CableLabs® VidiPath Interoperability Event
June 15-19, 2015

Interop Guidelines

Vendor responses due: May 15, 2015

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VidiPath Interop
June 15-19, 2015

CableLabs is hosting a VidiPath Interoperability Event from June 15 through June 19, 2015 at CableLabs in Louisville, CO. The primary objectives of this event are listed below.

- Provide CableLabs and the vendor community the opportunity to identify areas of the DLNA VidiPath Guidelines that require clarification or modification. The VidiPath Guidelines version that will be used for this interop are:
  > DLNA VidiPath Guidelines, March, 2014, which can be accessed from:
  > http://www.dlna.org/dlna-for-industry/guidelines
- Provide CableLabs and the vendor community the opportunity to evaluate pre-production and development implementations based on the DLNA VidiPath Guidelines.
- Provide VidiPath Client and Server vendors the opportunity to participate in multi-vendor test scenarios (see Appendix B) to develop and evaluate interoperable solutions. The CableLabs VidiPath Server Reference Device will also be included in the interop.
- CableLabs plans to make Cox and Comcast guides available for use by vendors during the Interop event.
- CableLabs will be performing observations during this Interop to identify interoperability issues. The intent of the Interop event is not to certify the Client or Server devices, but rather to identify areas of ambiguity in the specifications.

Product and Participant Requirements

This Interop event is open to active participants that have current hardware, software, or support tools that meet the objectives of this Interop event. Vendors are encouraged to participate even if their products are not fully compliant with the current DLNA VidiPath Guidelines. The following vendor products will be considered for participation in the Interop event:

- Devices that implement various features of the VidiPath Client (e.g. Televisions/Game Consoles)
- Devices that implement various features of the VidiPath Server (e.g. STB/Gateway devices)

Devices Requirements
- DLNA devices are expected to be at least partially compliant to the following guidelines:
    o DLNA VidiPath guidelines March 2014
- Participants must provide the following equipment:
    o DLNA VidiPath Device
    o Router and any other equipment required that supports your network

Timeline

- By **5:00pm MT on Friday, May 15, 2015**, participating vendors **must** complete the RSVP form at https://community.cablelabs.com/wiki/display/CEC/Home You will need to login to register. If you do not have an account please go to this link: http://www.cablelabs.com/dz/ and fill in your information and you will be set-up with an account. Please note there is a 24hour turn around time to get your account set-up so please plan accordingly. (Please contact Debbie Fitzgerald (d.fitzgerald@cablelabs.com) to request an extension to the RSVP deadline).
- CableLabs may schedule calls with each vendor participant to review information provided in the RSVP form and to answer any questions concerning the Interop event.
- Several weeks prior to the Interop, CableLabs will conduct a "Planning" conference call with all participating vendors. Dial-in details and agenda will be provided prior to the call.
- Interoperability activities will begin at **8:00am on Monday June 15, 2015** and end the afternoon of **Friday, June 19, 2015.**

General Provisions

- To participate in the Interop, vendor companies **must** provide the following two agreements to CableLabs prior to the Interop event. Please note that if these two agreements are already on file with CableLabs, it is not necessary to resubmit the agreements for this Interop event.
  - o A signed copy of the OpenCable NDA, which is publicly available here. Please submit this agreement to CableLabs per the instructions in the NDA document.
  - o A signed copy of Appendix A, *Limited Use of Software and Content in CableLabs Interops*. The signed copy of Appendix A may be sent to Mark Meyer via email (m.meyer@cablelabs.com) or fax (303-661-9199).
- As this event will be conducted by vendors working together in a multi-vendor scenario, vendors will have access to data and results during the course of the event, and are responsible for collecting information necessary to analyze and correct issues as they are identified.
- Vendor engineers are expected to work together to configure their own products to interoperate.
- Vendors may choose to upgrade code images as a result of identifying interoperability issues. Vendors are responsible for upgrading their own products using their own localized method (i.e., flashdrive, CD-ROM, etc.); the CableLabs Headend can not be used to upgrade code images on vendor product.
- CableLabs reserves the right to select vendor product that meet the objectives of the Interop, as well as space considerations, product duplication, or other reasonable criteria.
- The objectives, qualifications, guidelines and requirements for this event do not set policies and procedures for certification/qualification waves.
- Vendors agree to abide by the accompanying Rules of Engagement document.
- Vendors agree to abide by the CableLabs press release policy as stated in http://www.cablelabs.com/media-press-release-policy/
- Participation guidelines and requirements are defined in this document. Your submission of equipment to this event constitutes your acceptance of these guidelines and Rules of Engagement.
- Vendors are responsible for any shipping of equipment needed for participation in the Interop event. Vendors must make arrangements with their preferred shipping provider to ship equipment to/from CableLabs.

The CableLabs shipping address is:
> **CableLabs**
> **Attn: VidiPath Interop / Aaron Quinto**
> **858 Coal Creek Circle**
> **Louisville, CO 80027**
> **303-661-9100**

Please forward tracking information to Aaron Quinto at a.quinto@cablelabs.com.

- Please address any questions concerning the Interop event to Debbie Fitzgerald (d.fitzgerald@cablelabs.com).

Confidentiality

CableLabs intends to share your responses to this RFI with its member companies. While CableLabs does not intend to share your responses with any other manufacturers or developers, if your response contains confidential information, CableLabs can offer no assurances that the confidentiality of such will be maintained.

Participation in the Interop event will not be confidential. Limited provisions are made to limit the scope of use of certain software and content provided by your company, and other companies participating in the Interop. Execution of Appendix A, *Limited Use of Software and Content in CableLabs Interops*, is a required prerequisite for participating in the CableLabs Interop. By participating in the CableLabs Interop, you and your company agree to the terms and conditions of Appendix A.

In conjunction with CableLabs' ongoing publicity efforts, CableLabs may digitally record certain aspects of this Interop event. While every effort to maintain your company's proprietary technology will be respected, you may be photographed or videotaped as a participant and may be requested to provide voluntary commentary or testimonial remarks. CableLabs may also invite cable operators or members of the industry press to observe the Interop. While your interaction with these parties is voluntary, CableLabs will not be responsible for maintaining the confidentiality of your participation in the Interop or development efforts.

By participating in this Interop, you hereby authorize CableLabs to record, use, copy and distribute your participation in the event without payment, duty of accounting, or attribution.

Appendix A
LIMITED USE OF SOFTWARE AND CONTENT
IN CABLELABS INTEROP EVENTS

CableLabs offers various opportunities for the cable vendor community to participate in "interop" events to demonstrate progress towards compliance with CableLabs specifications, and general interoperability of devices, software, and content on CableLabs-specified platforms.

By its nature, participation in a CableLabs interop is *not confidential* to the extent that materials can be publicly viewed and retained in memory. However, participants in the interop ("Participants") may have an interest in preventing other participants ("Other Participants") from copying or using their software and content ("Interop Materials") outside of the context of the Interop event. (Physical theft of hardware is prohibited under the Rules of Engagement in all CableLabs activities, including Interop events). Participants are free to license, or otherwise make available, their software and content to each other, or any party, under private agreements as they see fit.

By participating in a CableLabs Interop, Participant agrees to the following terms and conditions with respect to Participant's Interop Material, as well as Interop Material of Other Participants.

1 Limited License for Participant's Interop Materials.

1.1 **To CableLabs**. Participant hereby grants to CableLabs a non-exclusive, non-transferable, non-sublicensable, royalty-free license to use, copy, and modify any Interop Materials made available by Participant for the purpose of testing, certification, and interoperability activities conducted by CableLabs at the CableLabs facility.

1.2 **To Other Participants.** Participant hereby grants to Other Participants a non-exclusive, non-transferable, non-sublicensable, royalty-free limited license to use and copy any Interop Materials made available by Participant for the purpose of testing and interoperability activities, but only for the duration of Participant's participation in any CableLabs-sponsored event, and only at the CableLabs facility.

1.3 **No Warranty.** INTEROP MATERIALS ARE PROVIDED "AS IS" WITHOUT ANY WARRANTIES OR INDEMNITIES OF ANY KIND, EITHER EXPRESS OR IMPLIED. PARTICPANT HEREBY DISCLAIMS ANY AND ALL WARRANTIES AND INDEMNITIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NO DAMAGE TO DEVICES OR CORRUPTION OF DATA OR SOFTWARE, OR NONINFRINGEMENT.

1.4 **Ownership; No Other License Granted.** As between Participant, CableLabs, and any Other Participant, the Interop Materials provided by Participant are the exclusive property of Participant, and all right, title and interest shall remain with Participant. Participant grants no rights to any party other than those expressly granted above.

2 Use of Other Participant's Interop Materials.

2.1 Participant agrees that any use of Other Participant's Interop Materials, if any, is strictly limited to use of such Interop Materials within the scope of the license granted above by such Other Participants. Specifically, Participant agrees that no use or copying of Interop Materials of Other Participants is allowed outside of the current CableLabs Interop event or outside of the CableLabs facility.

2.2 Participant agrees to delete and destroy any tangible copies (including captured streams, copies, CDs, DVDs, etc.) of each Other Participant's Interop Materials prior to the end of the Interop event, and not to remove any such copies from the CableLabs facility.

2.3 Participant shall not remove, distort, relocate, resize, or otherwise modify in any way any notices that appear on the Interop Materials of Other Participants.

2.4 Participant shall not reverse engineer, disassemble or decompile the Interop Materials of Other Participants or alter, modify or enhance the Interop Materials of Other Participants, in whole or in part.

3 Third party Beneficiaries. Participant agrees that each Other Participant is a third party beneficiary of this Agreement with respect to the Interop Materials provided by such Other Participant.

4 Limitation of Liability. EXCEPT FOR INTENTIONAL OR WILLFUL BREACHES OF THIS AGREEMENT, NO PARTY SHALL BE LIABLE TO THE OTHER PARTY, OR ANY THIRD PARTY BENEFICIARY FOR ANY INDIRECT, CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, INCLUDING, BUT NOT LIMITED TO, AMOUNTS REPRESENTING LOSS OF PROFITS, LOSS OF DATA, CORRUPTION OF SOFTWARE, OR LOSS OF BUSINESS OPPORTUNITY, REGARDLESS OF THE LEGAL BASIS OR THEORY OF SUCH CLAIM. AND, EXCEPT FOR INTENTIONAL OR WILLFUL BREACHES OF THIS AGREEMENT, IN NO EVENT SHALL ANY PARTY BE LIABLE TO THE OTHER, OR ANY THIRD PARTY, WITH RESPECT TO ANY CLAIM PERTAINING TO THIS AGREEMENT, IN AN AGGREGATE AMOUNT IN EXCESS OF TEN THOUSAND DOLLARS ($10,000). THIS SECTION DOES NOT IN ANY WAY LIMIT THE AVAILABILITY OF ANY INJUCTIVE RELIEF THAT MAY BE SOUGHT AGAINST PARTICIPANT BY CABLELABS OR ANY THIRD PARTY BENEFICIARY UNDER THIS AGREEMENT.

5 Remedies/Injunctive Relief. Among other remedies, breach of this Agreement may result in CableLabs barring Participant from participating in future CableLabs Interops. In addition, Participant acknowledges that material breach of this Agreement will cause CableLabs, and/or the Third Party Beneficiaries, to suffer immediate and irreparable harm, damage for which money alone cannot fully compensate. Participant therefore agrees that upon such material breach, CableLabs or any Third Party Beneficiary shall be entitled to entry of a temporary restraining order, preliminary injunction, permanent injunction or other injunctive relief, without posting any bond or other security, compelling Participant to comply with the obligations hereunder.

By and on behalf of Participant, the above terms and conditions are agreed to as a condition of participating in the CableLabs Interop event.

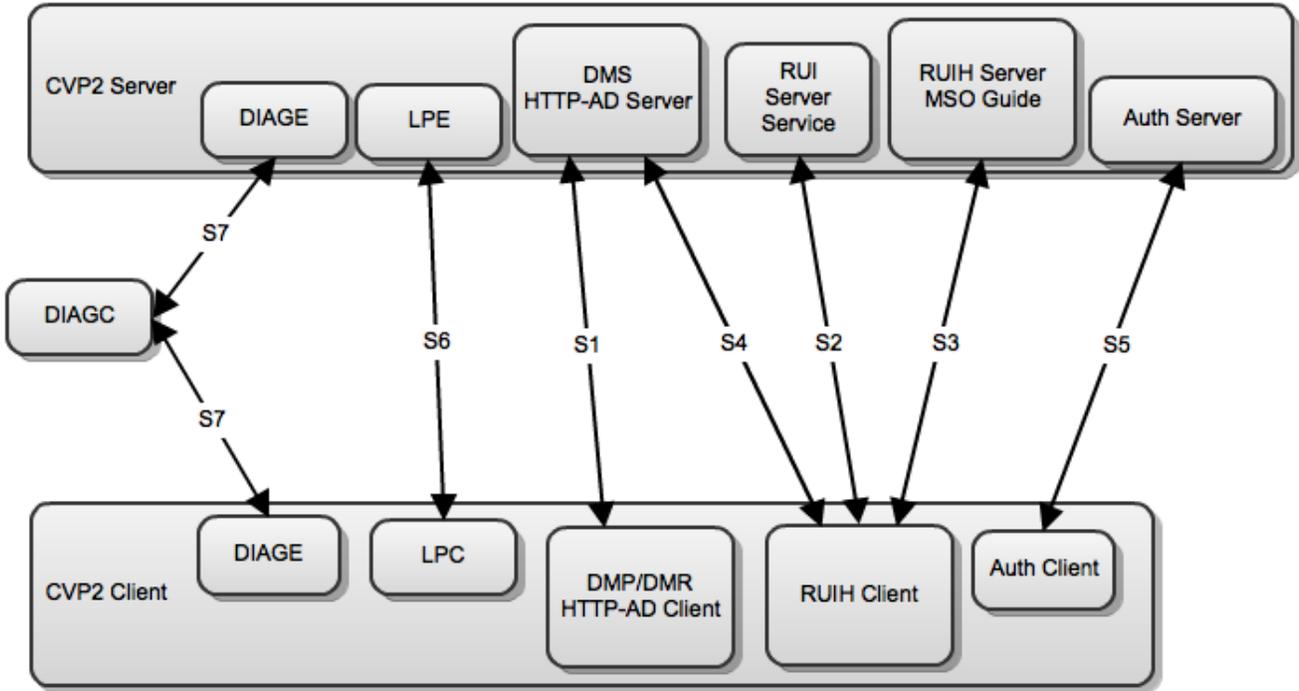| |
|---|
| PARTICIPANT COMPANY NAME:_____ _ |
| Signature:_____ |
| Printed Name:_____ |
| Title:_____ |
| Date:_____ |

Appendix B
Interoperability Scenarios

Figure 1. VidiPath Client and Server Functionalities for the Interoperability Event

Scenario S1 - Discovery of MSO HTML5 Guides by VidiPath Client devices' HTML5 RUIH Pull Controller using RUI Server Service

This scenario tests the following:

1. Verify that VidiPath Server devices can be discovered and the RUI Server Service is identified by VidiPath Client devices.

2. Verify that the VidiPath Client devices can query the RUI Server Service and discover the list of HTML5 Remote UI's (HTML5 MSO Guides)

3. Verify that the VidiPath Client devices can connect to the MSO HTML5 Guides and load the guides in their RUIH Pull Controller

Scenario S2 - Interoperability between VidiPath Client devices and MSO's HTML5 Guide Servers

This scenario tests the following:

1. Verify that the RUIH Pull Controller on the VidiPath Client devices can load and correctly render the HTML5 MSO Guide.

2. Verify that the RUIH Pull Controller on the VidiPath Client device can navigate between the various menus and screens of the MSO Guide using the controls available on the VidiPath Client's input interface (Remote keys, touchpad, touchscreen etc)

3. Verify that the MSO HTML5 Guide fits the entire screen of the VidiPath client device and the user doesn't need to scroll up/down/right/left to navigate the entire guide real estate.

4. Verify that the RUIH Pull Controller on the VidiPath Client supports all mandatory HTML5 elements as exercised by the HTML5 MSO Guide.

Scenario S3 - Interoperability between VidiPath Client devices and VidiPath Server devices providing media playback functionality using the HTML5 <media> element

    i.   with and without DTCP-IP

    ii.   with HTTP-AD; with and without DTCP

    iii.   playback and trick modes of live streaming content

The vendors should come prepared with both facsimile and production DTCP-IP keyed firmware, along with firmware that disables DTCP-IP functionality.

This scenario tests the following:

1. Execute all steps as specified in Scenario **S3**

2. Verify that the RUIH Pull Controller can discover and play back AV media published by the MSO Guide using the HTML5 <media> elements.

3. Verify that the RUIH Pull Controller can execute all AV related functionality as specified in Steps 3-7 of **Scenario S1**

Scenario S4 - Interoperability between VidiPath Authentication Clients and Authentication Servers

This scenario tests the following:

1. Verify that the VidiPath Authentication Client component of the RUIH Pull Controller can setup a VidiPath enabled TLS session with the Authentication Server

2. Verify that the VidiPath Authentication Server can successfully authenticate a valid VidiPath Client using the VidiPath DTCP Certificate provided by the Authentication Client

Scenario S5 – Interoperability between the Low Power Controller on the VidiPath Client devices and the Low Power Endpoint on the VidiPath Server devices

This scenario tests the following:

1. Verify that the Low Power Controller (LPC) functionality on the VidiPath Client devices is capable of discovering the Low Power Endpoint (LPE) on the VidiPath Server devices.

2. Verify that the LPC functionality on the VidiPath Client devices is capable of subscribing to the LPE capable VidiPath Server and can send wake up commands to the VidiPath Server.

Scenario S6 – Interoperability between the Diagnostics Endpoint functionality on the VidiPath Client and Server devices and a Diagnostic Controller

This scenario tests the following:

1. Verify that the Diagnostics Endpoint (DIAGE) functionality on the VidiPath Client and Server devices is discovered by a Diagnostic Controller (DIAGC)

2. Verify that the DIAGC can issue the mandatory diagnostics actions to the DIAGE on the VidiPath Client and Server

3. Verify that the DIAGE on the VidiPath Client and Server responds to the actions invoked as specified.