 5     |
| France         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2     |
| Germany        |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 9     |
| Greece         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 7     |
| Hungary        |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2     |
| Ireland        |      |    |      |      |      |      |      | a    | a    | a    | a    | a    | a    | a    | a    | a    | a    | a    | a    | a    | a    | 0     |
| Italy          |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 6     |
| Japan          |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 18    |
| Korea          |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 11    |
| Netherlands    |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 18    |
| Norway         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1     |
| Poland         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1     |
| Portugal       |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1     |
| Singapore      |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 11    |
| Spain          |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2     |
| Thailand       |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0     |
| United Kingdom |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 10    |
| USA-ACM        |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 11    |
| USA-IEEE       |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 5     |
| Zambia         |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0     |
| WG14.1 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 10    |
| WG14.2 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 12    |
| WG14.3 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 18    |
| WG14.4 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 11    |
| WG14.5 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 6     |
| WG14.6 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 5     |
| WG14.7 Chair   |      |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 11    |

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* + representative attended — a apologies — p proxy — o observer*