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1. Meeting Attendees

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Company</th>
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</thead>
<tbody>
<tr>
<td>Arora</td>
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<td>Bellin</td>
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<tr>
<td>Cherian</td>
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<td>Mathworks</td>
</tr>
<tr>
<td>Fertitta</td>
<td>Kirk</td>
<td>Pacific MindWorks</td>
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<tr>
<td>Harvey</td>
<td>John</td>
<td>Keysight</td>
</tr>
<tr>
<td>Helsel</td>
<td>Bob</td>
<td>Bode Enterprises LLC</td>
</tr>
<tr>
<td>Homan</td>
<td>Deborah</td>
<td>Keysight</td>
</tr>
<tr>
<td>Lopes</td>
<td>Teresa</td>
<td>Teradyne</td>
</tr>
<tr>
<td>Mondrik</td>
<td>Dan</td>
<td>National Instruments</td>
</tr>
<tr>
<td>Mueller</td>
<td>Joe</td>
<td>Keysight</td>
</tr>
<tr>
<td>Rohacek</td>
<td>David</td>
<td>National Instruments</td>
</tr>
<tr>
<td>Schink</td>
<td>Steve</td>
<td>Keysight</td>
</tr>
<tr>
<td>Wang</td>
<td>Ted (Ping Chuan)</td>
<td>National Instruments</td>
</tr>
<tr>
<td>Wolle</td>
<td>Jochen</td>
<td>Rohde &amp; Schwarz</td>
</tr>
</tbody>
</table>

Call-in attendees:
Adhikari Pankaj National Instruments
Lessard Courtney National Instruments
2. VISA.NET Working Group

**General Meeting Info:**

- **Date of Meeting:** October 15, 2014
- **Location:** Washington DC
- **Chairperson:** John Harvey
- **Minutes Prepared By:** John Harvey

**Meeting Attendees:**

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>John Harvey</td>
<td>Keysight Technologies</td>
<td><a href="mailto:john_harvey@keysight.com">john_harvey@keysight.com</a></td>
</tr>
<tr>
<td>John Ryland</td>
<td>Keithley</td>
<td><a href="mailto:jryland@keithley.com">jryland@keithley.com</a></td>
</tr>
<tr>
<td>Anshul Arora</td>
<td>Tektronix</td>
<td><a href="mailto:anshul@tek.com">anshul@tek.com</a></td>
</tr>
<tr>
<td>Kirk Fertitta</td>
<td>PMW</td>
<td><a href="mailto:kirk@pacificmindworks.com">kirk@pacificmindworks.com</a></td>
</tr>
<tr>
<td>Vinod Cherian</td>
<td>MathWorks</td>
<td><a href="mailto:vinod.Cherian@mathworks.com">vinod.Cherian@mathworks.com</a></td>
</tr>
<tr>
<td>Teresa Lopes</td>
<td>Teradyne</td>
<td><a href="mailto:teresa.lopes@teradyne.com">teresa.lopes@teradyne.com</a></td>
</tr>
<tr>
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<td><a href="mailto:jochen.wolle@rohde-schwarz.com">jochen.wolle@rohde-schwarz.com</a></td>
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<td>National Instruments</td>
<td><a href="mailto:jon.bellin@ni.com">jon.bellin@ni.com</a></td>
</tr>
<tr>
<td>David Rohacek</td>
<td>National Instruments</td>
<td><a href="mailto:david.rohacek@ni.com">david.rohacek@ni.com</a></td>
</tr>
<tr>
<td>Dan Mondrik</td>
<td>National Instruments</td>
<td><a href="mailto:dan.mondrik@ni.com">dan.mondrik@ni.com</a></td>
</tr>
<tr>
<td>Ted Wang</td>
<td>National Instruments</td>
<td><a href="mailto:ted.wang@ni.com">ted.wang@ni.com</a></td>
</tr>
<tr>
<td>Bob Helsel</td>
<td>IVI Foundation</td>
<td><a href="mailto:bob.helsel@ivifoundation.org">bob.helsel@ivifoundation.org</a></td>
</tr>
<tr>
<td>Joe Mueller</td>
<td>Keysight Technologies</td>
<td><a href="mailto:joe.mueller@keysight.com">joe.mueller@keysight.com</a></td>
</tr>
<tr>
<td>Pankaj Adhikari (phone)</td>
<td>National Instruments</td>
<td><a href="mailto:Pankaj.adhikari@ni.com">Pankaj.adhikari@ni.com</a></td>
</tr>
</tbody>
</table>

**Agenda:**

- Action Item Review
- VISA.NET Schedule
  - Specification Changes
  - Shared Components
  - Installers
- Review Issues and Defects
  - (Note that this continues WG phone meeting discussions)

**Old Action Items**

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<thead>
<tr>
<th>Date Added</th>
<th>Description</th>
<th>Assigned To / Updates</th>
<th>Target Date</th>
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IVI Foundation Meeting Minutes 3 Feb. 2014
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Assignee</th>
<th>Status</th>
<th>Date</th>
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<tbody>
<tr>
<td>2014-05-20</td>
<td>Set up weekly phone meetings between now and the next meeting, starting June 5.</td>
<td>John Harvey</td>
<td>DONE</td>
<td>2014-05-28</td>
</tr>
<tr>
<td>2014-02-06</td>
<td>WRT the Scanf comment, integrate changes suggested by NI to the existing source.</td>
<td>Kirk Fertitta</td>
<td></td>
<td>2014-02-27</td>
</tr>
<tr>
<td>2014-02-06</td>
<td>WRT the Scanf comment, try to achieve the desired timeout behavior by modifying the MessageBasedReaderWriter class.</td>
<td>Kirk Fertitta, Dan Mondrik, Pankaj Adhikari</td>
<td></td>
<td>2014-03-13</td>
</tr>
<tr>
<td>2014-04-10</td>
<td>Review &amp; address TODOs in the GRM code.</td>
<td>Pankaj Adhikari</td>
<td>DONE</td>
<td>2014-05-08</td>
</tr>
<tr>
<td>2014-04-24</td>
<td>Modify the IviPiaRegistration.bat file to remove the “/codebase” from the regasm command.</td>
<td>Pankaj Adhikari</td>
<td></td>
<td>By next release of VISA SC</td>
</tr>
<tr>
<td>2014-06-19</td>
<td>Take a look at the Printf overloads and agree to go with what is in the source or not (depending on whether specifying some discrete parameters gives us better performance).</td>
<td>All</td>
<td>2014-07-10 - DONE</td>
<td>2014-07-10</td>
</tr>
<tr>
<td>2014-06-19</td>
<td>Take a look at the description of precision modifier and decide how to give an accurate description of how it behaves for various numeric format types.</td>
<td>All</td>
<td></td>
<td>2014-07-10</td>
</tr>
<tr>
<td>2014-05-20</td>
<td>Finish “internal” installer for VISA Shared Components that includes the new conflict manager code.</td>
<td>Pankaj Adhikari</td>
<td>DONE</td>
<td>2014-06-05</td>
</tr>
<tr>
<td>2014-05-20</td>
<td>Notify John Harvey, Kirk Fertitta, Archana Akkalkot, and Guido Kiener that the new VISA and VISA.NET Shared Components are available for internal testing.</td>
<td>Dan Mondrik</td>
<td>DONE</td>
<td>2014-06-05</td>
</tr>
<tr>
<td>2014-07-24</td>
<td>John will check to see what the VISA C behavior of viScanf(“%s”) when a newline immediately follows the end of the string to be read.</td>
<td>John Harvey</td>
<td>2014-09-04 - Added VISA C and ANSI C code and results to WIT</td>
<td>2014-08-14</td>
</tr>
</tbody>
</table>
### VISA.NET Schedule.

#### Specification Changes

- **Non-trivial changes to VPP-4.3.6. Ted read a list of changes.**
- **There were a couple of changes that are “minor”, but since the VISA.NET Shared Components have not been released, we cannot break backwards compatibility.**
- **Because there are quite a few changes, we will update the revision to 5.5 and run a minor change review and approval process.**
- **We are still reviewing issues that we collected from testing the first draft of the VISA.NET Shared Components – this could result in more spec changes.**

#### Shared Components

- **We have draft components – both VISA and VISA.NET.**
- **Testing**
  - Keysight integrated the components into IO Libraries for testing purposes and done a fairly complete set of tests based on that.
  - PMW has integrated into VISA.NET installer that is part of Nimbus 4. Kirk has not seen any issues to date.
  - NI is still in the process of testing.
- **Need to finish reviewing issues before we can finalize.**
- **We also need to review all bugs and decide which need to be fixed.**

#### Installers

- **We have draft installers.**

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<table>
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<th>Date</th>
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<th>Responsible</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-08-28</td>
<td>John will transfer VISA.NET FogBUGZ issues that are not already resolved to VISA.NET TFS project WIT, and close all VISA.NET FogBUGZ issues.</td>
<td>John Harvey</td>
<td>2014-09-04</td>
</tr>
<tr>
<td>2014-08-14</td>
<td>Add missing format flags to format specifier tables and describe behavior</td>
<td>John Harvey/Kirk Fertitta</td>
<td>2014-09-04</td>
</tr>
<tr>
<td>2014-08-14</td>
<td>IDisposable needs to added to IResourceManager in 4.3.6 - will be a subsequent editorial change along with all of the other editorial changes.</td>
<td>John Harvey</td>
<td>2014-08-28</td>
</tr>
</tbody>
</table>

Check. See WIT items in VISA.NET TFS project.
• There is an issue with inconsistent versions in the COM IDL and PIA in the current installer that we expect to fix in this version. This issue will be fixed by bumping all of the version numbers to 5.5. John and NI will cooperate to create the new components.

• There is an issue that pdb files are not available for vendor debugging. They must be generated at the same time as other components, not after the fact. John and NI will cooperate to make sure that pdb files are available for shipping DLLs.

Schedule

• John proposed meeting weekly at the regular time (Thursdays @ 10 Mountain). The group agreed to this schedule.

• At our current pace we will not release shared components for a while. PMW would like to be able to ship components by the first of the year.

• We agreed to go through the entire list of bugs and defects and decide which need to fixed in the first release. We will deal with the rest later.

• We will have a two week review period for the shared components once the changes we agree on are complete.

• We will quickly prioritize defects before trying to pin down dates.

Review Issues and Defects

TFS Issue/Bug review

We reviewed the list of defects and prioritized ones that needed to be dealt with in the first release.

10, 11, 14, 21: All currently open “High” bugs need to be addressed. Kirk will review them.

36 - WG consensus - We should throw - convert to a medium defect long term, however in the short term note in the spec that the results may be undefined.

37 - WG consensus - Convert to a medium defect long term, however in the short term note in the spec that the results may be undefined.

41 – This is a feature that should be added. Leave it open.

49 - Ted will investigate what NI VISA does. No consensus at this time. Off the cuff, does not seem like a show stopper. Leave it open.

38, 42, 43, 46, 49, 50, 51, 52, 53, 56, 57 – Closed. No action necessary.

58 – WG - Printf truncates when converting a real to an integer. Scanf rounds reals before assigning them to out integers. The spec has been modified accordingly. We need to determine what VISA.NET actually does before we know if any change is needed to VISA.NET. WG - Printf truncates when converting a real to an integer. Scanf rounds reals before assigning them to out integers. The spec has been modified accordingly. Leave open.

59 – WG - The spec already does not list real types for use with @H, @Q, and @B. In the short term in these cases the spec will say that the results may be undefined. We also agreed that @1 will be undefined. However, we will leave this issue open to make sure that we deal with the broader issue
of what Scanf consumes from the buffer when a format specifier type or flag indicates an integer but the buffer contains a float.

Issue Review to date:

We have reviewed the following items: 51, 52, 53, 13, 25, 26.

13, 53, 25 - Closed.

26 - More investigation into cases where the format type is real, and into NI VISA behavior.

51 - Tentative consensus pending agreement from Jonathan Newton.

52 - Consensus to change 4.3.5 - will close when change has been made.

58, 59 - Added. Both of these issues apply to cases where an integer “@” flag is used with a real format specifier.

Meeting Schedule

The next phone meeting will be October 23, 2014. We will have meetings weekly. John will send out a reminder, and set up the weekly meetings starting on that date. The normal time is 9:00 Mountain time on Thursdays. No meetings on:

11/13: John Harvey is travelling

11/27: Thanksgiving

12/25: Christmas

01/01: New Year’s Day

New Action Items

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<tr>
<td>Date</td>
<td>Task Description</td>
<td>Responsible(s)</td>
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<td>All</td>
<td>2014-07-10</td>
</tr>
<tr>
<td>2014-10-15</td>
<td>Finish reviewing VPP-4.3.6, 4.3.5, and 4.3.4</td>
<td>John &amp; Pankaj</td>
<td>11/13/2014</td>
</tr>
<tr>
<td>2014-10-15</td>
<td>Run Review Process on v. 5.5 spec changes</td>
<td>Dan</td>
<td>12/31/2014</td>
</tr>
<tr>
<td>2014-10-15</td>
<td>Fix COM IDL/PIA versions to 5.5</td>
<td>John</td>
<td>11/1/2014</td>
</tr>
<tr>
<td>2014-10-15</td>
<td>Create defects for TFS issues 36 and 37, and close the issues.</td>
<td>John</td>
<td>10/23/2014</td>
</tr>
<tr>
<td>2014-10-15</td>
<td>Determine the best technique for indicating that WIT items have been intentionally postponed.</td>
<td>Kirk &amp; John</td>
<td></td>
</tr>
</tbody>
</table>
3. IVI Marketing

**General Meeting Info:**
- **Date of Meeting:** October 16, 2014
- **Location:** Washington DC
- **Chairperson:** TBD at Board meeting
- **Minutes Prepared By:** Bob Helsel

**Meeting Attendees:**

<table>
<thead>
<tr>
<th>Name</th>
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<td>Keysight Technologies</td>
<td><a href="mailto:john_harvey@keysight.com">john_harvey@keysight.com</a></td>
</tr>
<tr>
<td>John Ryland</td>
<td>Keithley</td>
<td><a href="mailto:jryland@keithley.com">jryland@keithley.com</a></td>
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<td>National Instruments</td>
<td><a href="mailto:Pankaj.adhikari@ni.com">Pankaj.adhikari@ni.com</a></td>
</tr>
</tbody>
</table>

**Agenda:**

- Review Marketing Plan Proposal: Bob Helsel
  
  ![IVI Marketing Plan 2015_final.docx]

  Bob Outlined the plan and there was feedback recorded in the marketing plan document above.

**Goals:**

1. Communicate IVI driver basics to demonstrate the savings in cost and time, and improvement in quality to test system developers.
2. Promote IVI Web Forum to address support issues in the use of drivers.

**Tactics:**
Note: The priority and order of execution is indicated by the numbering.

1a. Update IVI Getting Started Guide
1b. update GSG videos
2. Videotape IVI Instrument Driver Fundamentals Course
3. Commit to IVI participation in LXI Newsletter
4. Two presentations at Autotestcon

Total cost: $12,200

Note: Bode Ent. reserves the right to raise the quotation up to $2k, if work exceeds expectations in terms of time required.

Discussion: General agreement with plan and will consider funding in the Board meeting. Jochen will get a quote on translation costs into Chinese for revised GSG, and we will review that item when we have that information. Bob will look into the costs associated with a webinar, and we also will consider that later in the year.
4. Technical Committee

**General Meeting Info:**
- **Date of Meeting:** October 16, 2014
- **Location:** Washington D.C.
- **Chairperson:** Jon Bellin
- **Minutes Prepared By:** David Rohacek

**Topics To Be Discussed:**

- Review Agenda
- Review Voting Members In Attendance
- Patent Call
- Approve minutes from the May 2014 Technical Committee Meeting
- Review outcome of recent eVotes, IPR Declarations, Editorial Changes, and Reviews
- Review Action Items from Previous Meeting
- Review Spec Status Document
- Working Group Topics
  - Discuss multiple changes in IVI-3.17: Installation Requirements Specification
  - IVI.NET Driver Side-by-Side Installation
  - Adding parentheses around FwkVerShortName
  - Removing parentheses from around FullVersion in Component Version-Specific Directories
- Discuss Minor changes in VISA specs (VPP-4.3.5 and VPP-4.3.6)
- New Business
  - Interpretation of IVI Foundation License Agreement
  - IVI.NET Configuration Server
  - Windows 10
- Discuss Upcoming Meetings
- New Action Items

**Voting Members In Attendance**

<table>
<thead>
<tr>
<th>Present</th>
<th>Organization Name</th>
<th>Name</th>
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<tbody>
<tr>
<td></td>
<td>Aeroflex Corporation</td>
<td>Mark Meldrum / Marv Rosner</td>
</tr>
<tr>
<td>X</td>
<td>Keysight Technologies</td>
<td>Joe Mueller</td>
</tr>
<tr>
<td>Present</td>
<td>Organization Name</td>
<td>Name</td>
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<tr>
<td></td>
<td>Bustec Ltd.</td>
<td>Fred Bloennigen</td>
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<tr>
<td>X</td>
<td>EADS North America Test &amp; Services</td>
<td>Dan Masters</td>
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<td>Keithley Instruments</td>
<td>John Ryland</td>
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<td>MathWorks</td>
<td>Rob Purser / Vinod Cherian</td>
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<td>Sangram Gaikwad / Tom Sarfi</td>
</tr>
</tbody>
</table>

There are 8 voting members in attendance, which satisfies the requirements for a quorum of 4 Voting Members. (Quorum is 25% of Voting Members. There are currently 13 Voting Members.)

**Patent Call**

Please be aware that this meeting is being held under the Intellectual Property Rights policy adopted by IVI Foundation. If you do not have a copy of this policy, please see me during this meeting. You may also view and download a copy of that policy at the Organization>>Legal Documents section of the Consortium website.

At this time, I would ask that anyone in attendance inform me if they are personally aware of any claims under any patent applications or issued patents that would be likely to be infringed by an implementation of the specification or other work product that is the subject of this meeting. You need not be the inventor of such patent or patent application in order to inform us of its existence, nor will you be held responsible for expressing a belief that turns out to be inaccurate.

**Approve minutes from the May 2014 Technical Committee Meeting**

The minutes from the May 2014 Technical Committee Meeting are posted on the IVI Foundation web site.
No issues were brought up with the minutes. The minutes are accepted.

*Review outcome of recent IPR Declarations, eVotes, and Reviews*

**eVote Results**

On June 27th, Vesna Jadric announced IVI Foundation eVote Notification results via the email below.

---

From: <vesna.jadric@ni.com>
To: IVI-Foundation-Members-1@ivifoundation.org
Date: 06/27/2014 04:01 PM
Subject: IVI Foundation eVote Notification Results

I am pleased to announce that all three resolutions from the recent IVI Foundation Technical Committee eVote have been approved. Thank you for your prompt replies. Here are the results:

Resolution (2014-06-19:#1): Approve the new VPP 4.3.6, VISA.NET Specification, and the associated changes to VPP 4.3.5, VISA Shared Components Specification, in accordance with resolution 2010-06-09:#06.

Result: 8 YES votes


Result: 8 YES votes


Result: 8 YES votes

---

I will enter these results into the meeting minutes of the upcoming October IVI Technical Committee meeting.

Best Regards,
Vesna Jadric
The VPP-4.3, VPP-4.3.2, VPP-4.3.5, VPP-4.3.6, and IVI-3.14 specifications have been posted.

IVI-3.17 Editorial Change

On August 27th, Vesna Jadric announced IVI-3.17 Editorial Change via the email below.

The review period for the IVI-3.17 editorial change has ended without objections. The editorial changes are accepted and have been posted.

IVI-3.15 Editorial Change

On September 22nd, John Harvey announced IVI-3.15 Editorial Change via the email below.

The review period for this editorial change is August 27 - September 5, 2014.

Please contact me with any feedback.

Best Regards,

Vesna Jadric
Instrument Drivers/IVI | National Instruments | 512-683-5360
Greetings,

At the May, 2014 IVI Foundation meeting in Singapore, we determined that some COM enumeration names (defined values) for Arm and Trigger Source properties in the LXI Sync Specification were incorrect. The updated specification and associated change document are now posted for review at http://www.ivifoundation.org/membership/committees/iviCOM/Default.aspx. Note that this change does not affect the LxiSync COM shared component, as the names used there were already correct.

The review period for this editorial change is September 22 – October 7, 2014.

Please contact me with any feedback.

Best Regards,
John Harvey

Keysight Technologies, Inc.
970 679 3535

The review period for the IVI-3.15 editorial change has ended without objections. The editorial changes are accepted and have been posted.

**Review Action Items from May 2014 Meeting**

<table>
<thead>
<tr>
<th>Owner</th>
<th>Action Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vesna Jadric</td>
<td>Record all resolutions in the lifecycle document.</td>
<td>[05/23/2014] Complete.</td>
</tr>
<tr>
<td>Vesna Jadric</td>
<td>Vesna to run an eVote on the VPP-4.3, VPP-4.3.2, VPP 4.3.5, and VPP-4.3.6 specifications after the completion of the VPP-4.3.6 IPR Declaration review period.</td>
<td>[06/27/2014] Complete.</td>
</tr>
<tr>
<td>David Rohacek</td>
<td>David and Dan to implement and send for review the updated IVI Shared Components and VISA Shared Components installers to implement resolution 2014-02-07#4, so they can be posted as soon as possible after the eVote.</td>
<td>[10/16/2014] Waiting to release ISC 2.3.0 until we implement the agreed-upon policy file changes necessary to address a customer issue reported by Laurent on the</td>
</tr>
<tr>
<td>Owner</td>
<td>Action Item</td>
<td>Status</td>
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<tr>
<td></td>
<td>IVI Forum. John Harvey will provide Config Server PIAs and Policy Files to NI by 10/24/2014 and NI will make available, by 10/31/2014, a build of the IVI 2.3.0 SCs to Laurent, and Instrument Drivers Working Group for verification. The release of the VISA Shared Components is ready pending the release of the VISA .NET Shared Components.</td>
<td></td>
</tr>
<tr>
<td>Vesna Jadric</td>
<td>Vesna to run an eVote on the IVI-3.14 specification at the same time as the eVote on VPP-4.3, VPP-4.3.2, VPP 4.3.5, and VPP-4.3.6.</td>
<td>[06/27/2014] Complete.</td>
</tr>
<tr>
<td>Vesna Jadric</td>
<td>Vesna to verify that the IVI-4.3 editorial change has been posted.</td>
<td>[05/27/2014] Complete.</td>
</tr>
<tr>
<td>Vesna Jadric</td>
<td>Vesna to run the Editorial Change in IVI-3.17 to add a requirement that the user must accept the IVI Foundation License for the IVI Shared Components and IVI.NET Shared Components installers to proceed; otherwise the installers will not install the software.</td>
<td>[09/05/2014] Complete.</td>
</tr>
<tr>
<td>Bob Helsel</td>
<td>Make sure the invitation for the October meeting makes it clear that the business meetings will extend through 5:30 p.m. on Thursday. We request that members avoid making plans that take them away from the meeting before 5:30 p.m.</td>
<td>[08/08/2014] Complete.</td>
</tr>
</tbody>
</table>

**Review Spec Status Document**

The group reviewed and edited the Spec Status Document.

![IVI_Spec_Lifecycle_Status.xlsx](IVI_Spec_Lifecycle_Status.xlsx)
Working Group Topics

IVI-3.17 - IVI.NET Driver Side-by-Side Installation

Kirk Fertitta raised a question:

Are IVI.NET drivers required to always install SxS with previous versions of the same driver, or is the installer allowed to uninstall previous versions after giving a notification (as IVI-COM and IVI-C drivers are required to do now)?

Recommendation from Kirk Fertitta and David Rohacek:

The IVI Foundation policy should be to permit, but strongly discourage, the practice of a driver uninstalling prior versions of the driver.

The following text should be added to IVI-3.17, Section 2.3.2:

The IVI Foundation strongly recommends that IVI .NET Driver Installers install side-by-side with other versions of the same driver, that is, without uninstalling the other versions of the driver on the system.

Resolution (2014-10-16:#1): Kirk Fertitta moves that the IVI Foundation approve the Editorial change to the IVI-3.17 specification, Section 2.3.2 to strongly recommend that IVI .NET driver installers install drivers Side-by-Side with other versions of the same driver.

Seconded by Joe Mueller.

The vote was 7-0-0. The resolution is approved.

Action item: Vesna to update the Record of Motions tab of the lifecycle document.

In addition, append the following text to Section 5.2, step 7:

Driver developers may choose not to ship a policy file if they do not want to upgrade existing client applications to the new driver version automatically.
Resolution (2014-10-16:#2): Kirk Fertitta moves that the IVI Foundation approve the Editorial change to the IVI-3.17 specification, Section 5.2 to allow driver developers not to ship a policy file if they do not want to automatically upgrade existing client applications to the new driver version.

Seconded by Vinod Cherian.

The vote was 7-0-0. The resolution is approved.

**Action item:** Vesna to update the Record of Motions tab of the lifecycle document.

**IVI-3.17 - Adding parentheses around FwkVerShortName**

The Instrument Drivers working group is proposing to add parentheses around FwkVerShortName in the name of the registry key under AssemblyFoldersEx to provide better visual separation between the driver version and the framework version. We believe this is an editorial change because no driver has been released that is affected by this change. This change needs to be made in Table 4-5 in Section 4.2.3:

| Root | <HKLM\SW>\Microsoft\.NETFramework\<CLRVersion>\AssemblyFoldersEx  
Note: this is in the 32-bit Windows registry, regardless of the bitness of the installer or components being registered |
| Key | Component Version-Specific Directory name, followed by the supported Framework version:  
<DriverNamespace> <FullVersion> <FwkVerShortName> |
| Value | For 64-bit singular driver installers (64-bit OS) – Path, under the 64-bit IVI.NET Standard Root Directory, to the Component Version-Specific Directory; or, path to a vendor-specific location with a copy of the assembly identical to the one installed under the IVI.NET Standard Root Directory.  
For all other driver installers – Path, under the 32-/bit IVI.NET Standard Root Directory, to the Component Version-Specific Directory; or, path to a vendor-specific location with a copy of the assembly identical to the one installed under the IVI.NET Standard Root Directory. |

Resolution (2014-10-16:#3): Kirk Fertitta moves that the IVI Foundation approve the Editorial change to the IVI-3.17 specification, Section 4.2.3, Table 4-5, to add parentheses around FwkVerShortName in the name of the registry key under AssemblyFoldersEx. The new Key name will be:

<DriverNamespace> <FullVersion> (<FwkVerShortName>)
Seconded by Teresa Lopes.

The vote was 7-0-0. The resolution is approved.

**Action item:** Vesna to update the Record of Motions tab of the lifecycle document.

### IVI-3.17 - Removing parentheses from around FullVersion in Component Version-Specific Directories

The Instrument Drivers working group is proposing to remove parentheses from around FullVersion in Component Version-Specific Directories to match the original intent and all known existing drivers. All versions of the IVI Shared Components and the example in the Appendix do not have parentheses around FullVersion. This change needs to be made in both figures in section 2.5.2.1:
Resolution (2014-10-16:#4): Kirk Fertitta moves that the IVI Foundation approve the Editorial change to the IVI-3.17 specification, Section 2.5.2.1, to remove parentheses from around FullVersion in Component Version-Specific Directories.

Seconded by Joe Mueller.

The vote was 7-0-0. The resolution is approved.

**Action item:** Vesna to update the Record of Motions tab of the lifecycle document.

**VPP-4.3.4, VPP-4.3.5, and VPP-4.3.6 Minor Changes**

The VISA Working Group suggests the following changes to VPP-4.3.4:

- Update the version of the VISA-COM type library to match the VISA-COM DLL version.

The VISA Working Group suggests the following changes to VPP-4.3.5:

- Clarify that VISA Router's viParseRsrc/viParseRsrcEx functions should return the result from the chosen VISA if it succeeds, instead of the result from the first VISA that succeeds.
• Clarify that .NET framework client profile alone is not sufficient to meet the requirements for VISA.NET Shared Components installation
• Clarify that a user can uninstall the VISA.NET Shared Components even if other implementations are still installed on the system

The VISA.NET Working Group suggests the following changes to VPP-4.3.6:
• Update various public function overloads to match the Shared Components implementation
• Clarify the effect of printf and scanf format modifiers
• Clarify the supported and unsupported format specifier and modifier combinations
• Clarify the rationale behind the inclusion and exclusion of various constants and methods in the VISA.NET API
• Clarify the meaning of various constants, function arguments and return values
• Clarify that vendor specific registry keys for registering a VISA.NET implementation should be installed in the 32-bit registry hive

Resolution (2014-10-16:#5): Kirk Fertitta moves that the IVI Foundation initiate Minor changes to the VPP-4.3.4, VPP-4.3.5, and VPP-4.3.6 specifications as discussed in this section above.

Seconded by Jochen Wolle

The vote was 7-0-0. The resolution is approved.

Action item: Vesna to update the Record of Motions tab of the lifecycle document.
Action item: Ted Wang to drive the Minor changes and review.

Jon Bellin notes that this does not require an IPR declaration.

New Business

Interpretation of IVI Foundation License Agreement

“Permission is hereby granted, free of charge and subject to the terms set forth below, to any person obtaining a copy of this Intellectual Property and any associated documentation, to deal in the Intellectual Property without restriction (except as set forth below), including without limitation the rights to implement, use, copy, modify, merge, publish, distribute, and/or sublicense copies of the Intellectual Property, and to permit persons to whom the Intellectual Property is furnished to do so, provided that the above copyright notice(s) appear in all copies of the Intellectual Property and that
each person to whom the Intellectual Property is furnished agrees to the terms of this Agreement. If you are not a member of LICENSOR, your license hereunder is limited to the use of the object code of the Intellectual Property. If you are a member of LICENSOR, your license extends to the source code of the Intellectual Property.”

Does this restrict non-members from distributing visa.h, visatype.h, and visa64.lib? If not, what conditions does it impose with regard to the click-through license?

Kirk Fertitta expressed a concern that this implies partial distribution of shared components. This is a problem because an end user does not have a way to distinguish this from an official IVI distribution. If there are problems (e.g., from changes or dependencies), the IVI Foundation could end up with an invalid support burden. The IVI Foundation provides shared components MSIs to allow redistribution of IVI Shared Components.

Joe Mueller pointed out that a system integrator might want to do this in order to build a system that they can sell to an end user, where that system has had the IVI Foundation shared components installed on them and delivered with source code (such as visa.h and visatype.h).

Jon Bellin pointed out that there are two issues:

1) Do we want the license to enforce that IVI shared components can be distributed only via an IVI Foundation-supplied installer
2) Should we make any distinction between the header files that are included in the shared components and other files that are included in the shared components?

Jon, Joe, and John Harvey stated that they believe that the intent, at the time license was written, was that “object code of the Intellectual Property” meant everything that the IVI Foundation ships in shared components and that “source code” meant any other files used to produce everything that the IVI Foundation ships in shared components. Kirk did not object.

There was a consensus that, at a minimum, the customer may redistribute the MSIs for the VISA Shared Components.

This will be discussed further in the Board of Directors meeting.

IVI.NET Configuration Server
Keysight would like to propose an IVI.NET configuration server to complement the current IVI-C and IVI-COM servers, and get it onto the formal list of IVI Foundation technical activities. This would require a minor change to IVI-3.5, IVI-3-17, and IVI-3.1.

Resolution (2014-10-16:#6): Joe Mueller moves that the IVI Foundation initiate work on a native .NET version of the IVI Configuration Server. This work will include all necessary specification changes (“minor changes” to IVI-3.1, IVI-3.5, IVI-3.17), and the implementation, including the assembly and installer. The work will take place in the Instrument Drivers Working Group.

Seconded by Kirk Fertitta.

The vote was 7-0-0. The resolution is approved.

The following people are interested in participating: John Harvey, Kirk Fertitta, Vinod Cherian, Santanu Pradhan, and Teresa Lopes, Joe Mueller, and Guido Kiener.

Action item: Vesna to update the Record of Motions tab of the lifecycle document.

Windows 10

We need to update specs to cover Windows 10. Vinod has agreed to drive this starting in early 2015. He will coordinate with: Vesna Jadric and Ted Wang from National Instruments; John Harvey from Keysight Technologies; and Bob Helsel for the IVI Foundation website.

Resolution (2014-10-16:#7): Vinod Cherian moves that the IVI Foundation initiate work to update IVI Foundation specifications to declare support Windows 10. These will be minor changes that do not require IPR declaration.

Seconded by Jochen Wolle.

The vote was 7-0-0. The resolution is approved.

Action item: Vesna to update the Record of Motions tab of the lifecycle document.

Keysight has agreed to coordinate testing of the USB-TMC driver.

Discuss Upcoming Meetings

The next meeting will be February 09-11, 2015 (Monday – Wednesday 12:30) in Phoenix.
Instrument Drivers – IVI.NET Configuration Server | 5 hr (Monday first)
---|---
Instrument Drivers – Other | 2 hr (Monday second)
I/O | 1 hr (Monday third)
Shared Components Management | 3 hr (Tuesday first)
VISA.NET | 3 hr (Tuesday second)
Web Forum | 1 hr (Tuesday before Marketing)
Marketing | 1 hr (Tuesday last hour)
Technical Committee Meeting, BoD, and Annual Meeting | 4 hr (Wednesday)

Criteria for IVI meeting locations:

For US meetings:
- Major airport hub that allows most members a non-stop flight
  - Expensive: San Diego, Austin, San Francisco
  - Moderate: Las Vegas, San Jose, Denver, Dallas, Orlando, Chicago, St Louis, Los Angeles, Atlanta, Boston, Long Beach, Orange County, Charlotte, Salt Lake City, Phoenix
- Hotel journey is 20 minutes on Google maps.
- Sleeping room price should not exceed $169.
- Meeting fees should not exceed $400.
- Internet bundled into the cost.

May 2015 meeting: Denver – 5/6-5/8
Possibilities: Denver, San Jose, Las Vegas, Charlotte, Salt Lake City

October 2015 meeting: Chicago – 10/19-10/21
Possibilities: Chicago, Boston, Long Beach, Atlanta

Summary of Action Items Created at the October 2014 Technical Committee Meeting

<table>
<thead>
<tr>
<th>Owner</th>
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<tr>
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</tr>
<tr>
<td>John Harvey</td>
<td>Provide IVI Config Server PIAs and Policy Files to NI by 10/24/2014</td>
<td></td>
</tr>
<tr>
<td>David Rohacek</td>
<td>Provide a build of the IVI 2.3.0 SCs to Laurent, and Instrument Drivers Working Group by 10/31/2014.</td>
<td></td>
</tr>
<tr>
<td>Kirk Fertitta</td>
<td>Post IVI Shared Components 2.3.0 after approval by Instrument Driver Working Group, by 11/14/2014.</td>
<td></td>
</tr>
<tr>
<td>Ted Wang</td>
<td>Provide new globmgr.dll version 5.5 to John Harvey by 10/24/2014.</td>
<td></td>
</tr>
<tr>
<td>John Harvey</td>
<td>Provide VISA PIAs and policy files to NI by 10/31/2014, with formatted I/O rebuilt if necessary.</td>
<td></td>
</tr>
<tr>
<td>Ted Wang</td>
<td>Provide a build of the VISA Shared Components installer that incorporates the PIA and policy file changes, by 11/07/2014, to the VISA Working Group.</td>
<td></td>
</tr>
</tbody>
</table>

**Adjourn**

Meeting Adjourned.
5. IVI BoD Meeting October 16, 2014

Called to order at: 16:25

Directors in attendance

<table>
<thead>
<tr>
<th>Present</th>
<th>Director</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Joe Mueller</td>
<td>Agilent Technologies</td>
</tr>
<tr>
<td>X</td>
<td>Jon Bellin</td>
<td>National Instruments</td>
</tr>
<tr>
<td>X</td>
<td>Jochen Wolle</td>
<td>Rohde &amp; Schwarz</td>
</tr>
<tr>
<td>X</td>
<td>Anshul Arora on behalf of</td>
<td>Danaher (Keithley/Tektronix)</td>
</tr>
<tr>
<td></td>
<td>John Ryland</td>
<td></td>
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<tr>
<td>X</td>
<td>Vinod Cherian</td>
<td>MathWorks</td>
</tr>
<tr>
<td>X</td>
<td>Kirk Fertitta</td>
<td>Pacific MindWorks</td>
</tr>
<tr>
<td>X</td>
<td>Teresa Lopes</td>
<td>Teradyne</td>
</tr>
</tbody>
</table>

Quorum is a majority of directors. 7/7 satisfies the requirement.

Agenda Review

IVI BOD MEETING OCTOBER 16, 2014

1. DIRECTORS IN ATTENDANCE
2. AGENDA REVIEW
3. REMINDER OF THE IP POLICY, ANTI-TRUST, AND DUTY OF TRUST OF DIRECTORS
4. RESOLUTIONS PASSED BY ELECTRONIC MEANS SINCE LAST MEETING
5. INPUTS REGARDING MINUTES OF PREVIOUS MEETING
   5.1 ACTION ITEMS FROM PREVIOUS MEETING
6. RECOMMENDATIONS FROM TECHNICAL COMMITTEE
7. IVI PAID FOR CONFERENCE PHONE
8. MARKETING COMMITTEE
9. FINANCIAL REPORT
10. FINANCES AND PLAN TO ATTRACT MEMBERS/METING PLANS
11. WEB FORUM UPDATE
12. DISCUSS UPDATE TO OPERATING PROCEDURES
13. OPPORTUNITY TO COLLABORATE WITH LXI ON REFERENCE DESIGN
14. LEGAL DISCUSSION REGARDING 3RD PARTY RIGHTS TO VISA.H AND VISATYPES.H

Reminder of the IP Policy, Anti-trust, and Duty of Trust of Directors

The IVI Foundation has an IP policy that could require that some of your corporations’ IP be licensed to the IVI Foundation and its members at no cost. Every participant in the IVI meetings should be familiar with the obligations that participation in the standard incurs on your company.

Every member of the consortium is encouraged to familiarize themselves with legal requirements regarding anti-trust violations. Members need to be cautious and refrain from discussing markets and pricing.

Directors have a duty to the IVI Foundation. They are legally and ethically obligated to do the “right thing” for the IVI Foundation since they serve as a principal of that organization, if this conflicts with other responsibilities such as their duty to their employer, they need to take appropriate actions to resolve the conflict of interest.

Resolutions passed by electronic means since last meeting

The following measure was voted electronically:

The Technical Committee has recommended that the BoD confirm the following specification changes:

- The new VPP 4.3.6, VISA.NET Specification, and the associated changes to VPP 4.3.5, VISA Shared Components Specification, in accordance with Technical committee resolution 2010-06-09:#06.
There were 4 affirmative responses out of 7 total directors (chair not voting). There were no explicit NO votes, and no objections to holding an e-mail vote on this measure.

Therefore the measure passed effective Monday July 7, 2014.

**Inputs Regarding Minutes of Previous Meeting**
Minutes are posted on the IVI Foundation web site.

**Action Items from Previous Meeting**
NONE

<table>
<thead>
<tr>
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</table>

**Recommendations from Technical Committee**
None at this time.

**IVI Paid for conference phone**
Note our resolution passed Feb 2013 that phone attendees will be charged 50% of meeting fee or $100, whichever is more…. Action?

Continuing to bill at this rate. Working smoothly.

**Marketing Committee**
Per May 20 meeting:

We will no longer conduct business as a marketing committee. Bob will lead marketing meetings at our face-face meetings. In addition, Bob will propose a marketing plan to the membership in the next month. Additional details are in the marketing meeting notes from this afternoon.
Kirk moved that we create a marketing committee with Bob Helsel as chair. Jochen Seconded.

MSC 6:0:0

Bob will establish the membership of the committee polling the existing membership. List of volunteers will be presented to the BoD in February at the annual meeting to be on the marketing committee in 2015.

<Kirk Fertitta not in attendance 16:55>

IVI Marketing Plan
2015_final.docx

Jon moves that we act on the marketing proposal as proposed by Bob to begin executing immediately and to be completed over approximately the next 12 months. This implies authorizing up to $14,200. Vinod seconded.

MSC 5:0:0  (Kirk not present)

Financial Report

Handling of IVI billing? Do we prefer estimates in advance or exact numbers afterwards?

IVI P&L through 2014OCT07.xls
ACTIONS

- Bob will look into switching the website hosting over to the MSFT account we use for TFS/WIT etc.
- Need to update the registration form to reflect IVI generation it complies with.

Jochen moves that we update the driver registration form on the registry website to reflect the IVI generation that the driver complies with. Not to exceed $1000. Seconded by Kirk

MSC 6:0:0 (Kirk present)

Finances and plan to attract members/meeting plans
We made this a standing agenda item at the February 2014 meeting.

ACTION: Bob will bring the LXI membership list to the February meeting where we will discuss what others membership may be appropriate for.

Web Forum Update

See notes from Web Forum working group.

Discuss update to Operating Procedures
During the Shared Components meeting Kirk agreed to update operating procedures to reflect requirement that future shared components should include source code to be available to consortium in some form.

Will discuss in February.

Opportunity to Collaborate with LXI on reference design

From June meeting:

What’s new with the LXI reference design:
- Contract has been signed.
- TSEP will be doing the work.

- Design by August, plan first implementation March 2015, will be based on a Windows 8 host computer and also will provide an ARM implementation (two reference design platforms). Will be free for LXI members. Plan to have a support contract in place for TSEP.

- Plan to provide a simple SCPI parser with a HiSLIP implementation. LXI will drop VXI-11 as an LXI requirement.

- Earliest need for a prototype driver would be later this summer. Plan to have it fully spec’d by August 1.

- Jochen Wolle and David Owen are the chairs of this committee. Steve will mention that this has been discussed by IVI consortium.

Next step will be to invite the above IVI members to the LXI consortium meeting where this is discussed sometime in the next month or so.

Joe setup a phone meeting to discuss providing IVI driver for the LXI Reference design:

- Jochen
- Kirk
- Joe
- David Owen
- Peter Plazotta TSEP
- Santanu Pradhan
- Vinod Cherian

Plan to hold meeting in November. Preferably Tu-Th.

**Legal Discussion regarding 3rd Party Rights to visa.h and visatype.h**

Question regarding the customers right to redistribute these headers files (and visa64.lib).

After some discussion we decided this issue should be discussed in the shared components meeting at the February meeting.
However, we did agree that the intent of the current license agreement (as noted in the technical committee minutes) was that source code referred to files that we do not distribute but are used to create what we do distribute. We agreed that we should discuss the license in the shared components meeting at the February meeting regarding if the license should require that only IVI installers may be used to install the files.

Adjourned 17:30

8 Pacific