Linux Plumbers Conference 2021
Request for Quotation (RFQ)
by Linux Plumbers Committee

Reference: LPC2021-RFQ01
Revision: 1.0
Date: 2021.03.15

Introduction

Overview of overall Project

The Linux Plumbers Conference (LPC) will have an online (virtual) component for the 2021 edition. 2020 was the first time ever LPC was hosted online, like most conferences. LPC requires a high degree of interaction and collaboration to be a successful conference. This RFQ is intended to help improve the user experience for both onsite participants (hopefully) and online.

Objectives of Project

The committee is looking for one or more supplier(s) to help Linux Plumbers Conference (LPC) successfully use BigBlueButton for the 2021 edition. The main objectives are:
- Make it easier to use for our moderators and presenters
- Enable a physical/onsite and virtual/online hybrid experience
- Improve the user experience for our remote attendees
- Ensure system performance for our audience size

Responsibilities and Roles

Contact persons for Technical clarifications
> Jonathan Corbet - corbet@lwn.net
> Guy Lunardi - guy@linux.com

Contact person for Purchasing and Contracting
> David Woodhouse - dwmw2@infradead.org

General email address for all contacts
> LPC Committee - contact@linuxplumbersconf.org

Event dates

Event is aiming to take place live during the last week of September 2021 together with a larger online participation for those unable to attend in-person. Exact times for the sessions remain to be defined but we expect they will overlap usual business hours in the GMT time zone.

Terms and conditions

Subject to the Linux Foundation (LF) Independent Contractor Agreement found in Exhibit A. Note that the version may change based on the specifics of the supplier's organization, along with an appropriate agreement for data protection requirements.

The Linux Plumbers Conference committee will consider all offers. Partial proposals and quotations for only one or more work packages will be reviewed.

RFQ due dates

The committee is available to answer questions about the RFQ until Tuesday **March 19th EOD**. Offers must be submitted no later than Thursday **March 25th EOD**,
If clarifications are required, the committee will reach out to vendors by Monday **March 29th EOD**.
The project will be awarded no later than Friday **April 2nd EOD**.

Work Packages specifications

Scope

These parameters for the 2021 conference are simple estimations and could change greatly. They are provided mainly for BBB sizing and scaling evaluation:
- ~900 attendees (could be more)
- 3 days (September 27 - 29 2021)
- 6 simultaneous meetings/sessions on average
- Content types:
  - 45-minute talks (slides)
  - Half-day, highly interactive microconferences
  - Spontaneous ad-hoc sessions

Timeline

All the deliverables from this RFQ must be ready and fully tested well before the 2021 conference start date, **September 27th**. The deliverables must be provided in ways that can be integrated and tested well ahead of the conference start.

Applicable to all work packages

Integration

Deliverables must be finalized and ready for integration by the LPC committee by **July 30th**. All changes are submitted upstream and discussed by the vendor.

Upstreaming

Upon or during completion of the project, the supplier is authorized to upstream Open Source Software produced or modified. The desired end result is all software produced during the execution of this project (or their reworked versions) are included in the respective upstream projects.

All the software should be approved by the projects maintainers upstream. If a patch is rejected by upstream, the supplier must provide proper documentation, explaining why they were rejected. Please note the committee understand that there is a difference between upstream rejecting a patch for rework (in which case the supplier has to change what it was asked to change and then re-submit the patch) and upstream rejecting the functionality of a patch (in which case the supplier should inform the committee and discuss next steps).

At the end of the assignment, a document will outline all software produced as part of this project with the commit id of each commit in upstream repositories.

Work Package 1 - Chat integration with Matrix

In 2020, LPC's chat communications during the conference were split between the in-room public chat feature of BBB and a more widely available messaging platform (RocketChat was used).

For the 2021 edition, the committee would like to eliminate that split. This might be best achieved by replacing the existing in-meeting BBB chat with an interface to an external Chat service.

At the time when this RFQ was being authored, the Matrix open standard project[1] (and its synapse server implementation) appeared to meet most requirements for communication for LPC 2021. Those requirements are:
- Multiple chat interfaces available to access conversations:
    - BBB in-meeting integrated web client (like the existing public chat) visible with the presentation area and webcams;
    - Independent web client;
    - Mobile clients (Android and iOS);
    - Legacy Internet Relay Chat (IRC)
- Chat for each meeting/room available through all messaging interfaces
- Automatic sign-on into the Chat when joining a BBB meeting

It would be important that the integration be easily configurable. The committee wants the ability to specify the details in the room-creation parameters.

An integrated authentication and user management solution must be put in place so that users can be automatically signed into the appropriate chat service when entering the BBB room.

This work package is intentionally loosely defined to enable the supplier to propose their preferred solution given the requirements mentioned.

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[1] https://matrix.org/

Work Package 2 - Standard UC headset support

Linux Plumbers Conference is a long event. It is important to make sure that participants can comfortably take part. Managing mute seems like a completely unnecessary caused of stress or at least attention with online conferencing still today. The committee is interested in enabling the support of standard UC (Unified Communications) features in BBB. Microsoft has its own version of the specification for 'USB HID Call Control Requirements'[2]. Supporting headsets with the Microsoft Lync/Skype/Teams logo certification would greatly improve the experience of BBB users. For this work package, the majority of LPC users will be accessing BBB using the Google Chrome browser on a recent GNU/Linux distribution.

Browsers:
- Current Google Chrome Browser
- Current Mozilla Firefox

Distributions:
- Current Ubuntu (20.04 LTS)
- Current Fedora 33

Sample headsets:
- Jabra headsets
- Plantronics headsets

The key feature requested is the integration of the Mute feature between the headset and the native microphone mute inside BBB. That will take the guesswork out of figuring whether all mutes are synchronized. Hardware mute, OS level mute and BBB mute shall be synchronized using the standard USB HID Call Control.

The LPC 2021 committee chair implemented something similar for the Pidgin application. The code can be viewed/fetched here: http://git.infradead.org/users/dwmw2/pidgin-headset.git

It would be ideal if the implementation can be made generic enough so that other in-browser conferencing applications such as Jitsi, Microsoft Teams, or UberConference could adopt it.

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[2] https://docs.microsoft.com/en-us/skypeforbusiness/certification/test-spec In the v4.0 ZIP there's 'Teams_DeviceGeneralSpecificaion_4_0_final.pdf' in which §5 covers 'USB HID Call Control Requirements'

Work Package 3 - Fault-tolerance and load-balancing capability

For 2020, LPC skipped hosting any all-hands plenary for fear of scaling issues. But in 2021, should we be required to have a primarily online event, we would like to possibly have the option to present to all our attendees at once. In order to achieve that, we would like assistance with scaling all the BBB services so that we could host over 500 people in a single meeting. We envision at least 400 participants in listen-only mode, 10 moderators (two-way audio), and 1 presenter (two-way audio and webcam).

Work Package 4 - BBB HTML5 client development

This work package is listing requirements that LPC wishes to see addressed in the BBB user interface. These requirements are based primarily on the LPC 2020 edition and meetings ran on BBB by members of the committee.

Requirement (HTML5 client)	Description
Require user confirmation when moderator asks to unmute	Ensure that users are presented with a dialog when a moderator would like them to come off of audio mute.
Make BBB client remember camera preference by client	Right now the camera has to be reconfigured every time. Make it so the web interface remembers the webcam settings.
Make BBB client easier to mute/unmute camera by client	Once the webcam settings are remembered, an user should be able to easily enable and disable its webcam.
When joined in Listen only mode, "Share webcam" should be disabled	Users in Listen only mode should not be able to share their webcams. Hide the control.
Add ability to mute video feed by user	As a moderator, it should be possible to mute any user's webcam.
Add ability to mute video feed for all except presenter	As a moderator, it is possible now to "Mute all users except presenter". It would be nice to have the same feature for webcams
Make BBB client to remember the microphone test ran successfully	The echo test should only appear the first time an user connects or when audio devices have changed. After that the audio settings should be remembered.
Ability to select audio input and output devices while in a room	The audio settings should be configurable while in a meeting/room. The user should be able to select which microphone and which audio output to use.

Ability to select audio input and output devices during echo test	The audio settings should be configurable while in a meeting/room. The user should be able to select which microphone and which audio output to use. The absence of this feature requires the user to adjust settings at the OS level.
Ability to use the webcam video focus view for the main (currently) speaking person	Provide a layout where the focused webcam is the speaking person.
New "Dynamic" webcam video layout	Similar to the tiled view of webcam but only display the last N speakers' webcam. The current presenter's webcam should be given priority. Split the screen between up to 4 other Participants, ordered by the most recent speakers
Presentation timer (show speak time)	Add a presenter stopwatch to the UI when someone takes over, or is assigned presenter.
Moderator keyboard shortcuts	Shortcut conversations are ongoing [3] [4] [5]. This is of particular interest to the committee. Add keyboard shortcuts for most common moderation features

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[3] https://github.com/bigbluebutton/bigbluebutton/pull/9114
[4] https://github.com/bigbluebutton/bigbluebutton/issues/9703
[5] https://github.com/bigbluebutton/bigbluebutton/issues/11131#issuecomment-757821633

Exhibit A - LF Independent Contractor Agreement

(version is subject to change)

INDEPENDENT CONTRACTOR AGREEMENT

This Independent Contractor Agreement ("Agreement"), effective as of [DATE] is entered into by The
Linux Foundation ("LF"), and [NAME} of [ADDRESS] (the "Contractor").

RECITAL

LF desires to obtain the unique experience, ability, and services of the Contractor; the Contractor desires
to provide professional services to LF; and the parties desire their relationship to be governed by the
terms of this Agreement.

AGREEMENT

In consideration of the mutual promises contained herein, the parties agree as follows:

1.   Duties. LF engages the Contractor to provide the services (the "Services") set forth in Exhibit A
to this Agreement (the "Project Plan"). If the terms of the Project Plan directly conflict with the terms of
this Agreement, the terms of the Project Plan will prevail.

2.   Payment. LF will pay the Contractor as stated in the Project Plan.   The Contractor shall deliver
invoices for Services performed in the previous month to LF within fifteen (15) days following the last day
of the month, detailing the hours worked and accomplishments. LF shall pay undisputed invoices within
thirty days of receipt. If LF disputes any invoice then LF may withhold payment and promptly notify the
Contractor in writing of the dispute, and the Contractor shall have ten calendar days in which to remedy
such deficiency to the reasonable satisfaction of LF.

3.   Expenses: During the term of this Agreement, Contractor shall bill and LF shall reimburse
Contractor for all pre-approved actual and reasonable related expenses, which are incurred in connection
with the performance of the duties hereunder. Notwithstanding the foregoing, expenses for the time spent
by Contractor in commuting shall not be reimbursable unless expressly agreed in advance by LF.

4.   Taxes. The Contractor shall be responsible for all self-employment, social security and other
taxes, fines, penalties or other liability to any federal state or local jurisdiction with taxing authority. The
Contractor indemnifies and holds harmless LF from any claim of liability of any kind by any taxing
authority as a result of the payments made under this Agreement.

5.   Termination. Either party may terminate this Agreement for any reason immediately upon
written notice to the other party. Paragraphs 9, 10 and 11 ("Proprietary Rights, Confidential Information",
"Non-Solicitation", and "Miscellaneous") shall survive the termination of this Agreement. LF shall owe
Contractor payment only on undisputed Invoices for Services performed through termination.

6.   Status of Contractor. The Contractor shall not represent itself as an agent of LF for any
purpose, and has no authority to bind LF in any manner whatsoever. The Contractor's relationship with LF
is solely that of an independent contractor, and nothing in this Agreement creates a partnership, agency,
joint venture, employment or any other type of relationship. The Contractor shall not be entitled to any
rights or benefits (such as retirement, group health etc.) provided to LF employees. The Contractor is
responsible for obtaining all applicable licenses and permits required for performance of this Agreement.
All activities and work performed under this Agreement will be at the Contractor's own risk and liability.

7.   Compliance with Law and Policies. In performing the work required under this Agreement, the Contractor shall comply with all applicable laws and regulations and LF policies communicated to Contractor.

8.   Limitation of Liability. LF's liability to the Contractor for any breach arising out of or relating to this Agreement shall not exceed the total amount payable under Paragraph 2 and shall not include any incidental, indirect, special, consequential or emotional distress damages of any kind.

1.   Proprietary Rights, Confidential Information. a. Contractor hereby assigns to LF all right, title and interest in and to the Services and all deliverables provided to LF in performance of this Agreement, including all intellectual property rights therein (including, without limitation, copyright and patent rights). To the extent the deliverables include material subject to copyright, patent, trade secret or other proprietary rights protection, Contractor hereby irrevocably and exclusively assigns to LF, its successors and assigns, all right, title, and interest in and to all deliverables. To the extent any of Contractor's rights in the same, including without limitation any moral rights, are not subject to assignment hereunder, Contractor hereby irrevocably and unconditionally waives and agrees to never assert such rights against LF or any third party and grants to LF its successors and assigns a worldwide, perpetual royalty free, irrevocable license to use, copy, modify, make derivative works from, license, sublicense and distribute the Services and all deliverables. "Moral rights" means any rights to claim authorship of a work, to object to or prevent the modification or destruction of a work, to withdraw from circulation or control the publication or distribution of a work, and any similar right, regardless of whether or not such right is denominated or generally referred to as a "moral right."

b. Contractor acknowledges that in the course of providing the Services to LF, he/she may acquire knowledge (orally, in writing or otherwise) relating to the affairs of LF, its subsidiaries, and LF's members and potential members, and may be otherwise exposed to LF and LF member confidential or proprietary information including, but not limited to: (a) matters of a technical nature such as inventions, research projects or programs (including LF's councils and work groups); (b) matters of a business nature such as costs, profits, policies, members, and strategies; and (c) personnel and other information; which has not been disclosed by LF or its members to the general public (collectively, all such information in any form, "Confidential Information"). Contractor shall not use or disclose Confidential Information, for any purpose except in the course of and for the purposes of performing the Services on behalf of LF. Contractor shall obtain no right, title or interest in the Confidential Information. Contractor shall return all Confidential Information upon request. Information relating to current or future versions of Linux operating system components, which are made available under an open source license, is not considered Confidential Information under this Agreement.

c. Contractor represents and warrants that any work created for LF under this agreement is contractor's original work, or work contractor has the legal right to use in a manner contemplated by this agreement, and that no part of the end product is in violation of any copyright, plagiarized or is used without express authorization or permission of its owner. Contractor agrees to indemnify and hold LF harmless for any violation of this provision.

1.   Non-solicitation. Contractor acknowledges that in providing services to LF, Contractor may have access to key contacts at LF's member companies and participants in LF's programs, and to knowledge (including Confidential Information) about their businesses that Contractor may not otherwise have except as a result of providing services to LF. Contractor shall exercise the highest professional discretion in separating the promotion of any of Contractor's services or the services Contractor provides for other clients of Contractor from services it provides to LF. In addition, during and for one year after Contractor's consulting relationship with LF terminates, regardless of the reason for termination, Contractor will not (a) directly or indirectly solicit or induce any person or entity which then is or was a LF member, a prospective LF member, or a participant or prospective participant in any LF program, in each case during the twelve (12) months prior to termination, to cease or reduce their membership, participation or other relationship with LF; (b) directly or indirectly solicit or induce any person to leave the employment of LF; or (c) directly or indirectly hire or use the services of any LF employee or Contractor

unless Contractor first obtains LF's written consent. Contractor shall not aid others in doing anything that Contractor is prohibited from doing itself under this paragraph, whether as an employee, officer, director, shareholder, partner, consultant or otherwise.

1. **Representation & Conflicts of Interest**: Contractor represents that Contractor is free to enter into this Agreement and that this agreement does not violate the terms of any agreement between Contractor and any third party. During the term of this agreement, Contractor shall devote as much of Contractor's productive time, energy and abilities to the performance of Contractor's duties hereunder as is necessary to perform the required duties in a timely and productive manner. Contractor is expressly free to perform services for other Parties while performing services for LF.

2. **LF ID / Email Accounts:** LF may, but is not required, to extend to Contractor: (a) LF digital identification credentials; (b) linux.com or other domain-specific email account (each a "LF Provided Email Account"); and/or (c) other online account or access rights to LF systems or those of third parties (each of (a), (b) and (c) an "Authorized Account"). Contractor may only access or use any Authorized Account during the term of the Agreement and in connection with performance of Contractor's obligations under this Agreement and may not use any Authorized Account for personal use or unrelated business. Username and password combinations to all Authorized Accounts shall be considered Confidential Information under this Agreement and property of LF or other third party owners. Contractor shall include in the signature line in all outbound email from any LF Provided Email Account the following acknowledgement: "Contractor, The Linux Foundation".

1. **Entire Agreement:** This Agreement and any Exhibit attached constitute the final, entire understanding and agreement of the Parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect. This Agreement may not be amended or modified except by a written instrument signed by both parties.

1. **Unenforceability of Provisions:** If any provision of this Agreement, or any portion thereof, is held to be invalid and unenforceable, then the remainder of this Agreement shall nevertheless remain in full force and effect.

1. **Waiver:** A party's failure or delay in exercising its rights under the Agreement shall not operate as a waiver of those rights or constitute a waiver of any prior, concurrent, or subsequent breach.

1. **Miscellaneous**. This Agreement shall be interpreted and enforced in accordance with the laws of the State of Oregon, without reference to conflict of law provisions. This Agreement may not be assigned by the Contractor without LF's prior written consent. Contractor shall personally perform the Services and shall delegate none of the Services to any other individual or entity without prior written authorization from LF. Contractor's acceptance of a consulting relationship with LF does not violate any contractual obligations Contractor owes to any third party. Contractor will not use or disclose to LF confidential information or trade secrets of any third party without that party's consent. This document contains the entire agreement between the parties with respect to its subject matter. The parties agree that any provision of this Agreement or its application which is held invalid shall not affect other obligations, provisions, or applications of this Agreement which can be given effect without the invalid provisions or applications. No modification or amendment of this Agreement, including the Project Plan, shall be valid unless it is in writing and signed by both parties. The failure of LF to demand strict performance of any provision of this Agreement shall not constitute a waiver of any provision, term, covenant, or condition of this Agreement or of the right to demand strict performance in the future.

IN WITNESS WHEREOF, the Parties hereto are agreed to all terms and conditions of this Exhibit by duly authorized representatives of the Parties, whose signatures are set forth below.

CONTRACTOR **THE LINUX FOUNDATION**

Signed: Signed:

Name: Name:

Date: Date: